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# KEY PROJECT INFORMATION & PROJECT DESIGN DOCUMENT (PDD)

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This document contains the following Sections

Key Project Information

0 – Description of project

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

0 – Duration and crediting period

0 – Summary of Safeguarding Principles and Gender Sensitive Assessment

0 – Outcome of Stakeholder Consultations

Appendix 1 – Safeguarding Principles Assessment (mandatory)

0 - Contact information of Project participants (mandatory)

0 - LUF Additional Information (project specific)

0 - Summary of Approved Design Changes (project specific)

## KEY PROJECT INFORMATION

GS ID of Project	12088
Title of Project	GS12087 Uganda Safe Drinking Water Project VPA1
Time of First Submission Date	28/01/2023
Date of Design Certification	N/A
Version number of the PDD	V 1.0
Completion date of version	23/12/2022
Project Developer	Sustainable Climate Impact Fund (SCIF)
Project Representative	Zeynep Pinar Ozturk
Project Participants and any communities involved	Wateraid
Host Country (ies)	Uganda
Activity Requirements applied	<input checked="" type="checkbox"/> Community Services Activities <input type="checkbox"/> Renewable Energy Activities <input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
Scale of the project activity	<input checked="" type="checkbox"/> Micro scale <input type="checkbox"/> Small Scale <input type="checkbox"/> Large Scale
Other Requirements applied	N/A
Methodology (ies) applied and version number	GS Methodology for Emissions Reduction from Safe Drinking Water Supply (v 1.0)
Product Requirements applied	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A
Project Cycle:	<input checked="" type="checkbox"/> Regular <input type="checkbox"/> Retroactive

**Table 1 – Estimated Sustainable Development Contributions**

Sustainable Development Goals Targeted	SDG Impact (defined in B.6.)	Estimated Annual Average	Units or Products
13 Climate Action (mandatory)	Emission reductions	9,489	tCO2e
15 Life on Land	Amount of firewood saved	597	Tonnes/yr
3 Good Health and Well-being	Proportion of target population using safely managed drinking water services without water-borne diseases	95	Percentage
5 Gender Equality	Proportion of households who perceive saved time from collecting wood and water boiling	95	Percentage
6 Clean Water and Sanitation	<ul style="list-style-type: none"> <li>- Amount of safe water served at the required quality by national standards.</li> <li>- Increased awareness due to annual Water hygiene campaigns</li> </ul>	<ul style="list-style-type: none"> <li>- 25,296,300</li> <li>- Minimum one campaign per year</li> </ul>	<ul style="list-style-type: none"> <li>-Liter</li> <li>-Number</li> </ul>
8 Decent work and economic growth	Number of temporary and permanent jobs created	8 jobs created	Number
1 No Poverty	Average household savings	328	USD/yr

## SECTION A. DESCRIPTION OF PROJECT

### A.1 Purpose and general description of project

Sustainable Climate Impact Fund (SCIF) is established under the Medical Research Council/ Uganda Virus Research Institute (MRC/UVRI), a medical research organization with head offices in Entebbe and field units in Kyamulibwa and Masaka and supported by the London School of Hygiene and Tropical Medicine (LSHTM). SCIF plans to initiate the PoA “SCIF Safe Water Programme” that aims to implement interventions providing safe drinking water to communities in Uganda.

The first activity of the PoA “Uganda Safe Drinking Water Project VPA1” aims provide safe drinking water to rural communities in the districts of Lyantonde and Kalungu. The project consists of the repair of damaged and defunct deep boreholes progressively and potentially adding. Boreholes may be dysfunctional e.g. due to a broken or removed pump or other broken parts. The project reserves an option to motorize some boreholes using solar pump in a case that this would reveal to be more favorable than only rehabilitating the hand-operated boreholes. The refurbishment of those boreholes reduces the need for households to boil water as a means of purification or consume unsafe water being the scenario prior to implementation of the project activity. The Project will be micro scale and the emission reductions achieved due to avoidance of fuel use for boiling water will be certified by the Gold Standard.

A majority of the population in Uganda is without basic access to safe water in Uganda as per reported by the Joint Monitoring Programme (JMP) that is the United Nations and World Health Organization’s (WHO) mechanism tasked with monitoring water, sanitation, and hygiene progress. 19 percent of the Ugandan population relies on unimproved or surface water for their daily needs. This means that over 8 million people are drinking from sources like streams, ponds, unprotected hand dug wells, and more. Another 32 percent of the population has what JMP deems “limited” access, meaning the water is likely safe, but it takes over 30 minutes to retrieve it because of distance, overcrowding, or both. In total, that is over 21 million people living without basic access to safe drinking water in the country<sup>1</sup>.




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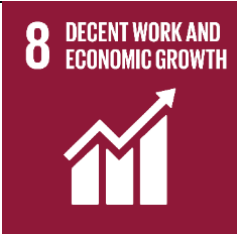
<sup>1</sup> <https://lifewater.org/blog/uganda-water-crisis/#:~:text=Over%2021%20million%20people%20in,in%20the%20East%20African%20country.>


The VPA is considered to start with 17 boreholes identified in districts of Lyantonde and Kalungu on Q3/2023 which marks the date when the first boreholes are operational. New boreholes will be rehabilitated/added progressively in the same region. The duration of the Project will cover a period of 15 years. The indicative implementation plan is as follows:

Milestone	Date
Local Stakeholder Consultation (Physical)	01/11/2022
Submission of project documents to GS	January 2023
Stakeholder Feedback Round	February-March 2023
Validation by VVB	May 2023
Estimated Start of project activity	Q3/2023

The project will positively impact on the environment since the greenhouse gas emissions derived from boiling unsafe drinking water will be avoided by making safe water accessible to local population. Contributions to SDG targets are summarized as follows:

<b>Environmental impacts</b>	<b>13</b> CLIMATE ACTION 	<p><b>Reduction of CO<sub>2</sub> emissions:</b></p> <p>The VPA will refurbish damaged and defunct boreholes which will provide safe drinking water that will not require disinfection by boiling, therefore; eliminating the use of firewood for boiling the water. This will reduce GHGs emissions from cooking practices.</p>
	<b>15</b> LIFE ON LAND 	<p><b>Reduced deforestation:</b></p> <p>The refurbished boreholes will help reduce the use of non-renewable biomass from forests, assisting with the preservation of existing forest stock, protecting natural forest eco-systems and wildlife habitats.</p>
<b>Social Impacts</b>	<b>3</b> GOOD HEALTH AND WELL-BEING 	<p><b>Improved health conditions:</b></p> <p>Safe drinking water is critical for the development of a healthy child. Diarrhea, one of the leading causes of child death, is often triggered from consuming unclean water.</p>

		<p>Boiling drinking water on open fires exposes people to wood smoke and other toxic particles (PM<sub>2.5</sub>) that damage lungs and lead to other health complications such as chronic respiratory disease, acute lower respiratory infections, lung cancer, stroke and cardiovascular disease.</p> <p>Refurbishment of damaged and defunct boreholes will reduce the amount of indoor pollutants from the burning of biomass in homes.</p>
		<p><b>Safe Drinking Water:</b></p> <p>The PoA will ensure equitable access to safe and affordable drinking water for target communities. Clean water forms the basis for decent sanitation levels and hygiene practices. Basic hand washing facilities at home are the most effective method for COVID-19 prevention.</p>
		<p><b>Empowerment of women:</b></p> <p>With the implementation of this PoA, less time will need to be spent purifying water, allowing women greater opportunity to focus on other socio-economic tasks and the supervision of children while children will have time to attend school. Women will have more time available for leisure, education or opportunities for market employment that can raise their household status. Also, with less time spent on fuel wood collection, the risk of gender based violence will also reduce.</p>
<p><b>Economic Impacts</b></p>		<p><b>Creating jobs</b></p> <p>The VPA will benefit the rural economy by providing employment in the maintenance and monitoring of the boreholes, as well as training and employing community education staff.</p>

	<p><b>Access to safe water:</b></p> <p>Low-income Ugandans are hit the hardest by unequal water access as they spend as much as 22% of their income on water vendors. Costs incurred in the purchase of fuel will be reduced, allowing more money to be spent on food, health care, education etc. The VPA will offer an alternative, affordable source of clean and safe water.</p>
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### A.1.1. Eligibility of the project under Gold Standard

The project is a type of Community level Water Supply technologies (CWS) and Gold Standard approved Community Services Activity Requirements is applicable for the project. The project type is, therefore; automatically eligible as per section 4.1.3 of GS4GG Principles & Requirements.

Eligibility criteria	Justification
<p><b>3.1.1 (a) Types of Project:</b> Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.</p>	<p>The project is a type of Community level Water Supply technologies (CWS) and Gold Standard approved Community Services Activity Requirements is applicable for the project. The project type is, therefore; automatically eligible as per section 4.1.3 of GS4GG Principles &amp; Requirements.</p>
<p><b>3.1.1 (b) Location of Project:</b> Projects may be located in any part of the world.</p>	<p>Location of the project is Uganda and specified in Section A.2.</p>
<p><b>3.1.1 (c ) Project Area, Project Boundary and Scale:</b> The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification</p>	<p>The project is located in the districts of Lyantonde and Kalungu in Uganda and the project boundary and scale are defined based on the GS Methodology: "Emission Reductions from Safe Drinking Water Supply".</p> <p>Project is micro scale as per 9.1.4 c Type-3 Other project activities not</p>

<p>Methodologies and Products Requirements.</p> <p>In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).</p>	<p>included in Type I or Type II that aim to achieve GHG emission reductions at a scale of no more than 20 kt CO<sub>2</sub>e per year.</p> <p>Project also complies with Microscale Project Requirements (V1.2). The annual emission reductions are limited to 10,000 tonnes of CO<sub>2</sub>eq in each and every year of crediting period.</p> <p>The project does not seek certification under any other voluntary or compliance standards programme.</p> <p>The host country, Uganda does not have an emission reduction cap enforced OR have the possibility to trade emissions that include the scope of the proposed project.</p> <p>If a risk of double counting exists, the project developer commits to retire eligible units equal to the quantity of Gold Standard VERs.</p>
<p><b>3.1.1 (d) Host Country Requirements:</b> Projects shall be in compliance with applicable Host Country’s legal, environmental, ecological and social regulations.</p>	<p>The project is in compliance with all related legal, environmental, ecological and social regulations. Please see safeguarding principles assessment in Appendix.1.</p>
<p><b>3.1.1 (e) Contact Details:</b> As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is</p>	<p>Contact details can be found in Appendix.2</p>



