Gold Standard
for the Global Goals

TEMPLATE

KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (PDD)

PUBLICATION DATE **04.05.2022**

VERSION **v. 2.0**

RELATED SUPPORT - Programme of Activity requirements

This document contains the following Sections

KEY PROJECT INFORMATION

Type of VPA	☐ Real case VPA ☒ Regular VPA
Scale of VPA Note that a VPA can be of one scale. Please select applicable scale accordingly.	☒Microscale ☐Small scale ☐Large scale
Title of corresponding real case VPA (if applicable)	N/A
GS ID of real case VPA (if applicable)	N/A
GS ID of VPA	GS5329 GS5330 GS5331 GS5332 GS5335 GS5336 GS5337
Title of VPA	GS1247 VPA 91 Improved Kitchen Regimes Multi-Country PoA - Dowa Boreholes, Malawi GS1247 VPA 92 Improved Kitchen Regimes Multi-Country PoA - Dowa Boreholes, Malawi GS1247 VPA 93 Improved Kitchen Regimes Multi-Country PoA - Dowa Boreholes, Malawi GS1247 VPA 94 Improved Kitchen Regimes Multi-Country PoA– Dowa Boreholes, Malawi GS1247 VPA 95 Improved Kitchen Regimes Multi-Country PoA– Dowa Boreholes, Malawi GS1247 VPA 96 Improved Kitchen Regimes Multi-Country PoA– Dowa Boreholes, Malawi GS1247 VPA 97 Improved Kitchen Regimes Multi-Country PoA– Dowa Boreholes, Malawi
Time of First Submission Date	23/12/2022
Date of Design Certification	N/A
Version number of the VPA-DD	6
Completion date of version	10/10/2023

Coordinating/managing entity	CO2balance UK Ltd
VPA Implementer (s)	United Purpose
Project Participants and any communities involved	CO2balance UK Ltd, United Purpose and beneficiary communities in the project area.
Host Country (ies)	Republic of Malawi
GS ID and Title of applicable Design Certified VPA	N/A
GS ID and Title of applicable Performance Certified VPA	N/A
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Other Requirements applied	N/A
Methodology (ies) applied and version number	ERSDWS v1
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A
VPA Cycle:	☒ Regular ☐ Retroactive

Table 1 – Estimated Sustainable Development Contributions

Per VPA

Sustainable Development Goals Targeted	SDG Impact (defined in B.6)	Estimated Annual Average	Units or Products
1 No Poverty	Additional number of persons with access to basic/limited services	20,815	Number of people
3 Good Health and Well-being	Additional persons with access to safe water	2,019	Number of people

5 Gender Equality	Time saved collecting water and fuel	30 minutes saved	Minutes
6 Clean Water and Sanitation	Number of persons having access to safe water in terms of JMP Service categories	Safely Managed – 0% Basic – 44% Limited – 56% Unimproved – reduced by 62% Surface Water – reduced by 38 %	Percentage
13 Climate Action (mandatory)	Total project emissions reductions	10,000	tCO2e

SECTION A. DESCRIPTION OF PROJECT

A.1. Purpose and general description of project

This Micro-Scale Voluntary Project Activity, in Malawi is eligible under the Gold Standard methodology Emission Reductions from Safe Drinking Water Supplies v1 for its second crediting period. In this project CO2balance and United Purpose will provide safe drinking water to communities reducing the need to boil water as a means of purification through the repair of damaged and the drilling of additional new boreholes in Dowa and Kasungu Districts. By providing safe water, the project will ensure that households consume less firewood during the process of water purification and as a result there shall be a reduction of greenhouse gas emissions from the combustion process.

In many areas communities do not have access to clean water and either have to travel long distances to collect it or use contaminated sources close to home. In instances (funding dependent) where it is not possible to rehabilitate an existing, damaged, borehole CO2balance and United Purpose will install new ones. We will also ensure that the quality of the water delivered by the boreholes is fit for human consumption and that the borehole is maintained for the entire length of the project, which will be a minimum of seven years.

Many existing boreholes are owned by community groups or Village Health and Water Committee (VHWC's) and have fallen into disrepair because maintenance programmes have been poorly managed or prove too expensive. In this instance CO2balance will work with United Purpose to identify broken down boreholes and rehabilitate/repair them so that they deliver clean, safe water and breakdowns are fixed rapidly. The number of boreholes per VPA will be limited by the amount of pure water supplied by each unit and the number of people using it.

Based on ex ante calculations, the number of boreholes that can be rehabilitated in one VPA to achieve 10,000 tCO2e is approximately 78. Through the project we will also ensure that the quality of the water delivered by the boreholes is fit for human consumption for the entire length of the project; a minimum of 15 years. The boreholes included under the project will be entirely human operated and will be fitted with hand pump models that are commonly used in the area such as Afridev, U3 Modified and India Mark II pumps. The depth of the boreholes will be limited to 100m or less.

CO2balance raises funding for this project by marketing the anticipated carbon credits from the wood savings to ethical investors, so borehole owners must agree to transfer the emissions reductions (carbon rights) over to CO2balance in return for them supplying the work to renovate the boreholes.

Monitoring data collected during the rehabilitation and operation of the boreholes will be captured in an electronic data management system, or monitoring database. From this data, the emissions reductions of the VPA will be determined. This system will be available for review during the validation and verification.

There are currently 292 boreholes incorporated within these VPAs, which are transitioning from TPDDTEC to SDWS. 190 handpumps were rehabilitated 2015-6 and incorporated within 19 VPAs. During 2022 an additional 102 were rehabilitated and included within these VPAs. At the time of revalidation, 292 boreholes were included within this project. There may be newly rehabilitated or installed boreholes added into the VPAs during CP2 into these VPAs.

At this point, the projects have been active for approximately 7 years, and are now entering their second crediting period. This document is the revalidated VPA-DD for the second crediting period and incorporates the changes as the projects transition to the GS Emission Reductions from Safe Drinking Water Supplies v1. Under the impact of adopting GSERSDWS, the original 19 VPAs amalgamate into 7 VPAs. Following the beginning of CP2, the 12 remaining VPAs will be discontinued.

As such, the 292 boreholes have been amalgamated into the 7 VPAs undergoing revalidation, with some capacity left within the VPAs for additional boreholes to be added.

Below lists the boreholes originally included in GS5329-44, 5437-41 during CP1. Now to be bundled within 5329-5332, 5335-7 for CP2.