<p>in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.</p>	
<p><b>3.1.1.(f) Legal Ownership:</b>                  Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC).</p> <p>Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.</p>	<p>Legal ownership of the Products generated by the project will be transferred from end-users to the project owner. This is explained in detail to the stakeholders in the consultation meeting and included in the project design.</p>
<p><b>3.1.1 (g) Other Rights:</b> As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (<i>for example, access rights,</i></p>	<p>The project will rehabilitate the existing boreholes not working. The project owner will sign an agreement with the community representatives that they are transferring rights to the VERs generated to the project developer.</p>

<p><i>water rights etc.</i>). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.</p>	
<p><b>3.1.1 (h) Official Development Assistance (ODA) Declaration:</b> All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee’s ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction &amp; Sequestration Product Requirements and submit the declaration at the time of Design Certification.</p>	<p>ODA declaration has been submitted to GS registry.</p>

The eligibility criteria identified in Community Services Activity Requirements are met as follows:

Eligibility criteria	Justification
<p>2.1.2 CS Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to services/resources at household or community or institution level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.</p>	<p>The project will decrease the wood fuel consumption in households by providing safe drinking water and eliminate the need for boiling; therefore, reduce the GHG emissions.</p>

<p>3.1.1 Types of project – (d) Water, sanitation and hygiene (WASH): WASH activities contributing to climate change mitigation and/or adaptation benefits</p>	<p>The project is a WASH that reduces energy requirements for households as compared to baseline scenario. The project will supply safe drinking water to communities by rehabilitation of existing boreholes.</p>
<p>3.1.2 Project Area, Boundary and Scale: Project Area and Boundary shall be defined in line with the applicable Methodologies or Product Requirements</p>	<p>The project is located in the districts of Lyantonde and Kalungu in Uganda and the project boundary and scale are defined based on the GS Methodology: “Emission Reductions from Safe Drinking Water Supply”.</p> <p>The project boundary includes the physical, geographical sites of the low- or zero-greenhouse gas emitting technologies to treat/supply safe drinking water installed by the project activity and the household, commercial and institutional buildings where the end users of safe water provided by the project are located.</p> <p>The project scale is micro as per the referred definition in 9.1.4 c Type-3 Other project activities in GHG Emission Reductions and Sequestration Product Requirements. Type-3 Other project activities not included in Type I or Type II that aim to achieve GHG emission reductions at a scale of no more than 20 kt CO<sub>2</sub>e per year.</p> <p>Project also complies with Microscale Project Requirements (V1.2). The annual</p>

	<p>emission reductions are limited to 10,000 tonnes of CO<sub>2</sub>eq in each and every year of crediting period.</p>
<p>3.1.3 Certain Impact Quantification methodologies allow projects to account Suppressed Demand scenario when establishing a baseline. In such cases, the application of Suppressed Demand baseline is limited to Small Scale and Microscale Projects. Where a Suppressed Demand baseline is applied, it is not possible to 'stack' Gold Standard Certified Impact Statements or Products as the definition of the baseline may be contradictory.</p>	<p>The project applies Suppressed Demand baseline as a micro-scale activity and will not stack GS certified impact statements or products.</p>
<p>3.1.4 (a) Projects involving the distribution of a large number of devices for services such as heating, cooking, lighting, electricity generation, water treatment technology such as water filter, etc. shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with the FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided.</p>	<p>The end user will be informed that carbon finance is being generated by the project, and this finance is in turn used for maintenance of the project. The project owner will sign an agreement with the community representatives that they are transferring rights to the VERs generated to the project developer.</p>
<p>3.1.4 (b) The transfer of Product ownership shall be discussed during local stakeholder consultations for projects.</p>	<p>The transfer of rights of carbon credits were discussed during the explanation of how carbon finance would be used to support project implementation at the level of local stakeholder consultation.</p>

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

The Verified Carbon Reductions (VER) generated by the project will be transferred to the CME. Carbon Rights Transfer agreement entered between the community representatives and the project proponents includes terms transferring the ownership of VERs from the community to the project proponents. By the signature of the signature of the agreement, the end-users accept to waive the carbon rights.

**A.2 Location of project**

Republic of Uganda

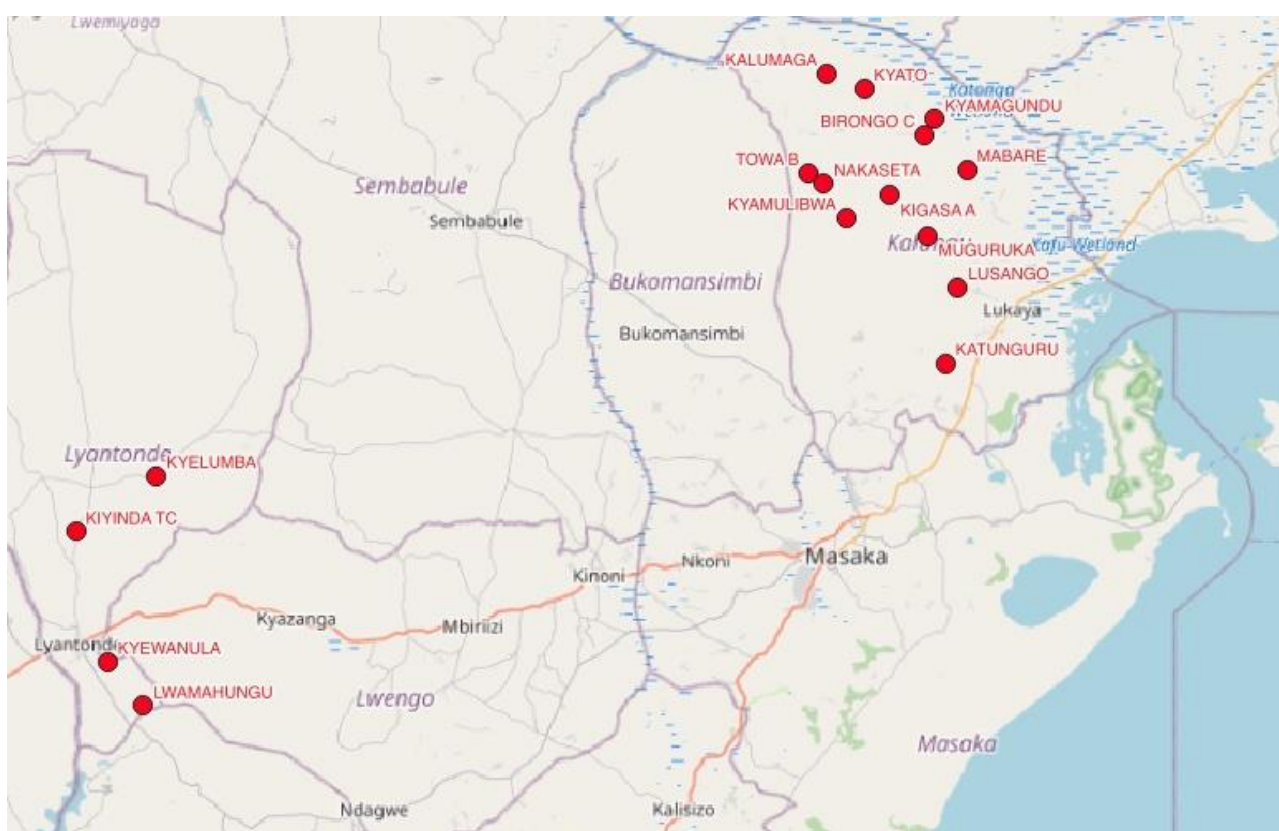


Figure 1 Location of the boreholes

Table 2 Coordinates of the boreholes

	<b>District</b>	<b>Subcounty</b>	<b>Parish</b>	<b>Village</b>	<b>Longitude</b>	<b>Lattitude</b>
1	Kalungu	Lwabenge	Kibisi	Towa B	35.30889	-0.04922
2	Kalungu	Bukulula	Lusango	Lusango	35.43732	-0.014755
3	Kalungu	Kyamulibwa	Kigasa	Kigasa A	35.37824	-0.06761
4	Kalungu	Lwabenge	Kiraga	Birongo C	35.40867	-0.01586
5	Kalungu	Lwabenge	Kiraga	Mabare	35.44478	-0.04623
6	Kalungu	Lwabenge	Kiraga	Kyamagundu	35.41661	-0.00243


7	Kalungu	Kyamulibwa	Busoga	Nakaseta	35.32169	-0.05789
8	Lyantonde	Lyantonderural	Kyewanula	Lwamahungu	34.7356	-0.5069
9	Lyantonde	Lyantonde Rural	Kyewanula	Kyewanula	34.70552	-0.46888
10	Lyantonde	Mpumude	Nsika	Kyelumba	34.7474	-0.30969
11	Kalungu	Kyamulibwa	Kabare	Muguruka	35.41171	-0.10256
12	Kalungu	Bukulula	Mabuye	Katunguru	35.42635	-0.21266
13	Kalungu	Kyamulibwa	Kyamulibwa	Kyamulibwa	35.34082	-0.8718
14	Lyantonde	Kaliro	Kiyinda	Kiyinda Tc	34.67804	-0.35713
15	Kalungu	Lwabenge	Bugomola	Kalumaga	35.32449	0.3701
16	Kalungu	Lwabenge	Bwesa	Kyato	35.35628	0.2406
17	New borehole	TBC	TBC	TBC	TBC	TBC

### A.3 Technologies and/or measures

The Project plans to carry out repair and maintenance work for the existing boreholes. All boreholes are owned and operated by District Water Officers by the order of the District Council. As the maintenance programs are expensive and poorly managed, most of the boreholes requires either full repair or maintenance works at different scales. In total, 16 boreholes will be refurbished and 1 new borehole location identified for the purpose of serving the target communities.

The boreholes are human operated and fitted with hand pumps. For those boreholes that requires a new hand pump and for newly opened boreholes; India Mark II Pumps will be installed:

- The India Mark II Pump is a robust conventional lever action handpump. It is designed for heavy-duty use, the recommended lift is 30 m.
- The India Mark II is a public domain pump defined by Indian Standards and RWSN specifications. The India Mark II pump is not corrosion resistant.
- It requires special skills for installation as well as for the maintenance.

	<p>Cylinder diameter (mm): 63.5                  Maximum stroke (mm): 125                  Approx. discharge at about                  75 Watt input (m3/h):</p> <table style="margin-left: 100px;"> <tr><td>at 10 m head</td><td>1.8</td></tr> <tr><td>at 15 m head</td><td>1.3</td></tr> <tr><td>at 20 m head</td><td>1.0</td></tr> <tr><td>at 25 m head</td><td>0.9</td></tr> <tr><td>at 30 m head</td><td>0.8</td></tr> </table> <p>Pumping lift (m):10-50                  Water consumption (Liter/cap): 15-20</p>	at 10 m head	1.8	at 15 m head	1.3	at 20 m head	1.0	at 25 m head	0.9	at 30 m head	0.8
at 10 m head	1.8										
at 15 m head	1.3										
at 20 m head	1.0										
at 25 m head	0.9										
at 30 m head	0.8										

**A.4 Scale of the project**

The project is micro-scale based on project scale defined under GS4GG Product Requirements. Annual emission reduction achieved will not exceed 10,000 tCO2e.