GS5329 - VPA 91

Borehole ID	Borehole	District	Latitude	Longitude	Model	Mode of Use	Rehabilitation Date	CP1 VPA ID	CP2 VPA ID	Phase
UNICEF-001	Chiudani	Dowa	-13.53436506	33.47389339	Afridev	Domestic	19/12/2015	91	91	2
UNICEF-002	Chilawo	Dowa	-13.47774466	33.64405027	Afridev	Domestic	01/02/2016	91	91	2
UNICEF-003	Mtumbati	Dowa	-13.55175535	33.47737514	Afridev	Domestic	01/02/2016	91	91	2
UNICEF-004	Chapatuka	Dowa	-13.54063022	33.52423594	Afridev	Domestic	01/04/2016	91	91	2
UNICEF-005	Bvunguti	Dowa	-13.65908756	33.69090812	Afridev	Domestic	01/07/2016	91	91	2
UNICEF-006	Tobiasi	Dowa	-13.80404643	33.49440776	Afridev	Domestic	01/09/2016	91	91	2
UNICEF-007	Sicho	Dowa	-13.68858959	33.66816291	Afridev	Domestic	01/10/2016	91	91	2
UNICEF-009	Manondo	Dowa	-13.24423545	33.62990886	Afridev	Domestic	13/01/2016	91	91	2
UNICEF-013	Simenti	Dowa	-13.37675361	33.69272725	Afridev	Domestic	19/01/2016	91	91	2
424-112	Mwaphira	Dowa	-13.5470433	33.7093217	Afridev	Domestic	09/08/2022	91	91	6
424-114	Kachulu Pelete	Dowa	-13.6233871	33.6631196	Afridev	Domestic	09/08/2022	91	91	6
424-008	Mkhotasanjiko	Dowa	-13.7246788	33.8233505	Afridev	Domestic	06/04/2022	91	91	6
424-110	Chimbuli	Dowa	-13.6302223	33.6241163	Afridev	Domestic	09/08/2022	91	91	6
424-111	Sintala Jacob	Dowa	-13.6418111	33.6741437	Afridev	Domestic	09/08/2022	91	91	6
424-138	Matekwe	Dowa	-13.5267971	33.8669733	Afridev	Domestic	12/08/2022	91	91	6
UNICEF-089	Jerenje	Dowa	-13.4557555	33.73609551	Afridev	Domestic	18/05/2016	98	91	2
UNICEF-090	Mbwelera	Dowa	-13.69790034	33.54758161	Afridev	Domestic	21/05/2016	98	91	2
UNICEF-092	Kankhumbwa	Dowa	-13.5396034	33.64969645	Afridev	Domestic	25/05/2016	98	91	2
UNICEF-093	Mgoli	Dowa	-13.58332428	33.69847079	Afridev	Domestic	25/05/2016	98	91	2
UNICEF-094	Sintala	Dowa	-13.54704214	33.69766239	Afridev	Domestic	27/05/2016	98	91	2
UNICEF-095	Mbewa Kachere	Dowa	-13.56100179	33.58530806	Afridev	Domestic	30/05/2016	98	91	2
UNICEF-096	Guma	Dowa	-13.69746062	33.52091017	Afridev	Domestic	06/02/2016	98	91	2
UNICEF-097	Mbuwa	Dowa	-13.6887824	33.61465903	Afridev	Domestic	06/02/2016	98	91	2
UNICEF-098	Bvulabango	Dowa	-13.36317412	33.49564691	Afridev	Domestic	06/03/2016	98	91	2
UNICEF-099	Nyirazafa	Dowa	-13.5813033	33.70335439	Afridev	Domestic	06/11/2016	98	91	2
UNICEF-101	Nkhosano Chifupa	Dowa	-13.06566118	33.42721542	Afridev	Domestic	17/06/2016	98	91	2
UNICEF-105	Jotani	Dowa	-13.51171978	33.78503632	Afridev	Domestic	29/06/2016	98	91	2
424-065	Mphaso	Dowa	-13.6760683	34.0086539	Afridev	Domestic	22/07/2022	98	91	6
424-013	Chimpango	Dowa	-13.6900495	34.0641102	Afridev	Domestic	06/05/2022	98	91	6
424-068	Njoka	Dowa	-13.6792259	34.0171337	Afridev	Domestic	19/07/2022	98	91	6
424-135	Khomani	Dowa	-13.5001022	33.9290102	Afridev	Domestic	14/12/2022	98	91	6
424-134	Makalanje	Dowa	-13.4911452	33.9255462	Afridev	Domestic	14/12/2022	98	91	6
UNICEF-029	Chankhawuta	Kasungu	-13.25487585	33.1398508	Afridev	Domestic	02/10/2016	99	91	2
UNICEF-030	Mphembedzu	Kasungu	-13.28811212	33.14689561	Afridev	Domestic	02/10/2016	99	91	2
UNICEF-032	Chisuku II	Kasungu	-13.32358686	33.1865201	Afridev	Domestic	02/12/2016	99	91	2
UNICEF-033	Kalemba-Jasi	Kasungu	-13.30706936	33.1394375	Afridev	Domestic	02/12/2016	99	91	2
UNICEF-034	Kambala	Kasungu	-13.24158697	33.33176396	Afridev	Domestic	02/12/2016	99	91	2
UNICEF-035	Sanikonda	Kasungu	-13.2910865	33.33063092	Afridev	Domestic	13/02/2016	99	91	2

UNICEF-038	Kamphako	Kasungu	-13.40705267	33.2629356	Afridev	Domestic	18/02/2016	99	91	2
UNICEF-040	Kaomba	Kasungu	-13.39670025	33.28688349	Afridev	Domestic	19/02/2016	99	91	2
424-144	Nkhata	Dowa	-13.765719	33.9199634	Afridev	Domestic	29/06/2023	116	91	6

GS5330 - VPA 92										
Borehole ID	**Borehole**	**District**	**Latitude**	**Longitude**	**Model**	**Mode of Use**	**Rehabilitation Date**	**CP1 VPA ID**	**CP2 VPA ID**	**Phase**
UNICEF-008	Katupa	Dowa	-13.69422948	33.62034188	Afridev	Domestic	01/11/2016	92	92	2
UNICEF-010	Malayina	Dowa	-13.25098346	33.69173287	Afridev	Domestic	13/01/2016	92	92	2
UNICEF-011	Chima	Dowa	-13.56222911	33.63796473	Afridev	Domestic	17/01/2016	92	92	2
UNICEF-012	Lemani	Dowa	-13.55151682	33.6406163	Afridev	Domestic	18/01/2016	92	92	2
UNICEF-015	Bango	Dowa	-13.49287362	33.73852817	Afridev	Domestic	21/01/2016	92	92	2
UNICEF-016	Chipeni	Dowa	-13.46015269	33.78011957	Afridev	Domestic	21/01/2016	92	92	2
UNICEF-017	Malanda	Dowa	-13.55097753	33.51395372	Afridev	Domestic	21/01/2016	92	92	2
UNICEF-022	Million	Dowa	-13.48835647	33.61657278	Afridev	Domestic	26/01/2016	92	92	2
424-026	Chilembwe	Dowa	-13.5858113	33.7367011	Afridev	Domestic	30/08/2022	92	92	6
424-133	Chibade	Dowa	-13.5969779	33.8961521	Afridev	Domestic	30/08/2022	92	92	6
424-131	Mgawi	Dowa	-13.5759875	33.9095229	Afridev	Domestic	30/08/2022	92	92	6
424-136	Malinga	Dowa	-13.6035359	33.942575	Afridev	Domestic	30/08/2022	92	92	6
424-128	Chimpeni	Dowa	-13.515851	33.9413317	Afridev	Domestic	30/08/2022	92	92	6
424-139	Chigudu	Dowa	-13.5555249	33.8889578	Afridev	Domestic	30/08/2022	92	92	6
UNICEF-041	Gwawa	Kasungu	-13.3085217	33.30027803	Afridev	Domestic	19/02/2016	99	92	2
UNICEF-050	Mtelezi	Kasungu	-13.53040041	33.31616269	Afridev	Domestic	21/02/2016	99	92	2
UNICEF-054	Dyuku	Kasungu	-13.34247987	33.47985131	Afridev	Domestic	22/02/2016	99	92	2
UNICEF-055	Kwamdera	Kasungu	-13.56301019	33.3274172	Afridev	Domestic	23/02/2016	99	92	2
424-038	Mkuwira	Dowa	-13.5028083	33.8899096	Afridev	Domestic	14/12/2022	99	92	6
424-132	Kayanga	Dowa	-13.4991019	33.9215232	Afridev	Domestic	14/12/2022	99	92	6
424-116	Mndesi	Dowa	-13.7231054	34.0598858	Afridev	Domestic	06/03/2022	99	92	6
424-015	Mwali 2	Dowa	-13.7479316	34.1856829	Afridev	Domestic	15/12/2022	99	92	6
424-117	Mndonyeni	Dowa	-13.7019809	34.0480707	Afridev	Domestic	06/02/2022	99	92	6
UNICEF-130	Mcheleka	Kasungu	-13.3133587	33.22171862	Afridev	Domestic	09/02/2016	102	92	2
UNICEF-132	Mikodo	Kasungu	-13.3248186	33.38544096	Afridev	Domestic	09/07/2016	102	92	2
UNICEF-133	Zifo	Kasungu	-13.16531947	33.33452158	Afridev	Domestic	09/09/2016	102	92	2
UNICEF-134	Chinkhande	Kasungu	-13.31609858	33.35021163	Afridev	Domestic	09/12/2016	102	92	2
UNICEF-136	Kabibi 2	Kasungu	-13.29038887	33.11564529	Afridev	Domestic	13/09/2016	102	92	2
UNICEF-137	Kawinga	Kasungu	-13.282663	33.34131016	Afridev	Domestic	14/09/2016	102	92	2
UNICEF-138	Pundu Kabibi	Kasungu	-13.31031446	33.34137654	Afridev	Domestic	14/09/2016	102	92	2
UNICEF-142	Lembanyanja	Kasungu	-13.26757757	33.35652092	Afridev	Domestic	18/09/2016	102	92	2

UNICEF-144	Chikukula	Kasungu	-13.24614525	33.32401642	Afridev	Domestic	20/09/2016	102	92	2
UNICEF-145	Chipaza	Kasungu	-13.29825741	33.17598469	Afridev	Domestic	20/09/2016	102	92	2
UNICEF-147	Chinyengo	Kasungu	-13.26508826	33.32466923	Afridev	Domestic	21/09/2016	102	92	2
UNICEF-155	Sendeza	Kasungu	-13.27482387	33.26478671	Afridev	Domestic	23/09/2016	102	92	2
424-056	Kawiya	Dowa	-13.4873093	33.7690182	Afridev	Domestic	15/02/2023	102	92	6
424-090	Chipafi	Dowa	-13.5749021	33.6750151	Afridev	Domestic	15/02/2023	102	92	6
424-076	Bondoma	Dowa	-13.7684512	33.9822405	Afridev	Domestic	16/02/2023	102	92	6
424-164	Atiyele	Dowa	-13.6215275	33.7562842	Afridev	Domestic	17/02/2023	102	92	6
424-161	Sese Chimowa	Dowa	-13.6302304	33.7611832	Afridev	Domestic	17/02/2023	102	92	6
424-011	Mawelu 1	Dowa	-13.7543073	34.1846492	Afridev	Domestic	06/06/2022	116	92	6
424-075	Kabulika Ofesi	Dowa	-13.7512043	33.943453	Afridev	Domestic	23/06/2023	116	92	6

GS5331 - VPA 93										
Borehole ID	**Borehole**	**District**	**Latitude**	**Longitude**	**Model**	**Mode of Use**	**Rehabilitation Date**	**CP1 VPA ID**	**CP2 VPA ID**	**Phase**
UNICEF-014	Salamba	Dowa	-12.90200002	33.53579665	Afridev	Domestic	20/01/2016	93	93	2
UNICEF-018	Kaning'a	Dowa	-13.29699407	33.63782753	Afridev	Domestic	21/01/2016	93	93	2
UNICEF-019	Chizinga	Dowa	-11.02287405	33.58963425	Afridev	Domestic	23/01/2016	93	93	2
UNICEF-020	Moses/Chibisa	Dowa	-13.41787998	33.5760738	Afridev	Domestic	23/01/2016	93	93	2
UNICEF-021	Chalemera	Dowa	-13.47994604	33.68018103	Afridev	Domestic	25/01/2016	93	93	2
UNICEF-023	Msampha	Dowa	-13.48757519	33.58018566	Afridev	Domestic	28/01/2016	93	93	2
UNICEF-024	Mpozela	Dowa	-13.53175813	33.6089402	Afridev	Domestic	29/01/2016	93	93	2
UNICEF-025	Master	Dowa	-13.28932927	33.57598134	Afridev	Domestic	02/03/2016	93	93	2
UNICEF-027	Chilawo Kanjinga	Dowa	-13.48513513	33.64277656	Afridev	Domestic	02/09/2016	93	93	2
UNICEF-039	Msiyakulima	Dowa	-13.45013503	33.59836834	Afridev	Domestic	19/02/2016	93	93	2
424-130	Mkwela	Dowa	-13.5199583	33.9569417	Afridev	Domestic	29/06/2023	93	93	6
424-009	Katsukampando	Dowa	-13.7036866	33.8663592	Afridev	Domestic	17/08/2022	93	93	6
424-062	Chinkhwilidambwe	Dowa	-13.6973117	33.857357	Afridev	Domestic	31/08/2022	93	93	6
424-032	Chiwale	Dowa	-13.6371025	33.8142245	Afridev	Domestic	31/10/2022	93	93	6
424-031	Kalinde	Dowa	-13.5783169	33.7685724	Afridev	Domestic	10/10/2022	93	93	6
424-001	Chatambalala CBCC	Dowa	-13.6601422	34.0201208	Afridev	Domestic	23/05/2022	93	93	6
UNICEF-031	Jozeki	Kasungu	-13.31938024	33.05996249	Afridev	Domestic	02/11/2016	100	93	2
UNICEF-036	Sungani	Kasungu	-13.31440691	33.36361577	Afridev	Domestic	13/02/2016	100	93	2
UNICEF-042	Kapsyala	Kasungu	-13.43209757	33.31252318	Afridev	Domestic	19/02/2016	100	93	2
UNICEF-043	Mataya	Kasungu	-13.4137368	33.42156001	Afridev	Domestic	19/02/2016	100	93	2
UNICEF-044	shemu	Kasungu	-13.4745387	33.32230721	Afridev	Domestic	19/02/2016	100	93	2
UNICEF-046	Mkakatanji	Kasungu	-13.46565348	33.37226879	Afridev	Domestic	20/02/2016	100	93	2
UNICEF-047	Ngoma/ Ntchentche	Kasungu	-13.47644013	33.3847401	Afridev	Domestic	20/02/2016	100	93	2

UNICEF-051	Mikule	Kasungu	-13.48712676	33.36123279	Afridev	Domestic	21/02/2016	100	93	2
UNICEF-052	Mnjemu / Kawata	Kasungu	-13.52837918	33.33380182	Afridev	Domestic	21/02/2016	100	93	2
UNICEF-056	Chilembwe	Kasungu	-13.59081783	33.31815607	Afridev	Domestic	23/02/2016	100	93	2
UNICEF-058	Bimphi	Kasungu	-13.54554504	33.2445381	Afridev	Domestic	24/02/2016	100	93	2
UNICEF-059	Mpalata	Kasungu	-13.49890297	33.32585117	Afridev	Domestic	24/02/2016	100	93	2
UNICEF-060	Lumbani	Kasungu	-13.46275988	33.33368295	Afridev	Domestic	25/02/2016	100	93	2
UNICEF-061	Sikelo	Kasungu	-13.42280382	33.24560494	Afridev	Domestic	26/02/2016	100	93	2
424-054	Zilombe	Dowa	-13.4593651	33.781668	Afridev	Domestic	22/11/2022	100	93	6
424-158	Kuphera	Dowa	-13.5397238	33.6824969	Afridev	Domestic	13/01/2023	100	93	6
424-091	Kamswaswa	Dowa	-13.5374185	33.6223121	Afridev	Domestic	13/02/2023	100	93	6
424-092	Chimbeleko	Dowa	-13.5113839	33.6188469	Afridev	Domestic	13/02/2023	100	93	6
424-072	Dangaliro	Dowa	-13.6743088	33.6792915	Afridev	Domestic	14/02/2023	100	93	6
UNICEF-110	Chambwe	Kasungu	-12.90698912	33.38879133	Afridev	Domestic	07/09/2016	101	93	2
UNICEF-111	Mgwedeza	Kasungu	-13.26519947	33.23091553	Afridev	Domestic	07/09/2016	101	93	2
UNICEF-119	Msamba	Kasungu	-13.33856643	33.00139437	Afridev	Domestic	26/08/2016	101	93	2
UNICEF-120	Thawale	Kasungu	-13.357221	33.00532857	Afridev	Domestic	26/08/2016	101	93	2
UNICEF-121	Chambalekani	Kasungu	-13.32128099	33.05164349	Afridev	Domestic	27/08/2016	101	93	2
424-166	Chakhala2	Dowa	-13.6553967	33.7393067	Afridev	Domestic	21/06/2023	116	93	6
424-070	Chotsele	Dowa	-13.6351154	33.6767435	Afridev	Domestic	22/06/2023	116	93	6

GS5332 - VPA 94										
Borehole ID	**Borehole**	**District**	**Latitude**	**Longitude**	**Model**	**Mode of Use**	**Rehabilitation Date**	**CP1 VPA ID**	**CP2 VPA ID**	**Phase**
UNICEF-026	Chitwala	Dowa	-13.49124688	33.6465072	Afridev	Domestic	02/08/2016	94	94	2
UNICEF-028	Chawantha	Dowa	-13.50566304	33.60152801	Afridev	Domestic	02/10/2016	94	94	2
UNICEF-037	Chipuni	Dowa	-13.5152517	33.584457	Afridev	Domestic	17/02/2016	94	94	2
UNICEF-045	Dziko	Dowa	-13.38381737	33.67862654	Afridev	Domestic	20/02/2016	94	94	2
UNICEF-053	Mtende	Dowa	-13.65614026	33.72255728	Afridev	Domestic	22/02/2016	94	94	2
UNICEF-057	Katukumuka	Dowa	-13.39381531	33.62340589	Afridev	Domestic	24/02/2016	94	94	2
UNICEF-062	Mbende	Dowa	-13.23761334	33.69730685	Afridev	Domestic	27/02/2016	94	94	2
UNICEF-064	Sambani	Dowa	-13.34247987	33.47985131	Afridev	Domestic	03/10/2016	94	94	2
424-007	Kamsomali	Dowa	-13.6655362	33.837726	Afridev	Domestic	21/06/2022	94	94	6
424-063	Chalusa/chilikokhwa	Dowa	-13.6952387	33.8759935	Afridev	Domestic	07/11/2022	94	94	6
424-021	Kamzembe	Dowa	-13.6489233	34.0782377	Afridev	Domestic	18/11/2022	94	94	6
424-023	Kamsumbudzuka	Dowa	-13.7500439	34.2364159	Afridev	Domestic	21/11/2022	94	94	6
424-012	Nyoka	Dowa	-13.7776883	34.070124	Afridev	Domestic	22/11/2022	94	94	6
UNICEF-122	Nkhoma Katete	Kasungu	-13.28125061	33.12683946	Afridev	Domestic	27/08/2016	101	94	2
UNICEF-123	Kalundi	Kasungu	-13.33664159	33.09253566	Afridev	Domestic	28/08/2016	101	94	2