**A.5 Funding sources of project**

The project will be implemented by the Project Developer, SCIF; in cooperation with the local partners or Project Implementers. The funding for repairs and maintenance works will be provided by SCIF that will be legal owner of the VERs. No public funding or Official Development Assistance is involved.

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

### B.1. Reference of approved methodology (ies)

Gold Standard Methodology: Emission reductions from safe drinking water supply Version 1.0.

Applicable GS4GG requirements are as follows:

- Community Services Activity Requirements (October 2019)
- Usage Rate Requirements (27/10/2020)

### B.2. Applicability of methodology (ies)

Emission reductions from safe drinking water supply methodology defines the following applicability criteria

Applicability	Justification
<p>a. Eligible household water treatment technologies (HWT), institutional water treatment technologies(IWT), and community level water treatment technologies (CWT) include bleach/chlorine, water filter (ceramic, sand, composite, membrane, etc.), UV disinfection, etc.</p>	<p>N/A</p>
<p>b. Eligible community water supply technologies (CWS) include new installation of new borehole hand-pumps, borehole hand-pumps rehabilitation, solar powered drinking water pumps, etc. Water pumps powered by fossil-fuel engines are not eligible, with the exception of back- up fossil-fuel engines that are used for no more than 10% of operating hours (parameter SWDS 33).</p>	<p>The project aims to implement Community Water Supply technologies (CWS) to provide safe water to the districts of Lyantonde and Kalungu in Uganda.</p> <p>The project will repair/maintain the existing boreholes, install/rehabilitate hand-pumps and open new boreholes.</p>



<p>c. All projects involving CWT and CWS technologies must also include ongoing maintenance and repair of the project technology.</p>	<p>Local partner, Water Aid will be responsible to establish a team for maintenance and monitoring activities.</p>
<p>d. Where the project involves the rehabilitation of an existing technology, the project developer shall provide evidence that the existing technology is non-operational and that there is no planned maintenance or repair for at least 3 months after the date it became non-operational (parameter SWDS 2).</p>	<p>Targeted boreholes are not operational due to technical problems such as missing or broken hand pumps, damaged pipes and drainage and uncovered sewer.</p>
<p>e. This methodology allows for project activities to include safe water treatment and/or supply technologies implemented for end-users in households, and/or commercial premises such as shops or institutional premises including half or full day/boarding schools, prisons, army camps &amp; refugee camps.</p>	<p>Safe water will be supplied to end- users in households by the boreholes repaired/installed. Water quality will be tested at pre-identified intervals. In case of contamination, support for treatment will be provide in corporation with local health clinics.</p>
<p>f. In cases where the safe water is retrieved at the CWT or CWS location, the water in its improved form shall be available within a distance of 1 km or less from the end-users, as demonstrated by</p>	<p>The service area of each borehole will be demonstrated on map and only households within 1 km distance or a total collection time of 30 minutes to the boreholes will be counted as eligible.</p>

<p>satellite imaging or GPS coordinates of each CWT or CWS location. Alternatively, as a proxy, a total collection time of 30 minutes or less for a round trip, including queuing, using the travel modes of walking or pedaling may be demonstrated (parameter SDWS 1).</p>	
<p>g. Project technology performance level (HWT and IWT): It shall be demonstrated based on report of laboratory testing or official notification that the project technology or equipment achieves either (i) the performance target classification 3-star or 2-star level, meaning “Comprehensive Protection,” as per the WHO International Scheme to Evaluate Household Water Treatment Technologies (World Health Organization, 2011) or (ii) compliance with the national standard or guideline for household drinking water treatment technology; if no national guideline or standard is available, then the project technology shall comply with the WHO International Scheme requirements as per (i) (parameter SDWS 2).</p>	<p>The project is not HWT or IWT.</p>
<p>h. Project technology performance level (CWT and CWS): For each individual CWT or CWS, it shall be</p>	<p>Water quality test will be performed in accordance with the national standard for drinking water in Uganda.</p>

<p>demonstrated at the start of each crediting period with water quality testing reports that the water directly supplied by the project water technology/source achieves both:</p> <p>(i) national standards or guidelines for microbial quality of drinking water, or in the absence of such requirements, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking-water quality (Table 7.10, WHO, 2017); and</p> <p>ii. compliance with (i) national standards or guidelines on priority chemical contamination and physical and aesthetic aspects, or in the absence of such requirements, (ii) international standards or guidelines on priority chemical contamination and physical and aesthetic aspects. (parameter SWDS 3).</p>	<p>Safe water directly supplied by the project will be assured to achieve the microbial quality and priority chemical contamination and physical and aesthetic aspects in line with national standards. Water quality will be tested at pre-identified intervals. In case of contamination, support for treatment will be provided in corporation with local partner Wateraid.</p>
<p>i. The project must conduct annual water hygiene education campaigns for the end-users. (parameter SDWS 20).</p>	<p>The project staff will conduct annual water hygiene education campaigns for the end-users. The impacts of the hygiene campaign will be assessed using the WHO/UNICEF Joint Monitoring Programme Core questions for drinking water and hygiene.</p>
<p>j. A project applying this methodology may make SDG claims if relevant monitoring parameter(s) is included in the monitoring plan to</p>	<p>For the contribution to SDG 6: The project aims to achieve basic level services by providing households an improved source with water collection</p>

demonstrate and confirm the project’s contributions to SDGs. See parameter SDWS 19.	times of no more than 30 minutes per round trip. Of the three aspects of accessibility, availability and quality, the project fulfills the quality aspect by monitoring water quality.
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### B.3. Project boundary

The sources and gases included in the project boundary are described in the below table.

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Emissions from wood fuels utilized for obtaining safe drinking water displaced due to the project activity	CO <sub>2</sub>	Yes	Major source of emissions
		CH <sub>4</sub>	Yes	Important source of emissions
		N <sub>2</sub> O	Yes	Can be significant source of emissions for some fuels
Project scenario	Emission from electricity or fossil fuels for operating project water supply/treatment technology	CO <sub>2</sub>	No	The boreholes are human operated and fitted with hand pumps.
		CH <sub>4</sub>	No	N/A
		N <sub>2</sub> O	No	N/A

### B.4. Establishment and description of baseline scenario

According to the applied methodology, baseline scenario is the existing baseline fuel and technology for boiling water by end-user group. The project will apply suppressed demand to the baseline scenario and includes the end users who would have boiled water for drinking in the absence of the project activity. The project is small scale activity and eligible for implementing suppressed demand. The suppressed demand value is determined by a set of questions in the baseline survey by asking households how they would choose to purify drinking water if they were not subject to financial constraints or energy poverty.

Each project shall document the following pre-project conditions that define the specific baseline scenario of the end-user group(s) of the project:

**a. Pre-project practices of boiling water, or drinking unsafe water**

**(suppressed demand):** Document the drinking water sources and/or treatment technologies available and used in the project boundary.

**b. Efficiency of water boiling systems:** Document the baseline stove or water boiling technologies and technologies' thermal efficiency used in the project boundary.

**c. Baseline fuels:** Document the baseline cooking fuels used and/or fuels used for water boiling in the project boundary.

In order to document the pre-project conditions a baseline survey was carried out:

Baseline Survey of target population characteristics

A baseline survey is conducted within the project boundary by interviewing 220 residents during 30 August- 17 September 2022 in Lwamungu, Kyelumba, Birongo C, Kyamagundu, Kigasa A.

The data collected is specific to the characteristics of each baseline scenario, and should be tailored accordingly. The following information has been gathered:

A. Basic Information

1. Name, Surname
2. GPS Coordinates
3. Household Size per season

B. Source of water for drinking

1. Main source of water
2. Other water sources
3. Quality of water

C. Fetching water

1. Person that fetches water in the family
2. Weekly trips made
3. If water is sufficient for the family and existence of storage tank

D. Cookstove and fuel use

1. Most used cookstove type
2. Main type of fuel used with the stove

E. Water purification

1. Purifying water or not
2. Method of purification preferred

3. Purpose of purification
4. If not purifying, the reasons
5. If had a change, which method preferred for purification

The results are summarized as follows:

*Source of water for drinking:* The drinking water sources used in the project boundary is identified in the project boundary, and are classified as safe and unsafe water source. Only 6 respondents out of 220 were drinking water from safe sources, i.e. piped water, public tap, delivered water and water kiosks. Most of the people depends on unsafe sources, mainly surface water during the dry season (94%) and both rainwater and surface water (98%) during the wet season.

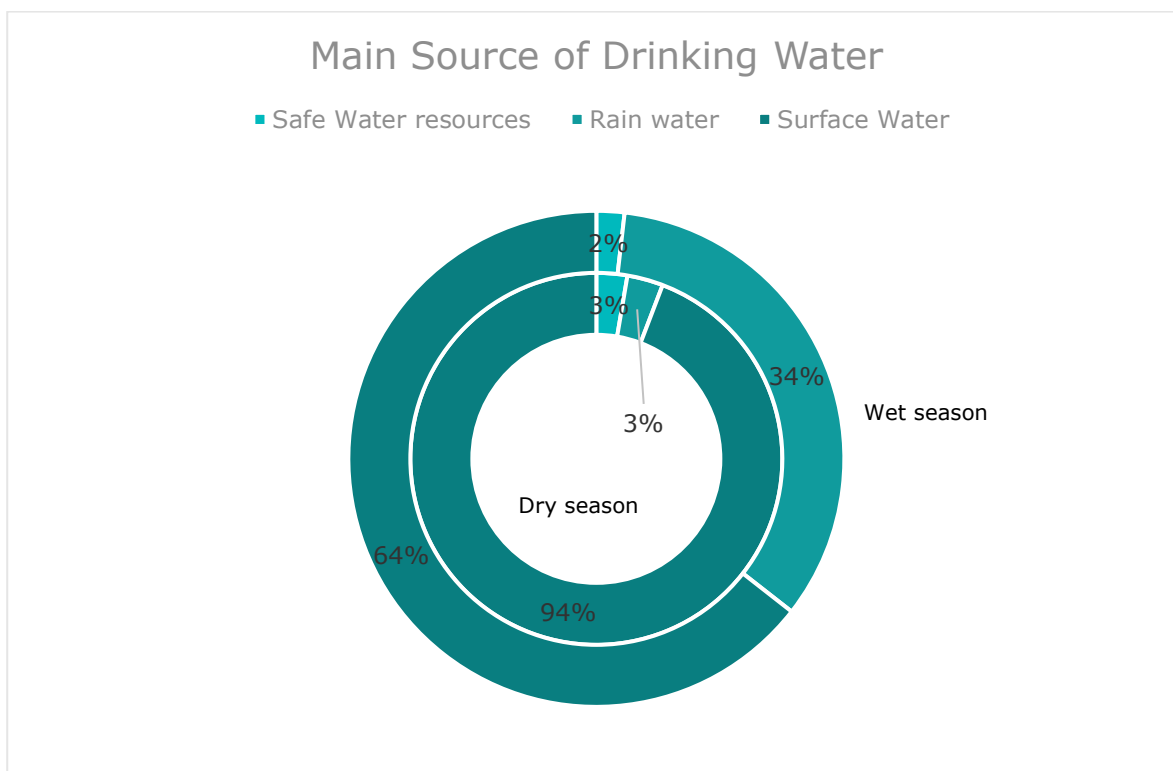


Figure 2. Main source of Drinking Water

Most of the respondents (95%) said that they collect water out of their own dwellings or yard. 60% of the respondents said they spent at least an hour or more to collect water. 30% of the respondents said the water is collected by either adult women or men. The rest of families mostly send either girls or boys under 15 years old to fetch water for the family. Most of the respondents stated that they make weekly trips to fetch water. Only 15% of the respondents have large storage tanks and the rest relies on daily water carriage. Most of the them (189 out of 218) stated that the water was

not sufficient at least once during the last month and the main reason is that water is not available from the source.