UNICEF-124	Chiwambe	Kasungu	-13.31031446	33.34137654	Afridev	Domestic	29/08/2016	101	94	2
UNICEF-125	Kambwera	Kasungu	-13.44057447	33.25226518	Afridev	Domestic	29/08/2016	101	94	2
UNICEF-126	Vinthenga	Kasungu	-13.32315523	33.12329706	Afridev	Domestic	30/08/2016	101	94	2
UNICEF-127	Msulu	Kasungu	-13.28080323	33.20323426	Afridev	Domestic	31/08/2016	101	94	2
UNICEF-128	Chimtengo	Kasungu	-13.57165261	33.34231034	Afridev	Domestic	09/01/2016	101	94	2
UNICEF-129	Kalima	Kasungu	-13.20388667	33.35383495	Afridev	Domestic	09/01/2016	101	94	2
424-160	Makanga	Dowa	-13.6560398	33.6041548	Afridev	Domestic	14/02/2023	101	94	6
424-069	Mtsukunya	Dowa	-13.6437965	33.693881	Afridev	Domestic	14/02/2023	101	94	6
424-071	Kalongamchedwa	Dowa	-13.6382725	33.7074304	Afridev	Domestic	14/02/2023	101	94	6
424-159	Sikiteni	Dowa	-13.6230356	33.696496	Afridev	Domestic	14/02/2023	101	94	6
424-055	Kapote	Dowa	-13.4493412	33.7866153	Afridev	Domestic	15/02/2023	101	94	6
UNICEF-146	Kasichi	Kasungu	-13.27861962	33.12608107	Afridev	Domestic	20/09/2016	103	94	2
UNICEF-148	Kapiri	Kasungu	-13.29024179	33.15426434	Afridev	Domestic	21/09/2016	103	94	2
UNICEF-149	Gideon	Kasungu	-13.30449256	33.15455957	Afridev	Domestic	21/09/2016	103	94	2
UNICEF-151	Kaputwa	Kasungu	-13.32765125	33.09819258	Afridev	Domestic	22/09/2016	103	94	2
UNICEF-152	Kapwata 2	Kasungu	-13.2914724	33.37817783	Afridev	Domestic	22/09/2016	103	94	2
UNICEF-153	Munye Madzi	Kasungu	-13.22108082	33.31586118	Afridev	Domestic	22/09/2016	103	94	2
UNICEF-156	Mwenda	Kasungu	-13.24646986	33.28701117	Afridev	Domestic	23/09/2016	103	94	2
UNICEF-160	Chiphaliwali	Kasungu	-13.45223561	33.28910202	Afridev	Domestic	24/09/2016	103	94	2
UNICEF-161	Kateme/Yonamu	Kasungu	-13.2837002	33.32255212	Afridev	Domestic	24/09/2016	103	94	2
UNICEF-162	Simoni	Kasungu	-13.29739234	33.33501569	Afridev	Domestic	24/09/2016	103	94	2
UNICEF-164	Chilaka	Kasungu	-13.45987805	33.29542127	Afridev	Domestic	25/09/2016	103	94	2
UNICEF-165	Jeputala	Kasungu	-13.40524371	33.2049178	Afridev	Domestic	25/09/2016	103	94	2
UNICEF-166	Lufeyo	Kasungu	-13.45786236	33.34458702	Afridev	Domestic	25/09/2016	103	94	2
424-162	Ndalama 3	Dowa	-13.6391656	33.7493176	Afridev	Domestic	17/02/2023	103	94	6
424-067	Kapuche	Dowa	-13.7514101	34.2577491	Afridev	Domestic	08/02/2022	116	94	6
424-137	Kaphantengo 2	Dowa	-13.5274626	33.8700553	Afridev	Domestic	21/06/2023	116	94	6

GS5335 - VPA 95										
Borehole ID	**Borehole**	**District**	**Latitude**	**Longitude**	**Model**	**Mode of Use**	**Rehabilitation Date**	**CP1 VPA ID**	**CP2 VPA ID**	**Phase**
UNICEF-048	Kaulimbo	Dowa	-13.37593942	33.7314197	Afridev	Domestic	21/02/2016	95	95	2
UNICEF-049	Nalandwa	Dowa	-13.35503325	33.6347476	Afridev	Domestic	21/02/2016	95	95	2
UNICEF-063	Chipindi	Dowa	-13.5152517	33.584457	Afridev	Domestic	03/02/2016	95	95	2
UNICEF-065	Buza	Dowa	-13.65614026	33.72255728	Afridev	Domestic	23/03/2016	95	95	2
UNICEF-066	Mtengeza	Dowa	-13.34616663	33.52226214	Afridev	Domestic	24/03/2016	95	95	2
UNICEF-067	Mphambanya	Dowa	-13.68031614	33.61595012	Afridev	Domestic	04/01/2016	95	95	2

UNICEF-068	Malabada	Dowa	-13.70284436	33.61020112	Afridev	Domestic	15/04/2016	95	95	2
UNICEF-069	Chikalera	Dowa	-13.65105137	33.62541576	Afridev	Domestic	17/04/2016	95	95	2
UNICEF-070	Msangwa	Dowa	-13.68877353	33.61460352	Afridev	Domestic	18/04/2016	95	95	2
UNICEF-073	Malangwasila	Dowa	-13.69307571	33.6296695	Afridev	Domestic	24/04/2016	95	95	2
424-014	Njingivalabawo	Dowa	-13.7708219	34.080234	Afridev	Domestic	22/11/2022	95	95	6
424-027	Chilije	Dowa	-13.5660836	33.7345061	Afridev	Domestic	06/07/2022	95	95	6
424-010	Thaulo	Dowa	-13.7442299	33.8228173	Afridev	Domestic	19/06/2022	95	95	6
424-079	Nkhwewa	Dowa	-13.7356618	33.9692071	Afridev	Domestic	23/11/2022	95	95	6
424-019	Chinkhadze	Dowa	-13.6452715	34.070779	Afridev	Domestic	27/06/2022	95	95	6
424-052	Chisinga	Dowa	-13.4947315	33.7109971	Afridev	Domestic	01/06/2022	95	95	6
424-163	Mchenga	Dowa	-13.6440095	33.7554964	Afridev	Domestic	17/02/2023	103	95	6
424-016	Mwase 1	Dowa	-13.6292314	34.0875089	Afridev	Domestic	07/06/2022	103	95	
424-165	Chidzuma	Dowa	-13.6151103	33.7728753	Afridev	Domestic	20/02/2023	103	95	6
424-147	Kadolo	Dowa	-13.6666302	33.7643378	Afridev	Domestic	20/02/2023	103	95	6
UNICEF-167	Masinjang`ombe	Kasungu	-13.43055312	33.1685519	Afridev	Domestic	26/09/2016	104	95	2
UNICEF-168	Misika	Kasungu	-13.41059133	33.40423557	Afridev	Domestic	26/09/2016	104	95	2
UNICEF-170	Kantchele / Katchere	Kasungu	-13.38399913	33.29183735	Afridev	Domestic	27/09/2016	104	95	2
UNICEF-171	Kunkhulire	Kasungu	-13.43903022	33.4201261	Afridev	Domestic	27/09/2016	104	95	2
UNICEF-172	Matatiyo	Kasungu	-13.27373068	33.36624157	Afridev	Domestic	27/09/2016	104	95	2
UNICEF-174	Chimwendo	Kasungu	-13.38707271	33.17530087	Afridev	Domestic	28/09/2016	104	95	2
UNICEF-176	Chiunguza	Kasungu	-13.53625294	33.29202185	Afridev	Domestic	30/09/2016	104	95	2
UNICEF-177	Lodzeni/Lozani	Kasungu	-13.28742018	33.24657594	Afridev	Domestic	30/09/2016	104	95	2
UNICEF-178	Mndawirako	Kasungu	-13.46747206	33.82948532	Afridev	Domestic	30/09/2016	104	95	2
UNICEF-179	Dunda	Kasungu	-13.519579	33.36138326	Afridev	Domestic	10/01/2016	104	95	2
UNICEF-181	Chikoti	Kasungu	-13.27373068	33.36624157	Afridev	Domestic	10/02/2016	104	95	2
424-028	Kayala	Dowa	-13.632231	33.7882317	Afridev	Domestic	20/02/2023	104	95	6
424-168	Kamayani	Dowa	-13.6601185	34.0201308	Afridev	Domestic	21/02/2023	104	95	6
424-078	Gobede	Dowa	-13.6285471	34.0327717	Afridev	Domestic	21/02/2023	104	95	6
424-113	Mtipulula	Dowa	-13.5797986	33.6584939	Afridev	Domestic	21/02/2023	104	95	6
424-157	Chadika	Dowa	-13.5955471	33.6322427	Afridev	Domestic	21/02/2023	104	95	6
UNICEF-100	Mkwapukwa	Dowa	-13.45483249	33.74250386	Afridev	Domestic	16/06/2016	112	95	2
UNICEF-102	Chinsewu	Dowa	-13.43840041	33.79109697	Afridev	Domestic	25/06/2016	112	95	2
UNICEF-103	Kamphinda	Dowa	-13.48812094	33.76758024	Afridev	Domestic	25/06/2016	112	95	2
UNICEF-104	Kangulu	Dowa	-13.50084799	33.7746246	Afridev	Domestic	27/06/2016	112	95	2
UNICEF-190	Khwanya / Nkhwanya	Dowa	-13.55680699	33.5195948	Afridev	Domestic	22/12/2016	116	95	2
424-129	Namazunda	Dowa	-13.582158	33.8940002	Afridev	Domestic	20/06/2023	116	95	6