While 163 respondents stated that the water collected is acceptable to drink, all of them treat water by boiling. The water is boiled in closed room during wet season while open space is more preferred than closed room during the dry season. Additional methods used are adding bleach/chlorine, strain through a cloth, using ceramic, sand, composite, reverse osmosis, etc. and other methods.

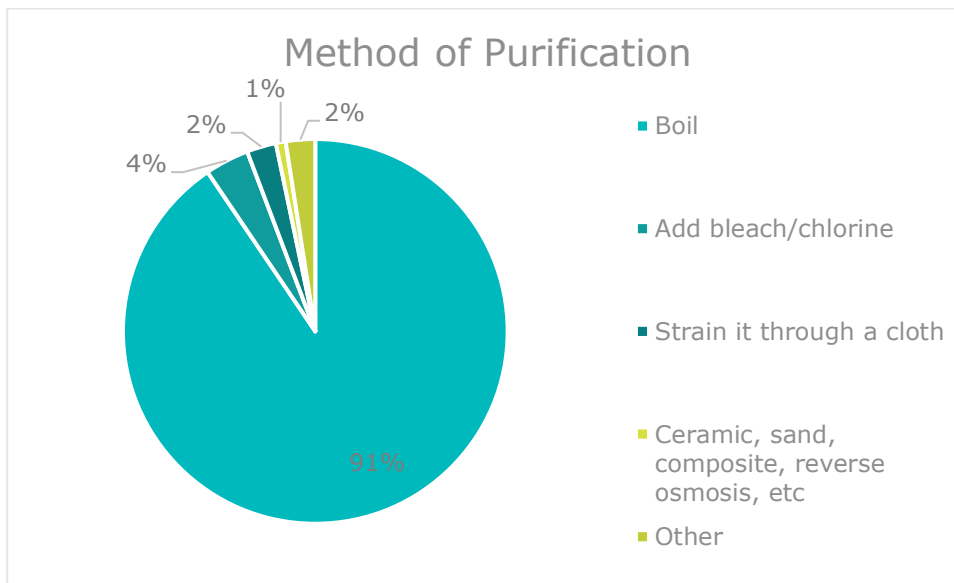


Figure 3 Method of Purification

All of the respondents said they mainly use three-stone fire to boil water. Only 5 respondents stated to use other stoves along with the three-stone fire. 83% does not have a secondary stove, while 14% has other conventional system using biomass. The respondents said 97% of the time they use main stove for boiling water.

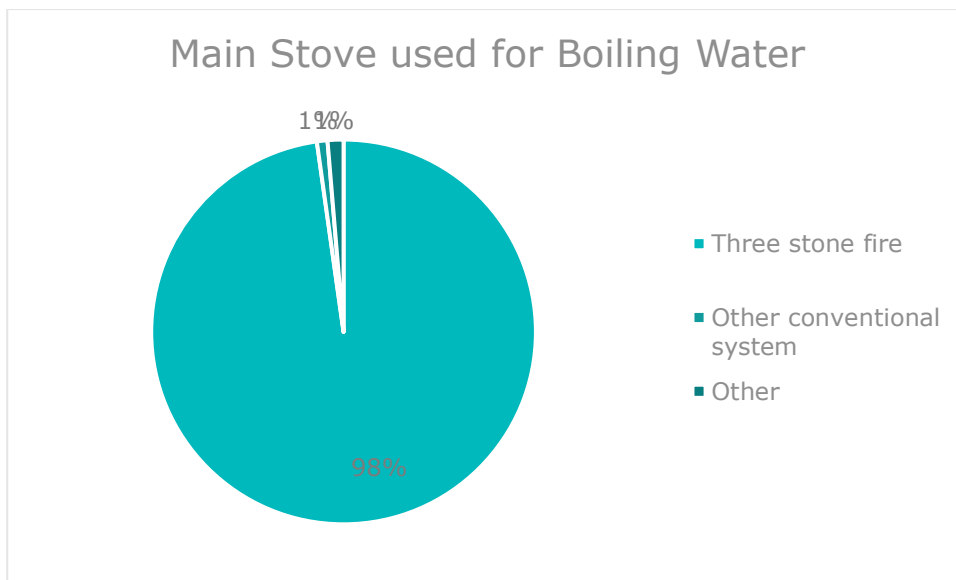


Figure 4 Main Stove used for Boiling Water

Main fuel used for boiling is fuelwood with a usage percentage of 96% and secondary fuel used is charcoal with 3%.

### B.5. Demonstration of additionality

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).

Activity Requirement for Community based technologies:

4.1.9. Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification:

- (a) Positive list (Annex B)
- (b) Projects located in LDC, SIDS, LLDC
- (c) Micro-scale projects



Describe how the proposed project meets the criteria for deemed additionality.	<p>The proposed project is located in the Republic of Uganda which falls under the category of a LDC and LLDC.</p> <p>The proposed project is also a micro-scale project and complies with condition (c ).</p>
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**B.5.1 Prior Consideration**

The project is applying under regular project cycle and demonstration of prior consideration is not required.

**B.5.2 Ongoing Financial Need**

>>N/A

**B.6. Sustainable Development Goals (SDG) outcomes**

Relevant Target/Indicator for each of the three SDGs

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact
		Indicator (Proposed or SDG Indicator)
13 Climate Action (mandatory)	13.2 Integrate climate change measures into national policies, strategies and planning	Emission reductions achieved by fuelwood savings at household level
15 Life on Land	15.1.By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	Amount of firewood saved by the project stoves per year
3 Good health and well-being	3.9. By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	Number of households that observed reduction in PM2.5 & carbon monoxide (CO) concentration reductions
5 Gender Equality	5.4. Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social	Proportion of households who perceive saved time

	protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	from collecting wood and water boiling
6 Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.	<ul style="list-style-type: none"> <li>- Amount of safe water served at the required quality by national standards.</li> <li>- Increased awareness due to annual Water hygiene campaigns.</li> </ul>
8 Decent Work and Economic Growth	8.5. By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	Number of temporary and permanent jobs created
1 No Poverty	1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	Average household savings i.e., decrease in expenditure on basic service such cooking, lighting, drinking

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

#### SDG 13: Climate Action

**Parameter:** Emission reductions achieved by fuelwood and charcoal savings at household level.

As per the applied GS methodology, The baseline emission factor shall be calculated as follows:

$$EF_b = SE_{w,b,y} * \sum_f (x_f * (EF_{b,f,CO2} * f_{NRB,f,y} + EF_{b,f,nonCO2})) \div 10^9 \quad Eq. 1$$

Where:

$EF_b$  = Emission factor for the use of fuel to obtain safe water in the baseline (tCO<sub>2</sub>e/L)

$SE_{w,b,y}$	= Specific energy required to boil water (kJ/L), to be calculated as per the paragraph below
$x_f$	= Proportion of fuel $f$ used in the baseline (fraction determined based on an energy basis)
$EF_{b,f,CO2}$	= CO <sub>2</sub> emission factor from use of fuel $f$ (tCO <sub>2</sub> /TJ)
$EF_{b,f,nonCO2}$	= Non-CO <sub>2</sub> emission factor arising from use of fuel $f$ , when the baseline fuel $f$ is biomass or charcoal (tCO <sub>2</sub> e/TJ). This parameter is omitted when $f$ is a fossil fuel.
$f_{NRB,f,y}$	= Fractional non-renewability status of woody biomass fuel during year $y$ (fraction). For biomass, it is the fraction of woody biomass that can be established as non-renewable. This parameter is omitted when $f$ is a fossil fuel.
$f$	= Index for baseline fuel types

The specific energy required to boil water using the baseline technology ( $SE_{w,b,y}$ ) is determined as follows, by calculating the energy input required to obtain 1 L of boiling water, including boiling and vaporization losses, taking into account default or measured stove efficiency.

$$SE_{w,b,y} = 360.83/\eta_{wb} \quad \text{Eq. 2}$$

Where:

$360.83$	= Default amount of energy required to obtain 1 L of water after 5 minutes of boiling from a first principles approach kJ/l
$\eta_{wb}$	= Efficiency of the stoves for baseline water boiling (%). Weighted average of baseline stove types.

**The baseline emissions shall be calculated as follows:**

$$BE_y = EF_b \times (1 - C_b - X_{cleanboil,y}) \times Q_y \times M_{q,y} \quad \text{Eq. 3}$$

Where:

$BE_y$	= Baseline emissions from the use of fuel to obtain safe water in the baseline (tCO <sub>2</sub> e)
$C_b$	= Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling (%)
$X_{cleanboil,y}$	= Proportion of project end-users that boil safe water in the project year $y$ (%)
$Q_y$	= Quantity of safe drinking water provided by the project in year $y$ (L)
$M_{q,y}$	= Modifier for the water quality in year $y$

**The quantity of safe drinking water provided by the project is calculated using Method 1 applies to CWT and CWS;**

In the case of CWT and CWS, the quantity of safe drinking water provided by the project  $Q_y$  is determined as follows:

$$Q_y = \min(Q_{m,y}, Q_{pop,y}) \tag{Eq. 4}$$

Where:

- $Q_{m,y}$  = Monitored quantity of safe water provided by the project in year  $y$  (L).
- $Q_{pop,y}$  = Quantity of safe drinking water that could be consumed by project end-users in year  $y$  (L)

Quantity of safe drinking water shall be calculated as follows:

$$Q_{pop,y} = \sum_p HH_{p,y} \times HN_{p,y} \times QPW_p \times DO_{p,y} \tag{Eq. 5}$$

Where:

- $HH_{p,y}$  = Number of premises type  $p$  served by the project in year  $y$
- $HN_{p,y}$  = Number of individuals per premises type  $p$  (e.g. household, school) in year  $y$
- $QPW_p$  = Volume of drinking water per person per day for premises type  $p$  (L). Apply the default value or monitored value through water consumption field tests in the project scenario, capped at 5.5 L per person per day.
- $DO_{p,y}$  = Days the project technology is operational for end-users in premises  $p$  in year  $y$

➤ **Project emissions**

Project emissions may result from the operation of new low-emission water treatment technologies. Project emissions ( $PE_y$ ) shall be calculated as follows:

$$PE_y = PE_{ff,p,y} + PE_{ec,p,y} \tag{Eq. 8}$$

Where:

- $PE_y$  = Project emissions in year  $y$  (tCO<sub>2</sub>)
- $PE_{ff,p,y}$  = Project emissions from fossil fuel use in year  $y$  (tCO<sub>2</sub>)
- $PE_{ec,p,y}$  = Project emissions from electricity use in year  $y$  (tCO<sub>2</sub>)

There will be **no fossil fuel use** in the project therefore project emissions from fossil fuel use will be **zero**. All boreholes are human operated and will be equipped by hand

pumps.

The emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \quad \text{Eq. 11}$$

Where:

$ER_y$  = Emission reductions in year y (t CO<sub>2</sub>e/yr)

$BE_y$  = Baseline emissions in year y (t CO<sub>2</sub>e/yr)

$PE_y$  = Project emissions in year y (t CO<sub>2</sub>e/yr)

$LE_y$  = Leakage emissions in year y (t CO<sub>2</sub>e/yr)

### SDG 15: Life on Land

**Parameter:** Amount of firewood saved by the project per year.

The total firewood and charcoal saved will be calculated based on the amount of water served by the following formula:

$$\text{Amount of fuelwood saved} = (SE_{w,b,y} * ((1 - C_b - X_{cleanboil,y}) * Q_y) / NCV_{fuelwood})$$

NCV: Net calorific value for fuelwood (0.0156 TJ/t)

### SDG 3: Good health and well-being

**Parameter:**

Number of households that observed reduction in PM<sub>2.5</sub> & carbon monoxide (CO) concentration reductions

The beneficiaries will be asked to evaluate any improvement in their health conditions compared to baseline situation during the household survey. The indoor air pollution is expected to decrease due to the avoided water boiling.

### SDG 5: Gender Equality

**Parameter:** Proportion of households who perceive reduced time for collecting wood and water boiling

During the household survey, questions about the perception of time spent on water boiling and fuelwood collection will be asked to women. If the response is positive, the surveyors will further explore for what kind of activities people are using their time saved.

## **SDG 6: Clean Water and Sanitation**

**Parameter:** Amount of safe water served at the required quality by national standards.

Amount of safe water served by the project will be calculated by sampling basis. The baseline survey results showed that almost all users carry water with 20 litres plastic containers on daily basis. One of the two approaches will be followed by the Project:

- (1) The number of 20 It containers will be counted on a daily basis for all 17 boreholes sampled for 3 days, not including weekend. Then the number will be multiplied by 20 It to find the average water served daily.
- (2) The time required for filling 20 litres plastic container will be counted and recorded for all 17 boreholes. An average flowrate will be calculated.

Average flowrate (l/secs) = 20 Litre / average time required to fill container (sec)

Daily operational time will be recorded for the selected boreholes for 3 days, excluding weekends. The operational time will be multiplied with the average flowrate calculated.

Total amount of water served (litres/day)= Average daily operation time (hrs/day) x Average flowrate (l/sec) x 60 sec/hrs

Daily water consumption will be multiplied by the operational days in a year.

**Parameter:** Increased awareness due to annual Water hygiene campaigns. Number of people reached through hygiene campaigns will be monitored.

## **SDG: 8: Decent work and economic growth**

**Parameter:** Number of temporary and permanent jobs created

Number and type of jobs created will be recorded with employment status and duration.

## **SDG 1: No Poverty**

**Parameter:** Average household savings i.e., decrease in expenditure on basic service such cooking, lighting, drinking

Total saved fuelwood is divided by total beneficiary families to find the savings for each household per year. The unit price per kg of fuelwood consumed is assumed as 0.2 USD/kg. Annual savings per households is calculated by multiplying total fuelwood consumed for boiling water by the fixed price for fuelwood.

### B.6.2 Data and parameters fixed ex ante

#### SDG13

##### a. Related to water quality

Data/parameter	Number of household/institution per CWT/CWS
Unit	N/A
Description	End users premises (e.g. households, institutions) within 1 km distance of project water source
Source of data	Default population served by each pump
Value(s) applied	3,645
Choice of data or Measurement methods and procedures	The number of households data for each village is taken from Uganda Bureau of Statistics. The data is compared with building counted within 1 km of each borehole through Google Earth images. The lower number has taken as the basis for number of households to be served.
Purpose of data	Determination of number of eligible households.
Additional comment	The number will be confirmed by Google Earth count to be in line with the requirement of 1km radius of the each CWS.

Data/parameter	Project technology description
Unit	N/A
Description	The project applies zero emission water supply technologies.
Source of data	Project database
Value(s) applied	India Mark II Hand pumps
Choice of data or Measurement methods and procedures	New boreholes: <ul style="list-style-type: none"> <li>• Technical specification provided by the manufacturer for new hand pumps</li> </ul>

	<ul style="list-style-type: none"> <li>• Installation date</li> </ul> <p>Rehabilitated boreholes:</p> <ul style="list-style-type: none"> <li>• Evidence Letter from local government for non-operational time for all boreholes and lack of maintenance or repair plans.</li> <li>• Original installation date for each borehole</li> <li>• Technical notes of rehabilitation activity undertaken for each borehole</li> </ul>
Purpose of data	Confirmation on technology specifications and performance level
Additional comment	N/A

Data/parameter	Project technology performance level (CWT or CWS)
Unit	N/A
Description	<p>The water directly supplied by the project must comply with:</p> <ul style="list-style-type: none"> <li>ii. Microbial quality in line with (i) national standards or guideline for microbial quality of drinking water, or in their absence, (ii) the guideline values for verification of microbial quality from the Guidelines for drinking-water quality, 4th edition (Table 7.10, WHO, 2017); and</li> <li>iii. Chemical quality (i) national standards or guidelines on priority chemical contamination and physical and aesthetic aspects, or in the absence of such requirements, (ii) international standards or guidelines on priority chemical contamination<sup>18</sup> and physical and aesthetic aspects</li> </ul> <p>Once at the start of the crediting period, and microbial quality at the CWS locations must be retested following an event that could lead to contamination of the source water (e.g. flooding).</p>
Source of data	Water quality test reports
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	Laboratories with quality accreditation will be used for water quality testing. The accreditation confirms adequate quality management plan in place which addresses both quality assurance and quality control test procedures.
Purpose of data	
Additional comment	N/A



Data/parameter	Regulatory framework for safe water supply
Unit	N/A
Description	List and provide a summary of any national, sub-national and local regulations or guidance for safe drinking water supply, operation and maintenance, including any tariff requirements. Describe how the project complies with the regulatory framework. Update at the start of each crediting period.
Source of data	National, sub-national and local authorities
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	National policies and guidelines in the water sector in Uganda.
Purpose of data	Confirmation that the project does not undermine or conflict with any national, sub-national and local regulations or guidelines for safe drinking water supply, operation and maintenance, including any tariff requirements.
Additional comment	N/A

Data/parameter	Water sources in the project boundary
Unit	N/A
Description	Identify the water sources in the project boundary, and identify whether they are used for drinking water, and for all that are used for drinking water, classified as improved and unimproved water source.
Source of data	Baseline Survey
Value(s) applied	98% of the target population uses unimproved water sources.
Choice of data or Measurement methods and procedures	Baseline Survey was performed
Purpose of data	Identification of baseline scenario.
Additional comment	N/A

**a. Related to emission reductions**

Data/parameter	Stove technologies used in the project boundary
Unit	N/A
Description	The proportion of different stove types used in premises in the geographical area of the project.
Source of data	Baseline Survey
Value(s) applied	The following categories of stove types are identified in the project boundary: <ul style="list-style-type: none"> <li>• Three-stone fire</li> <li>• Other conventional systems using woody biomass</li> </ul>
Choice of data or Measurement methods and procedures	Baseline assessment prior to validation for classification and clustering (if applicable) of baseline stove types is being conducted.
Purpose of data	Assessment of baseline scenario
Additional comment	N/A

Data/parameter	Expected technical life or project technology
Unit	Time period
Description	The operation lifetime of the project technology is over 5 years as per the manufacturer specifications
Source of data	Manufacturer specifications
Value(s) applied	>5 years
Choice of data or Measurement methods and procedures	Manufacturer specifications
Purpose of data	Assessment of technical life against crediting period and if necessary (total crediting period $\geq$ expected technical life) inclusion of appropriate replacement mechanism as part of the project design.
Additional comment	N/A

Data/parameter	$X_f$
Unit	Percentage

Description	Percentage of fuel f use in target population	
Source of data	Baseline survey	
Value(s) applied	<b>Fuelwood</b>	96%
	<b>Charcoal</b>	4%
Choice of data or Measurement methods and procedures	Questions about fuel used for water boiling were asked to the participants to the baseline survey for both seasons. Please refer to the Baseline Survey results.	
Purpose of data	Calculation of emission reductions	
Additional comment	-	

Data/parameter	EF <sub>b,CO2</sub>	
Unit	tCO <sub>2</sub> e/TJ	
Description	CO <sub>2</sub> 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	Fuelwood-	112
	Charcoal-	165.22
Choice of data or Measurement methods and procedures	Deemed valid by Methodology	
Purpose of data	Calculation of baseline emissions	
Additional comment	-	

Data/parameter	Ef <sub>b,non CO2</sub>	
Unit	tCO <sub>2</sub> e/TJ	

Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in baseline scenario
Source of data	Ef <sub>b,non CO<sub>2</sub></sub> ; calculated from IPCC defaults; Volume 2:2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5  Global Warming Potential (GWP); from IPCC Fifth Assessment Report (AR5) Climate Change 2013: The Physical Science Basis
Value(s) applied	Fuelwood- 9.46  Charcoal-44.83
Choice of data or Measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculation of baseline emissions
Additional comment	-