Borehole ID	Borehole	District	Latitude	Longitude	Model	Mode of Use	Rehabilitation Date	CP1 VPA ID	CP2 VPA ID	Phase
UNICEF-074	Lunda	Dowa	-13.67233542	33.74340183	Afridev	Domestic	26/04/2016	96	96	2
UNICEF-075	Mkombe	Dowa	-13.66176186	33.6916371	Afridev	Domestic	26/04/2016	96	96	2
UNICEF-076	Kaponda	Dowa	-13.66810138	33.71976436	Afridev	Domestic	26/04/2016	96	96	2
UNICEF-078	Chikhambi	Dowa	-13.45577355	33.73610481	Afridev	Domestic	27/04/2016	96	96	2
UNICEF-079	Mkhwinda	Dowa	-13.66779664	33.63962541	Afridev	Domestic	27/04/2016	96	96	2
UNICEF-080	Mkotamo	Dowa	-13.69147512	33.61536882	Afridev	Domestic	27/04/2016	96	96	2
UNICEF-081	Mkwachale	Dowa	-13.53804831	33.49102535	Afridev	Domestic	27/04/2016	96	96	2
UNICEF-082	Nyankhwaya	Dowa	-13.53529028	33.51803249	Afridev	Domestic	27/04/2016	96	96	2
424-005	Chidziwira	Dowa	-13.6655848	33.8375978	Afridev	Domestic	06/03/2022	96	96	6
424-092	Chimbeleko	Dowa	-13.5113839	33.6188469	Afridev	Domestic	12/01/2022	96	96	6
424-087	Mnkhwere	Dowa	-13.6113331	34.0637878	Afridev	Domestic	24/11/2022	96	96	6
424-146	Chimoto	Dowa	-13.7648836	33.9165654	Afridev	Domestic	24/11/2022	96	96	6
424-077	Mdimba	Dowa	-13.7868835	34.0572652	Afridev	Domestic	25/11/2022	96	96	6
UNICEF-106	Chimfuti	Dowa	-13.51171978	33.78503632	Afridev	Domestic	07/01/2016	112	96	2
UNICEF-109	Sumayili	Dowa	-13.62739792	33.70009767	Afridev	Domestic	07/03/2016	112	96	2
UNICEF-113	Pemba	Dowa	-13.66046525	33.51896108	Afridev	Domestic	18/07/2016	112	96	2
424-017	Kamtengo	Dowa	-13.6178958	34.0963304	Afridev	Domestic	01/06/2022	112	96	6
424-088	Mphando	Dowa	-13.5144183	33.8251632	Afridev	Domestic	22/02/2023	112	96	6
424-080	Malirakwenda	Dowa	-13.6960163	33.875188	Afridev	Domestic	22/02/2023	112	96	6
424-020	Lipenga	Dowa	-13.6477461	34.1012529	Afridev	Domestic	06/02/2022	112	96	6
424-103	Mpembaiwe	Dowa	-13.7606327	33.8501641	Afridev	Domestic	22/02/2023	112	96	6
424-002	Moyomsana	Dowa	-13.6777108	33.9028552	Afridev	Domestic	23/02/2023	112	96	6
UNICEF-107	Mbingwa	Dowa	-13.54758117	33.5166728	Afridev	Domestic	07/01/2016	113	96	2
UNICEF-108	Chilemba	Dowa	-13.62388981	33.7000781	Afridev	Domestic	07/02/2016	113	96	2
UNICEF-112	Mashatira	Dowa	-14.35446446	33.51180407	Afridev	Domestic	07/09/2016	113	96	2
UNICEF-114	Inje 1	Dowa	-13.34247983	33.47986978	Afridev	Domestic	20/07/2016	113	96	2
UNICEF-115	Mmelo	Dowa	-14.45841293	33.71045692	Afridev	Domestic	22/07/2016	113	96	2
UNICEF-116	Manthepa	Dowa	-14.25109002	33.65719833	Afridev	Domestic	28/07/2016	113	96	2
UNICEF-117	Tumbi	Dowa	-13.66585888	33.64768298	Afridev	Domestic	08/01/2016	113	96	2
UNICEF-118	Chikavumbwa	Dowa	-13.26571671	33.60104338	Afridev	Domestic	08/04/2016	113	96	2
UNICEF-143	Chikamphula / Nthunthumule	Dowa	-13.32866116	33.60372842	Afridev	Domestic	18/09/2016	113	96	2
424-126	Mawuachotsa	Dowa	-13.6541002	33.9647601	Afridev	Domestic	23/02/2023	113	96	6
424-094	Zikapanda	Dowa	-13.6699953	33.9034845	Afridev	Domestic	23/02/2023	113	96	6
424-145	Simon	Dowa	-13.6642574	33.885116	Afridev	Domestic	23/02/2023	113	96	6
424-095	Kaundama	Dowa	-13.6675782	33.8824037	Afridev	Domestic	23/02/2023	113	96	6
424-097	Mmengwe	Dowa	-13.6758412	33.8672853	Afridev	Domestic	23/02/2023	113	96	6
UNICEF-131	Makombwa 2	Dowa	-13.37794274	33.48014306	Afridev	Domestic	09/03/2016	114	96	2
UNICEF-135	Mndinde	Dowa	-13.35864599	33.59160404	Afridev	Domestic	09/12/2016	114	96	2

UNICEF-139	Kamkwiyo	Dowa	-13.5423802	33.74043649	Afridev	Domestic	14/09/2016	114	96	2
UNICEF-140	Kadzimete	Dowa	-13.41998499	33.76093459	Afridev	Domestic	16/09/2016	114	96	2
UNICEF-186	Nkhandwe	Dowa	-13.29101637	33.56557158	Afridev	Domestic	11/01/2016	116	96	2
UNICEF-188	Kadzimete	Dowa	-13.46139749	33.69806024	Afridev	Domestic	11/07/2016	116	96	2

GS5337 - VPA 97										
Borehole ID	**Borehole**	**District**	**Latitude**	**Longitude**	**Model**	**Mode of Use**	**Rehabilitation Date**	**CP1 VPA ID**	**CP2 VPA ID**	**Phase**
UNICEF-071	Tsilizani	Dowa	-13.62773945	33.7383163	Afridev	Domestic	19/04/2016	97	97	2
UNICEF-072	Mpotela	Dowa	-13.53177626	33.60892177	Afridev	Domestic	20/04/2016	97	97	2
UNICEF-077	Chakuwawa	Dowa	-13.68192081	33.71216846	Afridev	Domestic	26/04/2016	97	97	2
UNICEF-083	Psyontha	Dowa	-14.39903763	33.64185106	Afridev	Domestic	27/04/2016	97	97	2
UNICEF-084	Chinyelenyele	Dowa	-13.69116861	33.04638713	Afridev	Domestic	30/04/2016	97	97	2
UNICEF-085	Katema	Dowa	-13.35901786	33.50322936	Afridev	Domestic	05/03/2016	97	97	2
UNICEF-086	Josamu	Dowa	-13.65614026	33.72255728	Afridev	Domestic	05/11/2016	97	97	2
UNICEF-087	Chimpeni	Dowa	-13.52622181	33.53912875	Afridev	Domestic	13/05/2016	97	97	2
UNICEF-088	Chibwana	Dowa	-13.44030602	33.57525895	Afridev	Domestic	18/05/2016	97	97	2
UNICEF-091	Chiponda	Dowa	-13.60009375	33.60263445	Afridev	Domestic	24/05/2016	97	97	2
424-073	Chembe	Dowa	-13.7872021	33.9689327	Afridev	Domestic	25/11/2022	97	97	6
424-006	Chauwamgwadula	Dowa	-13.7303852	33.8557098	Afridev	Domestic	06/02/2022	97	97	6
424-041	Kadewere	Dowa	-13.5723376	33.8574236	Afridev	Domestic	01/12/2022	97	97	6
424-049	Nyanda	Dowa	-13.5839479	33.8600801	Afridev	Domestic	01/12/2022	97	97	6
424-025	Kabuluzi	Dowa	-13.5702327	33.7652562	Afridev	Domestic	06/03/2022	97	97	6
UNICEF-141	Chikadza	Dowa	-13.74355671	34.02551359	Afridev	Domestic	17/09/2016	114	97	2
UNICEF-150	Shadreck	Dowa	-13.39206169	33.64126338	Afridev	Domestic	21/09/2016	114	97	2
UNICEF-154	Kalimbira	Dowa	-13.46455997	33.61951434	Afridev	Domestic	22/09/2016	114	97	2
UNICEF-173	Gumulira	Dowa	-13.39952267	33.53591734	Afridev	Domestic	27/09/2016	114	97	2
UNICEF-175	Malumbila	Dowa	-13.34954966	33.57193142	Afridev	Domestic	28/09/2016	114	97	2
424-030	Kadzimkambani	Dowa	-13.591249	33.7911189	Afridev	Domestic	24/02/2023	114	97	6
424-081	Guliguli	Dowa	-13.7334893	33.9381021	Afridev	Domestic	27/02/2023	114	97	6
424-120	Chilongodzi	Dowa	-13.6031473	34.1067447	Afridev	Domestic	15/06/2022	114	97	6
424-105	Sanyama	Dowa	-13.7045104	33.9820842	Afridev	Domestic	27/02/2023	114	97	6
424-024	Mponda	Dowa	-13.7075827	34.2711363	Afridev	Domestic	06/02/2022	114	97	6
UNICEF-157	Milimbu	Dowa	-13.70979755	33.62465533	Afridev	Domestic	23/09/2016	115	97	2
UNICEF-158	Nakutepa	Dowa	-13.5861	33.87035	Afridev	Domestic	23/09/2016	115	97	2
UNICEF-159	Kanzingeni	Dowa	-13.44276748	33.59385126	Afridev	Domestic	23/09/2016	115	97	2
UNICEF-163	Kapudzula/Kapale	Dowa	-13.34237492	33.56175715	Afridev	Domestic	24/09/2016	115	97	2
UNICEF-169	Faifi / Five	Dowa	-13.497856	33.7684891	Afridev	Domestic	26/09/2016	115	97	2

UNICEF-180	Tembwe	Dowa	-13.69958617	33.56587761	Afridev	Domestic	10/01/2016	115	97	2
UNICEF-184	Sapeya Gude	Dowa	-13.4024772	33.51527144	Afridev	Domestic	10/05/2016	115	97	2
UNICEF-187	Chisanja	Dowa	-13.60484316	33.6587851	Afridev	Domestic	11/03/2016	115	97	2
424-102	Mbeza	Dowa	-13.7523247	33.8518112	Afridev	Domestic	01/03/2023	115	97	6
424-096	Kachera	Dowa	-13.6728772	33.8872504	Afridev	Domestic	01/03/2023	115	97	6
424-099	Mononga	Dowa	-13.7292251	33.8242684	Afridev	Domestic	01/03/2023	115	97	6
424-169	Kalikuni	Dowa	-13.5402682	33.767917	Afridev	Domestic	08/03/2023	115	97	6
424-074	Kadzomba	Dowa	-13.7682935	34.0612407	Afridev	Domestic	03/04/2023	115	97	6
UNICEF-182	Julayi	Dowa	-13.38558123	33.52226385	Afridev	Domestic	10/03/2016	116	97	2
UNICEF-183	Mbetayasamba	Dowa	-13.39400926	33.53056673	Afridev	Domestic	10/03/2016	116	97	2
UNICEF-185	Msuzumile	Dowa	-13.29263145	33.55481991	Afridev	Domestic	11/01/2016	116	97	2
UNICEF-189	Mayani	Dowa	-13.01761633	33.60162948	Afridev	Domestic	17/12/2016	116	97	2

A.1.1. Eligibility of the VPA under approved PoA

The VPA is located in Malawi, an LDC and therefore eligible under PoA 1247. This is eligible under PoA 1247 as it involves the "repair of community wide safe water supply technologies such as hand-pumped boreholes" as listed in section A.2. of the PoA-DD. The project is eligible under the Gold Standard Methodology: Emission Reductions from Safe Drinking Water Supply v1. By providing safe water through the rehabilitation and installation of broken boreholes, the project ensures that households consume less firewood by displacing the need to boil water for purification. This results in a reduction of carbon dioxide emissions.

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

This VPA and other associated VPAs within the Malawi project boundary meet the relevant activity requirements for a micro scale project as follows:

No.	Eligibility Criterion	Description/ Required condition	Description of the VPA in relation to the criteria, Means of Verification and Supporting evidence for inclusion

1	(a) Types of Project	Eligible Projects shall include physical action/implementation on the ground. Pre-identified eligible Project types are identified in the Eligibility Principles and Requirements section.	This project will involve the rehabilitation, installation and maintenance of safe water sources. The project type is eligible under Community Services Activity Requirements sections 3.1.1(b) and 3.1.1(d).
2	(b) Location of Project	Projects may be located in any part of the world.	The location of this VPA is specified in Section A.4.4, in which the CME states that the location is within Malawi; one of the countries outlined in the PoA-DD.
3	(c) Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).	The location of this VPA is specified in Section A.4.4, in which the CME states that the location is within Malawi; one of the countries outlined in the PoA-DD. Each VPA will be uniquely defined by a range of GPS coordinates and current administrative maps to define the project boundary. Each VPA is not included by any other carbon standard and will not exceed the 10,000 VERs per year cap.
4	(d) Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	This VPA is in compliance with these regulations.
5	(e) Contact Details	As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	The details of the Project Developer for this VPA has been included in Appendix 1.
6	(f) Legal Ownership	Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall	CO2balance UK Ltd is the Co-ordinating/Managing Entity which communicates with the Gold

		be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	Standard; the project is managed in the Host Country by Project Implementer and/or its partners. Project Implementer have legal ownership of the carbon credits produced as result of the project. At the point of technology installation, a Carbon Transfer Form (CTF) was signed and uploaded to CO2balance database stating that the rights to the carbon credits lies with CO2balance. An elected representative from each water resources committee responsible for a borehole signed a CTF on behalf of all users thereof.
7	(g) Other Rights	As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further Project implementation in affected areas.	Parties may raise disputes or contests with the Project developer at any time through the contact details provided to each project community. Any legal disputes or contests will be declared to the Gold Standard, and are reported in the annual monitoring reports.
8	(h) Official Development Assistance (ODA) Declaration	All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	A declaration confirming that there is no diversion of ODA for each VPA will be attached with the VPA-DDs.
	Criteria demanded from PoA Re-Validation Review		
9	(i) Factor of Non-Renewable Biomass	Reference from where fNRB shall be calculated for VPAs shall be included in the eligibility criteria to avoid confusion at the time of VPA inclusion and for consistency	The fNRB value will be taken from a C4 EcoSolutions report, independently contracted by CO2balance for the purposes of assessing the fNRB of Malawi, dated 1st July 2021 and updated October 2023.
10	(j) Test for Wb,y parameter	The test for fixed parameter Wb,y is based on the water boiling test.	The Gold Standard default value is applied.
11	(k) Water Project Treatment Capacity	The treatment capacity limits of project technology/source are required to be monitored to ensure that the water consumption level applied for emission reductions must not be greater than the treatment capacity of the project technology/sources.	Each VPA will ensure that consumption levels are not greater than the treatment capacity of the project technology/source.
12	(l) Cookstove Project	The theoretical wood savings from a cook stove project shall be estimated based on following-	This is not applicable for this VPA.

	Theoretical Savings	Py = Bb,y * (1-ηb/ηp,y) Py - quantity of firewood consumed in project Bb,y - quantity of firewood consumed in baseline ηb – efficiency of baseline technology ηp,y – efficiency of project technology	
13	(j) Double Counting	Conditions to confirm that VPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered.	This VPA is neither registered as a project activity with GS or any other standard or as a VPA of another PoA. The appropriate registries (Gold Standard and CDM) can be accessed to demonstrate this. Additionally, each borehole rehabilitated and installed in this VPA were GPS referenced ensuring that they are uniquely identifiable to this project.
14	(k) Technical Specification	Specification of the technology/measure, such as the level and type of service, as well as performance specification based on, inter alia, testing/certification.	The technical specifications of the Project Technology for this VPA have been included in Section A.3. of this report.
15	(l) Start Dates	Conditions to check the start dates of VPAs through documentary evidence.	The start date for this VPA is confirmed by carbon transfer forms and repair confirmation forms from the initial borehole rehabilitation.
16	(m) Applicability	Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents.	The applicability of the methodology for this VPA is justified in Section B.2.
17	(n) Additionality	Conditions to ensure that VPAs meet the requirements for demonstration of additionality.	The demonstration of additionality of this VPA is specified in Section B.5.
18	(o) LSC and EIA	Conditions related to undertaking local stakeholder consultation and environmental impact analysis.	The details related to undertaking the local stakeholder consultation for this VPA have been specified in Section E. The details related to undertaking the environmental impact analysis for this VPA have been specified in Section D.1. within the Safeguarding Principle Assessment.
	(p) Target Group	Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/offgrid), and where applicable, distribution mechanisms (e.g. direct installation).	This VPA involves the repair and rehabilitation of boreholes that supply water to households currently boiling water as a treatment method (taking into account suppressed demand). The target group are domestic users in both rural and urban areas.
	(q) Sampling	Sampling approaches are set out in each VPA and will follow the TPDDTEC v3.1 methodology.	The VPAs will follow the sampling approach set out in the applicable methodologies which take

			precedence over CDM methodologies. Details relating to the sampling for this VPA are detailed in Section B.7.2.
	(r) Crediting Period	All VPAs submitted for inclusion after the first crediting cycle of such PoA and completion of transition to GS4GG shall follow the GS4GG Certification Cycle (i.e. 5 years renewals).	The crediting period for this VPA has been detailed in Section C.2.