Data/parameter	$\eta_{wb}$						
Unit	Percentage						
Description	Weighted average efficiency of the baseline water boiling devices. Calculate the weighted average of the water boiling efficiency in the project boundary using the proportion of different stove types used and the stove efficiencies.						
Source of data	Baseline survey						
Value(s) applied	11.7%						
Choice of data or Measurement methods and procedures	The following default values for cookstoves are applied to calculate the weighted average of the water boiling efficiency. <table border="1" data-bbox="577 1767 1426 1912"> <thead> <tr> <th>Cookstove Type</th> <th>Efficiency</th> </tr> </thead> <tbody> <tr> <td>Three-stone fire</td> <td>10%</td> </tr> <tr> <td>Charcoal Stove</td> <td>20%</td> </tr> </tbody> </table>	Cookstove Type	Efficiency	Three-stone fire	10%	Charcoal Stove	20%
Cookstove Type	Efficiency						
Three-stone fire	10%						
Charcoal Stove	20%						
Purpose of data	Calculation of emission reductions						

Additional comment	-
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Data/parameter	$C_b$
Unit	Percentage
Description	Proportion of project end-users who in the baseline were already using safe water, either from an improved water source, or from a water treatment method other than boiling. At the start of each crediting period.
Source of data	Baseline Survey
Value(s) applied	2.68%
Choice of data or Measurement methods and procedures	Baseline assessment prior to validation
Purpose of data	Assessment of baseline scenario
Additional comment	N/A

Data/parameter	$QPW_p$
Unit	Liters/person/day
Description	Volume of drinking water per person per day for premises type $p$
Source of data	Default value in the methodology
Value(s) applied	4
Choice of data or Measurement methods and procedures	The capped value 5.5 L/person/day determined based on WHO recommendations will be used.
Purpose of data	Calculation of emission reductions
Additional comment	-

Data/parameter	$f_{NRB,f,y}$
Unit	percentage

Description	Non-renewability status of woody biomass fuel during year y in case the baseline fuel is biomass or charcoal
Source of data	Determined by:  CDM TOOL30, calculation of the fraction of non-renewable biomass  <a href="https://cdm.unfccc.int/DNA/fNRB/index.html">https://cdm.unfccc.int/DNA/fNRB/index.html</a>
Value(s) applied	0.82
Choice of data or Measurement methods and procedures	Calculated as per Tool 30
Purpose of data	Calculation of emission reductions
Additional comment	-

### B.6.3 Ex ante estimation of SDG Impact

>>

**SDG 13:** Take urgent action to combat climate change and its impacts

**Parameter:** Emission reductions achieved by fuelwood savings at household level

Emission factors for fuelwood and charcoal are calculated by the following formula:

$$EFb = SEw,b,y * \sum(xf * (EFb,f,CO2 * fNRB,f,y + EFb,f,nonCO2)) \div 10^9$$

Parameter	Unit	Description	Data Source	Value for Dry Season
<i>xf</i> (Firewood)	Fraction	Proportion of fuel f used in the baseline	Baseline Survey	0.96
<i>xf</i> (Charcoal)				0.03
<i>EFb,f,CO2</i> (Fuelwood)	tCO2/TJ	CO2 emission factor from use of fuel f	Default value for Firewood	112
<i>EFb,f,CO2</i> (Charcoal)			Default value for Charcoal	165.22
<i>fNRB,f,y</i>	Fraction	Fractional non-renewability status of woody biomass fuel during year y	Calculated	0.82

Parameter	Unit	Description	Data Source	Value for Dry Season
$EF_{b,f,nonCO2}$ (Fuelwood)	tCO <sub>2</sub> /TJ	Non-CO <sub>2</sub> emission factor arising from use of fuel f, when the baseline fuel f is biomass or charcoal	Default value for firewood	9.46
$EF_{b,f,nonCO2}$ (Charcoal)	tCO <sub>2</sub> /TJ		Default value for firewood	44.83
$EF_b$ fuelwood	tCO <sub>2</sub> e/L	Emission factor for the use of fuel to obtain safe water in the baseline (tCO <sub>2</sub> e/L)	Calculated	0.000368
$EF_b$ charcoal			Calculated	0.000017

Specific energy required is calculated with the following formula:

$$SE_{w,b,y} = 360.83/\eta_{wb} = 360.83/ 10\% = 3,784.90 \text{ kJ/L}$$

Baseline emission is calculated as follows:

$$BE_y = EF_b \times (1 - C_b - X_{cleanboil,y}) \times Q_y \times M_{q,y}$$

Parameter	Unit	Description	Data Source	Value
$C_b$	Fraction	Proportion of project end-users who in the baseline were already using a safe water supply that did not require boiling	Baseline Survey	2.68%
$X_{cleanboil,y}$	Fraction	Proportion of project end-users that boil safe water in the project year y	Assumed	0%
$Q_y$	L	Quantity of safe drinking water provided by the project in year y	Calculated	25,296,300
$HN_{p,y}$	Number	Number of individuals per premises type p (e.g. household, school) in year y	Uganda Bureau of Statistics	5
$HH_{p,y}$	Number	Number of premises type p served by the project in year y	Uganda Bureau of Statistics Google earth	3,645
$QPW_p$	L/pp	Volume of drinking water per person per day for premises type p	Default value	4
$M_{q,y}$	Fraction	Modifier for the water quality in year y	Assumed	1

Parameter	Unit	Description	Data Source	Value
D0p,y	Days	Days the project technology is operational for end-users in premises p in year y	Assumed	347

Total annual BE avoided= **9,489tCO2e**

**SDG 15.** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

**Parameter:** Amount of firewood saved by the project per year

Amount of firewood saved will be calculated by the formula:

$$\text{Amount of fuelwood saved} = (SE_{w,b,y} * ((1 - C_b - X_{cleanboil,y}) * Q_y) / NCV_{fuelwood}$$

$$= (3,784.9 \text{ kJ/L} * (1 - 0.0268 - 0) * 25,296,300 \text{ L}) / (0.0156 \text{ TJ/t} * 10^9 \text{ kJ/TJ})$$

$$= 5,973 \text{ tonnes of firewood}$$

**SDG 6.** Ensure availability and sustainable management of water and sanitation for all  
 Amount of safe water served at the required quality by national standards will be calculated by the product of metered water with  $M_{q,y}$  modifier for the water quality. Increased awareness due to annual Water hygiene campaigns will be monitored by the number of people accessed by the campaigns.

For **SDG 3** and **SDG 5**, the results of household survey will be used, no calculation is applicable.

For **SDG 8**, the project database and training records will be used.

For **SDG 1**, the average fuelwood saved by household per year is calculated as 1.64 tonnes; which results 328 USD savings per year.

### B.6.4 Summary of ex ante estimates of each SDG Impact

#### SDG 13

Year	Baseline estimate (tCO2e)	Project estimate (tCO2e)	Net benefit (tCO2e)
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16 July- 31 Dec 2023	4,394	0	4,394
2024	9,489	0	9,489
2025	9,489	0	9,489
2026	9,489	0	9,489
2027	9,489	0	9,489
01 Dec- 15 Jul 2028	5,095	0	5,095
<b>Total</b>	<b>47,445</b>	<b>0</b>	<b>47,445</b>
<b>Total number of crediting years</b>	<b>5 year</b>		
<b>Annual average over the crediting period</b>	<b>9,489</b>	<b>0</b>	<b>9,489</b>

### SDG 15

Year	Baseline estimate (t)	Project estimate (t)	Net benefit (t)
16 July- 31 Dec 2023	2,766	0	2,766
2024	5,973	0	5,973
2025	5,973	0	5,973
2026	5,973	0	5,973
2027	5,973	0	5,973
01 Dec- 15 Jul 2028	3,207	0	3,207
<b>Total</b>	<b>29,865</b>	<b>0</b>	<b>29,865</b>
<b>Total number of crediting years</b>	<b>5 year</b>		
<b>Annual average over the crediting period</b>	<b>5973</b>	<b>0</b>	<b>5973</b>

### SDG 3

Proportion of households who experienced reduced incidents of water borne diseases is estimated to be 100%

### SDG 5

Proportion of households who perceive reduced time for collecting wood and water boiling is estimated to be 100%

**SDG 6**

Year	Baseline estimate (L)	Project estimate (L)	Net benefit (L)
16 July- 31 Dec 2023	11,712,533	0	11,712,533
2024	25,296,300	0	25,296,300
2025	25,296,300	0	25,296,300
2026	25,296,300	0	25,296,300
2027	25,296,300	0	25,296,300
01 Dec- 15 Jul 2028	13,583,767	0	13,583,767
<b>Total</b>	<b>126,481,500</b>	<b>0</b>	<b>126,481,500</b>
<b>Total number of crediting years</b>	<b>5 year</b>		
<b>Annual average over the crediting period</b>	<b>25,296,300</b>	<b>0</b>	<b>25,296,300</b>

At least one water hygiene campaign will be held annually.

**SDG 8**

Number of permanent jobs provided will be determined as per the number of serving points.

**SDG 1**

Year	Baseline estimate (USD/hh/yr)	Project estimate (USD/hh/yr)	Net benefit (USD/hh/yr)
16 July- 31 Dec 2023	152	0	152
2024	328	0	328
2025	328	0	328
2026	328	0	328
2027	328	0	328

01 Dec- 15 Jul 2028	176	0	176
Total	1,639	0	1,639
<b>Total number of crediting years</b>	<b>5 year</b>		
<b>Annual average over the crediting period</b>	<b>328</b>	<b>0</b>	<b>328</b>

## B.7. Monitoring plan

### B.7.1 Data and parameters to be monitored

#### a. Related to Water quality

#### SDG 13

Data / Parameter	$M_{q,y}$
Unit	Fraction
Description	Ongoing water quality indicated as the fraction of the samples that pass microbial quality standard requirements specified in relevant microbial quality standard for drinking water of the host country. In case a national standard is not available, the water quality shall comply with WHO Guideline values for verification of microbial quality i.e., all water directly intended for drinking must not have detectable E.Coli in any 100 ml sample i.e., less than 1 Colony Forming Unit (CFU) of E.Coli /100 ml.
Source of data	Water quality test for samples taken from the transport containers when it reaches the end-user premises (e.g. household, institution).
Value(s) applied	1
Measurement methods and procedures	The water quality test applies the bacterial quality standard <1 cfu E.coli/100ml, and the sampling determines the proportion of pass and fail results.  A minimum sample size 30 will be selected.
Monitoring frequency	Annual sampling, and the first round of testing will be conducted at least after six months from the start date.
QA/QC procedures	Laboratories used for water quality testing will be approved by local health authorities and/or have quality accreditation; and have an adequate quality

	management plan in place which addresses both quality assurance and quality control test procedures.
Purpose of data	Compliance with Safe Drinking Water Quality Standards
Additional comment	

## SDG.6

Data / Parameter	Water hygiene education campaigns
Unit	-
Description	Hygiene campaigns carried out among project safe water end-users.
Source of data	Report of annual hygiene campaign results
Value(s) applied	To be determined
Measurement methods and procedures	<p>The impacts of the hygiene campaign shall be assessed using the WHO/UNICEF Joint Monitoring Programme Core questions for drinking water and hygiene to determine the fraction of the households and institutions where Safe water and Hygiene practices are found to fulfill "safely managed" or "basic" requirements.</p> <p>In-person or telephone or by messaging (e.g. text, app) based survey shall be conduct covering all the JMP core questions for drinking water and core questions for hygiene.</p>
Monitoring frequency	Annually
QA/QC procedures	The fraction of the households where Safe water and Hygiene practices are found to fulfill "safely managed" or "basic" requirements is expected to increase over time as a result of the hygiene campaigns.
Purpose of data	
Additional comment	

### b. Related to emission reductions

## SDG 13

Data / Parameter	$X_{\text{cleanboil},y}$
Unit	Percentage

Description	Proportion of project end-users that boil safe (treated, or from safe supply) water after installation of project technology in year y
Source of data	Project Survey
Value(s) applied	0
Measurement methods and procedures	This survey may be performed in person, by telephone, by messaging (e.g. text, app), appropriate to the context.
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Calculation of emission reductions
Additional comment	-

### SDG 6 and SDG 13

Data / Parameter	$Q_{m,y}$
Unit	Litres/year
Description	Monitored quantity of safe water provided by the CWT project in year y
Source of data	<p>At the central location of the CWT:</p> <p>Option 1: Flow meter measures water volume directly</p> <p>Option 2: Operation sensor measures directly operation time or pump stroke count, and volume is calculated as capacity (defined in Project technology description) multiplied by operation time or pump strokes, depending on the sensor type.</p> <p>This may be measured on a sampling basis, in which case follow the section 4.2  General requirements for sampling, below.</p>
Value(s) applied	25,296,300
Measurement methods and procedures	<p>Option 2: Operation time /stroke count</p> <p>This will be measured on a sampling basis. At least 30 boreholes will be sampled over 3 days, not including weekends. One of the two approaches will be followed:</p> <ol style="list-style-type: none"> <li>(1) Counting the number of 20lt containers on a daily basis</li> <li>(2) Using the following formula:</li> </ol> <p>Total amount of water served (litres/day)= Average daily operation time (hrs/day) x Average flowrate (l/sec) x 60 sec/hrs</p>

	Daily water served will be multiplied by operational days in a year.
Monitoring frequency	Continuously
QA/QC procedures	Follow manufacturer, sector, national or international standards or guidelines for calibration and maintenance of the measurement device.
Purpose of data	Calculation of emission reductions
Additional comment	-

### SDG 13

Data / Parameter	$HN_{p,y}$
Unit	Number
Description	Number of individuals per premises type p in the project boundary in year y
Source of data	Uganda Bureau of Statistics
Value(s) applied	5
Measurement methods and procedures	Direct measurement
Monitoring frequency	Annual
QA/QC procedures	The value applied shall be cross-checked against at least one other source on the list. For cross-check purposes, sources applied may be up to 5 years old. Further, cross-check with older sources may be used provided they provide conservative results.
Purpose of data	Calculation of emission reductions
Additional comment	

Data / Parameter	$HH_{p,y}$
Unit	Number
Description	Number of premises type p served by the project in year y
Source of data	Project Survey
Value(s) applied	3,645
Measurement methods and procedures	How often the premises within 1km distance of the boreholes used the project source during a year will be checked. Premises that report at least every-two days use will be counted. A minimum 100 samples will be selected.

Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Calculation of emission reductions
Additional comment	The parameter will be used for SDG claims to predict number of households with limited services: Households using an improved source with water collection times of no more than 30 minutes per round trip are classified as having basic services, and those using improved sources with water collection times exceeding 30 minutes.

Data / Parameter	DO <sub>p,y</sub>
Unit	Days
Description	Days the project technology is operational for end-users in premises p in year y
Source of data	Project Survey
Value(s) applied	347
Measurement methods and procedures	In order of preference: 1. Measure directly using operation sensor, or 2. Demonstrate from log of operation and maintenance system.  Logbook will be maintained for each borehole.
Monitoring frequency	Annually
QA/QC procedures	Values higher than 347 days may only be applied when option 1 is used.
Purpose of data	Calculation of emission reductions
Additional comment	

### SDG 3

Data / Parameter	Number of households that observed reduction in PM2.5 & carbon monoxide (CO) concentration reductions
Unit	Fraction
Description	Proportion of the households who experienced reduced indoor air pollution
Source of data	Project Survey
Value(s) applied	95
Measurement methods and procedures	Questions about the incidents of water borne diseases in the family will be asked.
Monitoring frequency	Annually

QA/QC procedures	-
Purpose of data	Demonstration of SDG Claims
Additional comment	-

## SDG 5

Data / Parameter	Perception of time savings
Unit	Fraction
Description	Proportion of the households who perceived reduced time for collecting wood and water boiling.
Source of data	Project Survey
Value(s) applied	95
Measurement methods and procedures	Questions will be asked to understand if less time is spent on fetching firewood and water boiling.
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Demonstration of SDG Claims
Additional comment	

## SDG 8

Data / Parameter	Jobs created
Unit	Number
Description	Temporary and permanent jobs created during the implementation of the project.
Source of data	Project database
Value(s) applied	8
Measurement methods and procedures	All employees will be registered and trained for implementing health and safety measures.
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Demonstration of SDG Claims
Additional comment	

### B.7.2 Sampling plan

The sampling frame is the project boundaries, including the houses within 1km of the serving points. There are two options considered to build the database of end-users:



- (1) The end users may be selected from the database of baseline survey done. Each data point house has unique GPS coordinates. To ensure a random selection of end users, random number generators shall be applied. GPS coordinates of randomly selected houses will be checked to be located within the 1km circle of the serving points.
- (2) The end-users who wish to participate to the surveys will be asked to share contact details and addresses at the serving points and/or during water hygiene campaigns. They will be called or texted for the purpose of data collection only. At least contact details of 100 end-users will be collected randomly from all serving points.

### **Baseline Survey:**

For baseline survey, samples are randomly selected among households within 1 km of the planned serving points. The minimum sample size required by the methodology is 100 for population over 1000.

220 samples have been selected from the houses within the planned points of service for baseline survey. Questions related to the household size, purifying method used, cookstove type and fuel type were asked to the interviewees. The results of the survey is summarized above in Section B.4.

### **Water Quality Test:**

The sampling results shall satisfy at minimum the 90/10 rule, i.e. the endpoints of the 90% confidence interval lie within +/- 10% of the estimated proportion in relative unit. Minimum sample size is 30 which will be taken from transport containers when it reaches to the end-users' premises. Annual sampling will be done and the first round of testing will be conducted at least after six months from the start date.

### **Project Surveys:**

The monitoring survey investigates changes over time in the project scenario by surveying end-users who benefits from the project on an annual basis. Following parameters will be monitored:

- 1) Proportion of project end-users that boil safe water
- 2) Number of individuals per premises

- 3) Number of premises served. Premises that report at least every-two days use will be counted
- 4) WASH related questions about hygienic handling of clean water
- 5) Instances of water-borne diseases
- 6) Time savings due to omitted water boiling

### B.7.3 Other elements of monitoring plan

The Monitoring Plan applied involves a number of key elements that ensure high-quality, unbiased and reliable information regarding the performance of the project in terms of implementation and outcomes, and for the purposes of calculating Verified Emission Reductions (VERs) on the basis of the amount of non-renewable biomass saved by the project activity. The key elements are the following:

- Date of installation of boreholes
- GPS Coordinates of the boreholes
- Average Daily serving capacity of all boreholes
- Days of the project technology is operational during a year
- Sample Plan for the Project Survey
- Data Quality, Consistency and Duplication Checks
- Monitoring Reporting

Project Developer will coordinate and manage Project Implementer and assist them in implementing each element of the monitoring plan.

### **Water hygiene education campaigns**

Water, Sanitation and Hygiene (WASH) training at community level will be held annually. Small gathering around the each serving points will be organized to promote best WASH practices. A WASH report evaluating the success of the campaigns will be submitted.

## SECTION C. DURATION AND CREDITING PERIOD

### **C.1. Duration of project**

#### **C.1.1 Start date of project**

16 July 2023 (indicative date of first borehole becoming operational)

#### **C.1.2 Expected operational lifetime of project**

15 years

## C.2. Crediting period of project

### C.2.1 Start date of crediting period

16 July 2023

### C.2.2 Total length of crediting period

5 years renewable twice, 15 years of total crediting period.

## SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

### D.1 Safeguarding Principles that will be monitored

A completed Safeguarding Principles Assessment is in [Appendix 1](#), ongoing monitoring is summarised below.

Principles	Mitigation Measures added to the Monitoring Plan

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

<p>Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?</p>	<p>The project is gender sensitive and considers gender aspect in all phases. Women and young girls are responsible for water boiling for purification. The project will provide safe water available at shorter distances so that they will not have to travel long distances to fetch water. There will be no need to boil water therefore, the time for fetching firewood will be saved.</p>
<p>Question 2 - Explain how the project aligns with existing country policies, strategies and best practices</p>	<p>The Judiciary of Republic of Uganda adopted Gender Policy and Strategy in December 2012<sup>2</sup>. The one of the overall objectives of the policy was to establish</p>

<sup>2</sup> <http://judiciary.go.ug/files/downloads/JudiciaryGenderPolicyandStrategy.pdf>

	<p>systems and mechanisms to address discrimination, enforce women’s rights and address unfair treatment/outcomes based on gender. This objective is in line with the project targets.</p> <p>Traditionally, women and children especially girls collect firewood and water for the family. They have to walk long distances usually far from settlements. This makes them vulnerable to gender based violence. The project aims addresses gender issues by providing safe drinking water at accessible distances. The fuelwood saved from boiling water will also reduce the time needed for collection.</p>
<p>Question 3 - Is an Expert required for the Gender Safeguarding Principles &amp; Requirements?</p>	<p>Gender issues raised by Gold Standard Safeguarding principles are all addressed under the Safeguarding Principles Assessment in Appendix.1. No risks have been foreseen by the stakeholders and project developer.</p>
<p>Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?</p>	<p>As per Stakeholder Consultation Requirements, the project developer invites all stakeholders to give feedback on the design and the implementation of the project. During the consultation process, particular importance is given to the equal participation of women. Gender related organizations who actively work in rural areas have been invited to the meeting.</p>

## SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

Please refer to the separate Stakeholder Consultation Report for a complete report on the initial consultation and stakeholder feedback round.