The project follows the Community Services Activity Requirements, the following table demonstrates how it meets criteria in section 2: Eligible Project Types and section 3: General Eligibility Criteria.

Community Services Activity Requirements	
Requirements relevant to this VPA.	**Demonstration of meeting Requirements**
2. Eligibility Project Types	
2.1.2) All CSA projects shall lead to climate change mitigation and/or adaption by providing or improving access to services/resources at household or community level or institutional level. Eligible services include electricity and energy, water and sanitation, waste management, housing, ect.	By providing a safe water source in rural communities, the project improves access to safe water services/resources at community level. As such, the project is an Eligible Project Type in line with the requirements.
2.1.3) Projects shall conform to the Principles and Requirements.	The project conforms with the Principles and Requirements detailed in the document. The project is eligible under section 4, Principle 1, section (a) of the Principles and Requirements as it follows an established Gold Standard methodology. Concerning point 4.1.7, the project does not support geoengineering or entail energy production from fossil fuels or nuclear. Rather it supports a switch away from polluting technologies to an emissions-free means of accessing safe water.
3 General Eligibility Criteria	
3.1.1 Types of Project b) End-Use Energy Efficiency: Project activities that reduce energy requirements as compared to baseline scenario without affecting the level and quality of services or products where the end user of the products and services are clearly identified and when the physical intervention is required at the user end.	By providing safe water, the project activity reduces the energy requirements compared to the baseline scenario by ensuring that households consume less firewood through no longer needing to purify their water.
3.1.2 Project Area, boundary and scale Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies and Product Requirements. c) For the purpose of applying UNFCCC methodologies for quantification of GHG reductions, 'small scale' is defined as in CDM Modalities and Procedures for three project types; Renewable Energy, Energy Efficiency and Others.	The project Area and Boundary are defined in line with the applicable Methodology, outlined in Section A.2. The project is a Micro-Scale and is capped at 10,000 tCO2e per year.
3.1.3 Suppressed Demand baseline Certain Impact Quantification methodologies allow projects to account Suppressed Demand scenario when establishing a baseline. In such cases, the application of Supressed Demand baseline is limited to Small Scale and Microscale Projects. Where a Supressed 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.	The VPA is a micro-scale project, therefore it is eligible to allow for suppressed demand in the baseline scenario. The baseline scenario is assessed in terms of suppressed demand. Supressed demand is determined through a set of questions in the Baseline Project Survey that establish the method that households use to purify their water, if any, and how they would choose to purify if they were not subject to monetary and access barriers. A fixed suppressed demand baseline has been opted for. However, in the event the project surveys show a substantial change in fuel use characteristics, a new baseline shall be conducted. No Gold Standard Certified Impact Statements or Products are intended to be stacked in case of suppressed demand baseline.

3.1.4 Legal ownership a) Projects involving the distribution of a large number of devices for services shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided. b) The transfer for Product ownership shall be discussed during the local stakeholder consultations for projects.	a) It will be clearly communicated that CO2balance UK Ltd is the Co-ordinating/Managing Entity which communicates with the Gold Standard and the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. The project is implemented in the host country by United Purpose. CO2balance UK Ltd have legal ownership of the carbon credits produced as a result of the project. Both parties maintain the right to operate the projects in the host country. Water points are managed by communities, who are recognised as the main users of the water points in the project. At the point of technology installation, a Carbon Transfer Form (CTF) will be signed and uploaded to our database stating that the rights to the carbon credits will lie with CO2balance UK Ltd and Vita. An elected representative from each water resources committee responsible for a borehole will sign a CTF on behalf of all users thereof. b) The transfer of ownership was discussed during the local stakeholder consultation conducted by United Purpose, presenting the details of the project to the attendees. No issues were raised during the meeting voicing issues regarding the transfer of product ownership.

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

It will be clearly communicated that CO2balance UK Ltd is the Co-ordinating/Managing Entity which communicates with the Gold Standard and the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. The project is implemented in the host country by United Purpose. CO2balance UK Ltd have legal ownership of the carbon credits produced as a result of the project. Both parties maintain the right to operate the projects in the host country. Water points are managed by communities, who are recognised as the main users of the water points in the project.

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

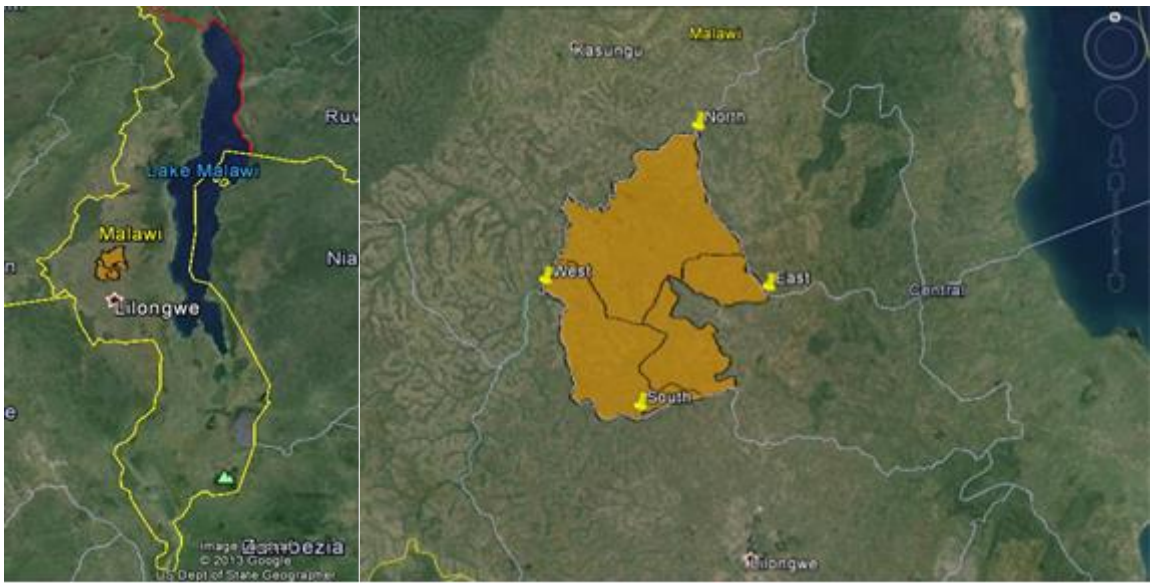
The transfer of ownership was discussed during the local stakeholder consultation conducted by United Purpose, presenting the details of the project to the attendees. No issues were raised during the meeting voicing issues regarding the transfer of product ownership.

A.2. Location of VPA

This project is located in Dowa and Kasungu Districts, Malawi. Below is the geographic reference to allow unique identification of the project boundary. The target area and the fuel collection area are defined as being contained within project boundary, with the outer limits of the project boundary being clearly defined below. As the majority of beneficiaries collect their wood fuel locally in close proximity to their homesteads, the woodfuel collection area and target area are considered the same.