### E.1 Summary of stakeholder mitigation measures

The stakeholders confirmed that the project will provide net SDG benefits and will not pause any risks towards safeguarding principles. Therefore, no alterations are foreseen based on the comments received.

### E.2 Final continuous input / grievance mechanism

Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.
Continuous Input / Grievance Expression Process Book (mandatory)	The process books will be placed in the local villages chiefs' offices.
GS Contact (mandatory)	help@goldstandard.org
Other	<ul style="list-style-type: none"> <li>A local number will be available for minor inputs and grievance that require immediate response.</li> </ul> <p>Tel (UK): +44 0771 888 5000 Tel (Uganda): +256 772 722 586</p> <ul style="list-style-type: none"> <li>Email and internet are being used by local and international NGOs.</li> </ul> <p>Juliet.Kabasiita@lshtm.ac.uk</p>

## APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

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

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
<b>Principle 1. Human Rights</b>			
<ol style="list-style-type: none"> <li>The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights</li> <li>The Project shall not discriminate with regards to participation and inclusion</li> </ol>	No	<ol style="list-style-type: none"> <li>The Republic of Uganda is a member of the United Nations and the African Union. It has ratified many UN Human Rights Conventions and thus has made binding international commitments to adhere to the standards laid down in these universal human rights documents.<sup>3</sup> The project will be implemented under the national laws and will</li> </ol>	

<sup>3</sup> <http://www.claiminghumanrights.org/uganda.html?&L=812>

		<p>not lead to violations of human rights in any kind.</p> <p>2. There is no limitation to the participation to the project.</p>	
<p><b>Principle 2. Gender Equality</b></p>			
<p>1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women</p> <p>2. Projects shall apply the principles of nondiscrimination, equal treatment, and equal pay for equal work</p> <p>3. The Project shall refer to the country’s national gender strategy or equivalent national commitment to aid in assessing gender risks</p> <p>4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)</p>	<p>No</p>	<p>1. The project provides safe drinking water to the communities. The time spending for fuel wood collection and water boiling will reduce. The women will have more time for other activities.</p> <p>2. Both women and men will benefit from the project, no group will be excluded from participating in the project activities. Principles of equal treatment, equal pay for equal work will be strictly followed.</p> <p>3. The Project respects the country’s gender policy. The project addresses gender</p>	

		issues related with access to clean water. 4. N/A	
<b>Principle 3. Community Health, Safety and Working Conditions</b>			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	The project increases the rate of access to safe drinking water and supports health of communities by decreasing waterborne diseases. The project will follow the requirements in Occupational Safety and Health Act 2006 <sup>4</sup> . The Project Implementers will provide safe workplace, machinery and equipment for the artisans.	
<b>Principle 4.1 Sites of Cultural and Historical Heritage</b>			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	<b>No</b>	The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage.	
>>			

<sup>4</sup> [http://library.health.go.ug/sites/default/files/resources/occupational-safety-and-health-act-2006\\_0.pdf](http://library.health.go.ug/sites/default/files/resources/occupational-safety-and-health-act-2006_0.pdf)



<b>Principle 4.2 Forced Eviction and Displacement</b>			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	<b>No</b>	The project does not require or cause the involuntary relocation of people.	
>>			
<b>Principle 4.3 Land Tenure and Other Rights</b>			
a.Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? b.For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?	<b>No</b>	Not applicable. All boreholes belong to the communities.	
>>			
<b>Principle 4.4 - Indigenous people</b>			
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	<b>No</b>	There are no indigenous communities in the project area. The project respects all feedbacks and concerns from	

>>		core stakeholders as beneficiaries of the project.	
<b>Principle 5. Corruption</b>			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The project will act in line with Anti-corruption Act 2009 <sup>5</sup> of Uganda. The project participants will not be involved, complicit or contribute towards corruption.	
<b>Principle 6.1 Labour Rights</b>			
<p>1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions</p> <p>2. Workers shall be able to establish and join labour organisations</p> <p>3. Working agreements with all individual</p>	No	<p>1. Uganda ratified ILO N°87 Freedom of Association and Protection of the Right to organize convention in 2005<sup>6</sup>. The project participants will employ all workers in accordance with all applicable national laws.</p> <p>2. Uganda ratified ILO N°98 Right to organise and collective bargaining convention in 1963. The project participants will not</p>	

<sup>5</sup> [https://www.ilo.org/dyn/natlex/natlex4.detail?p\\_lang=en&p\\_isn=92139&p\\_country=UGA&p\\_count=135&p\\_classification=01.04&p\\_classcount=8](https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=92139&p_country=UGA&p_count=135&p_classification=01.04&p_classcount=8)

<sup>6</sup> [https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200\\_COUNTRY\\_ID:103324](https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103324)

<p>workers shall be documented and implemented and include:</p> <ul style="list-style-type: none"> <li>a) Working hours (must not exceed 48 hours per week on a regular basis), AND</li> <li>b) Duties and tasks, AND</li> <li>c) Remuneration (must include provision for payment of overtime), AND</li> <li>d) Modalities on health insurance, AND</li> <li>e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND</li> <li>f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave.</li> </ul> <p>4. No child labour is allowed (Exceptions for children working on their families' property</p>		<p>restrict any workers from establishing and joining labour organisations.</p> <ul style="list-style-type: none"> <li>3. Uganda ratified ILO N°29 Forced Labour Convention in 1963. All permanent workers will be provided with individual work agreements, including working hours, description of duties and tasks, remuneration, health insurance, termination of the contract, annual leave.</li> <li>4. Uganda ratified ILO N°123 Minimum Age Convention in 1967. The project participants do not engage in any form of child labour.</li> <li>5. The project participants will provide safe working environment, machinery and appropriate equipment during the construction of water service points. Accidents and incidents will be monitored and reported.</li> </ul>	
--	--	---	--

<p>requires an <u>Expert Stakeholder</u> opinion)                      5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures</p>			
<p><b>Principle 6.2 Negative Economic Consequences</b></p>			
<p>1. Does the project cause negative economic consequences during and after project implementation?</p>	<p><b>No</b></p>	<p>The project will not cause any negative economic consequences.</p>	
<p>&gt;&gt;</p>			
<p><b>Principle 7.1 Emissions</b></p>			
<p>Will the Project increase greenhouse gas emissions over the Baseline Scenario?</p>	<p>No</p>	<p>The project will not lead to any increase in greenhouse gas emissions. The project will rather reduce emissions due to water boiling.</p>	
<p>&gt;&gt;</p>			
<p><b>Principle 7.2 Energy Supply</b></p>			

<p>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?</p>		<p>The project does not utilize any form of energy supply that is also being used by other users. The project technology is human operated and does not require an additional energy source.</p>	
<p>&gt;&gt;</p>			
<p><b>Principle 8.1 Impact on Natural Water Patterns/Flows</b></p>			
<p>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?</p>	<p>No</p>	<p>The project does not negatively affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed. The project will rehabilitate the existing boreholes or open new ones.</p>	
<p>&gt;&gt;</p>			
<p><b>Principle 8.2 Erosion and/or Water Body Instability</b></p>			
<p>a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion? b. Is the Project’s area of influence susceptible to excessive erosion and/or water body instability?</p>	<p>No</p>	<p>The project does not directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion.  The project does not increase the erosion and/or lead to water body instability.</p>	

>>			
<b>Principle 9.1 Landscape Modification and Soil</b>			
Does the Project involve the use of land and soil for production of crops or other products?	No	The project implements zero emission human operated technologies. No use of land or soil is applicable.	
>>			
<b>Principle 9.2 Vulnerability to Natural Disaster</b>			
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	The project implements zero emission human operated technologies. No such risk is foreseen.	
>>			
<b>Principle 9.3 Genetic Resources</b>			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	Not relevant.	
>>			

<b>Principle 9.4 Release of pollutants</b>			
Could the Project potentially result in the release of pollutants to the environment?	No	The project does not involve the release of pollutants to the environment.	
>>			
<b>Principle 9.5 Hazardous and Non-hazardous Waste</b>			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	Not relevant	
>>			
<b>Principle 9.6 Pesticides &amp; Fertilisers</b>			
Will the Project involve the application of pesticides and/or fertilisers?	No	Not relevant	
>>			
<b>Principle 9.7 Harvesting of Forests</b>			
Will the Project involve the harvesting of forests?	No	The project aims to reduce firewood consumption by eliminating the need for water boiling. This will reduce the harvest rate of forests.	
>>			
<b>Principle 9.8 Food</b>			

Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	Not relevant	
>>			
<b>Principle 9.9 Animal husbandry</b>			
Will the Project involve animal husbandry?	No	Not relevant	
>>			
<b>Principle 9.10 High Conservation Value Areas and Critical Habitats</b>			
Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	Implementation of the project will have a positive impact on forests; thus, to conservation of HCV ecosystems, critical habitats, landscapes, key biodiversity areas or other sites, by reducing the firewood harvesting.	
>>			
<b>Principle 9.11 Endangered Species</b>			
a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?	No	Not relevant	



b. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?			
>>			

## APPENDIX 2- CONTACT INFORMATION OF PROJECT PARTICIPANTS

Organization name	Sustainable Climate Impact Fund
Registration number with relevant authority	
Street/P.O. Box	Keppel Street
Building	London School of Hygiene and Tropical Medicine (LSHTM)
City	London
State/Region	London
Postcode	WC1E 7HT
Country	UK
Telephone	+44 771 888 5000
E-mail	Ola.Bankole@lshtm.ac.uk
Website	www.lshtm.ac.uk
Contact person	Ola Bankole
Title	Head of Sustainability
Salutation	Mr
Last name	Bankole
Middle name	N/A
First name	Ola
Department	N/A
Mobile	+44 771 888 5000
Direct tel.	+44 771 888 5000
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## APPENDIX 3- LUF ADDITIONAL INFORMATION

Risk of change to the Project Area during Project Certification Period:	N/A
Risk of change to the Project activities during Project Certification Period:	N/A
Land-use history and current status of Project Area:	N/A
Socio-Economic history:	N/A
Forest management applied (past and future)	N/A
Forest characteristics (including main tree species planted)	N/A
Main social impacts (risks and benefits)	N/A
Main environmental impacts (risks and benefits)	N/A
Financial structure	N/A
Infrastructure (roads/houses etc):	N/A
Water bodies:	N/A
Sites with special significance for indigenous people and local communities - resulting from the Stakeholder Consultation:	N/A
Where indigenous people and local communities are situated:	N/A
Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:	N/A

## APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

Please refer to Design Change [Requirements](#) for more information on procedures governing Design Changes

### Revision History

Version	Date	Remarks
1.2	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an <a href="#">accompanying Guide</a> to help the user understand detailed rules and requirements
1.1	24 August 2017	Updated to include section A.8 on 'gender sensitive' requirements
1.0	10 July 2017	Initial adoption