Host Country: Republic of Malawi
Region/State/Province: Dowa and Kasungu Districts
City/Town/Community: Various throughout Dzoole, Chakhaza and Kayembe in Dowa District and Santhe and Kawamba in Kasungu District

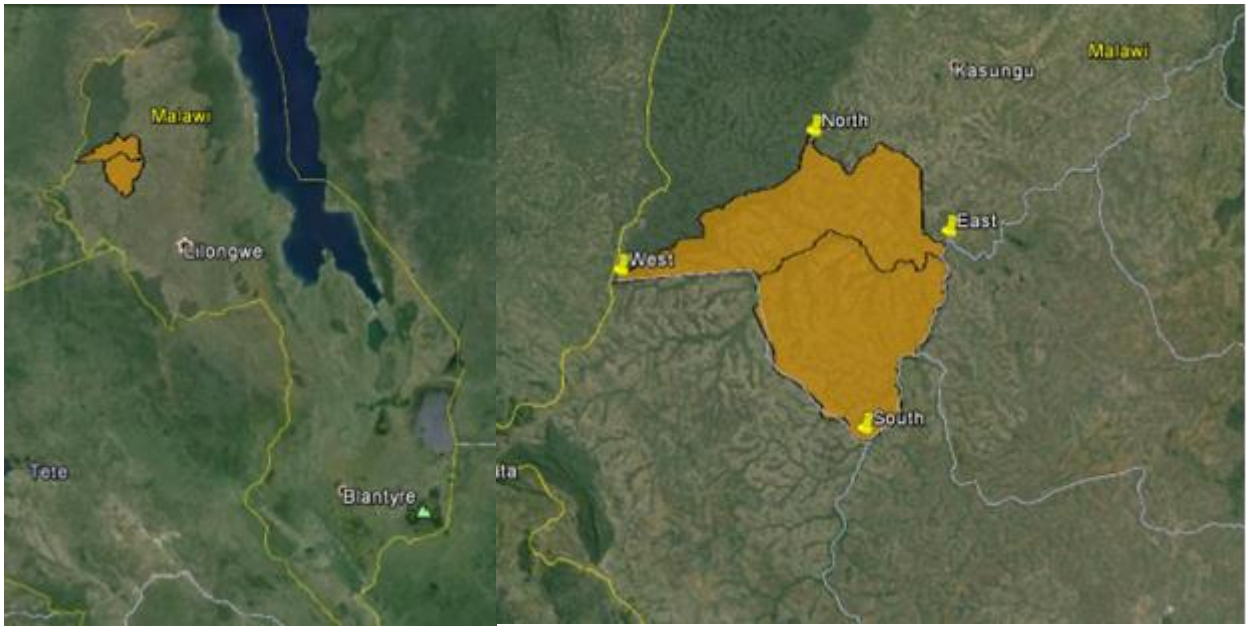
Dowa district locations:



Project Area Dowa District Extremities		
	Latitude	Longitude
North	-13.206318°	33.702993°

South	-13.716648°	33.578534°
East	-13.505547°	33.825191°
West	-13.480841°	33.409259°

Kasungu district locations:



Project Area Kasungu District Extremities		
	Latitude	Longitude
North	-13.148345°	33.247405°
South	-13.615445°	33.314493°
East	-13.312127°	33.459396°
West	-13.355496°	32.929280°

A.3. Technologies and/or measures

In this project, identified broken down boreholes will be rehabilitated so that they deliver clean, safe water for human consumption which contributes positively to SDG 6. Likewise, the reduction in local water-borne diseases is predicted to decrease the incidence of stomach related illnesses and diarrhea, contributing positively to SDG 3. Many existing boreholes are owned by community groups or community-based organizations (CBOs) and have fallen into disrepair because maintenance programmes have been poorly managed or proven too expensive. The boreholes included under the project will be entirely human operated and will be fitted with hand pump models that are commonly used in the area such as Afridev pumps (see below). The depth of the boreholes will be limited to 100m or less.

A comprehensive maintenance programme is required to guarantee a consistent supply of pure water from the borehole pumps that have been rehabilitated. Borehole pumps contain moving parts such as chains and bearings which require an annual service and or replacement to prevent against failure. In addition, nuts and bolts commonly work themselves free and require regular replacement – these are checked and generally replaced on an annual basis. Other, more major parts in the pump assembly have a longer lifespan and require a less frequent replacement. Items such as handles, cylinders, top cones, riser pipes, connecting rods are checked over during the annual service and replaced if deemed necessary. The planned maintenance programme is carried out by local technicians under the supervision of a senior technician and will endure the activity of the project.

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

Borehole Technology

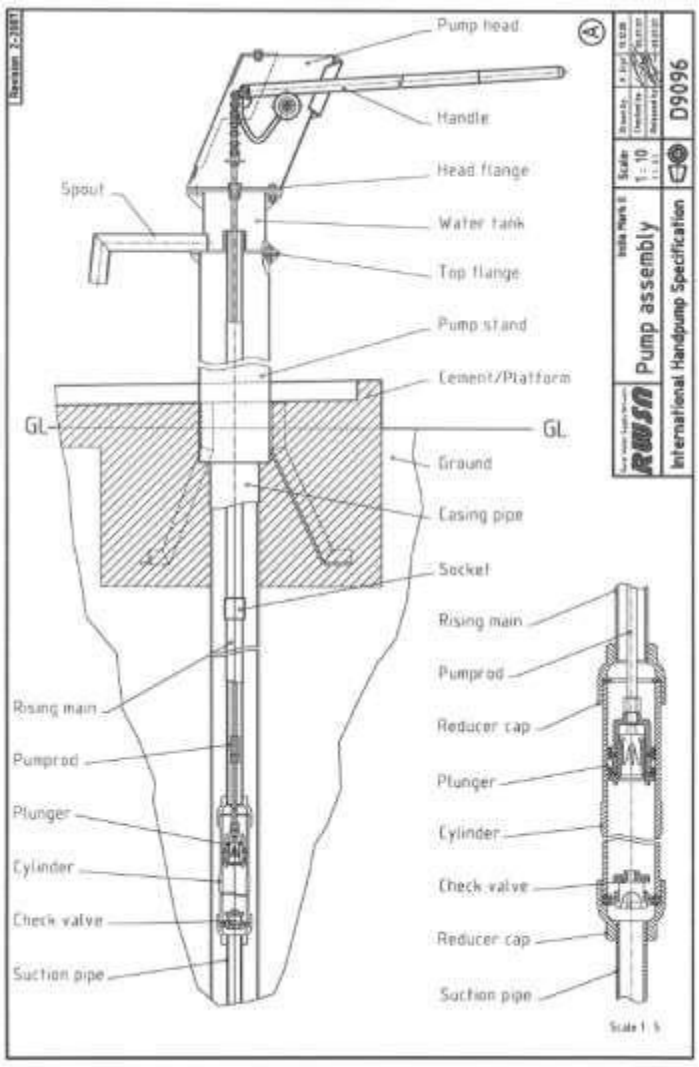
All pumps that were fixed are Afridev pump as shown below. However, the project is not limited to any model of hand-pump or water scheme, including but not limited to India Mark I/III, the bush pump or models of similar structure and capacity potential. Rehabilitation is according to local needs. The Afridev is a public domain pump that is reliable and popular with the communities.

Technical Specifications:

Afridev

	Afridev
Cylinder Diameter (mm)	50
Maximum Stroke (mm)	225
Approx. discharge at about 75 watt input (m3/h)	At 10m head 1.4
	At 15 m head 1.1
	At 20m head 0.9
	At 30m head 0.7
Pumping Lift (m)	10-45
Population served:	~300 people
Households:	30-50 hh
Water Consumption (lpcd)	15-20
Source: https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/afridev	

India Mark II:



	India Mark II
Cylinder Diameter (mm)	50
Maximum Stroke (mm)	225
Approx. discharge at about 75 watt input (m3/h)	at 10 m head 1.8
	at 15 m head 1.3
	at 20 m head 1.0
	at 30 m head 0.8
Pumping Lift (m)	10-45
Water Consumption (litres per capita)	15-20
https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-ii	

India Mark III

	India Mark III
Cylinder Diameter (mm)	1-30
Maximum Stroke (mm)	125
Approx. discharge at about 75 watt input (m3/h)	at 10 m head 1.8
	at 15 m head 1.3
	at 20 m head 0.9
	at 30 m head 0.8
Pumping Lift (m)	10-50
Water Consumption (litres per capita)	15-20
https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/india-mark-iii	

SDG Contribution

In this project, boreholes are maintained functional so that they deliver clean, safe water for human consumption which contributes positively to SDG 6. Contribution to SDG 3 will be calculated based on the additional number of persons consuming safe water, whilst the SDG 6 contribution will be calculated based on the additional number of persons having access to safe water in the project activity compared to the baseline scenario.

The boreholes are usually located close to villages and offer a reliable safe water source. Once repaired, it is predicted that women time spent collecting water, and their time spent collecting wood fuel for boiling water for purification will be reduced, contributing positively to SDG 5. The project will monitor the time reduction collecting water as a result of the project. As mentioned above, the project location is a largely rural district where people typically use wood fuel in order to purify their drinking water by boiling. The project will provide support, technology, capacity building, training activities to raise awareness on climate change and related planning and management among the communities focusing on women, youth and local and marginalized communities.

The rehabilitation of boreholes proposes to displace the need to boil water by providing safe water from the source. This will achieve a reduction in GHG emissions and aligns with SDG 13.

A.4. Scale of the VPA

This VPA and the other homogenous VPAs meet the project activity requirements for a micro scale project. Emission reductions achieved by each VPA is limited to a maximum of 10,000 tonnes of CO2e in any year of their crediting period.

A.5. Funding sources of VPA

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

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

B.1. Reference of approved methodology (ies)

GS Emission Reductions from Safe Drinking Water Supplies v 1.0

B.2. Applicability of methodology (ies)

In accordance with the Gold Standard Methodology for Emission Reductions from Safe Water Supply v.1.0, specifically community water supply technologies (CWS). The micro-scale VPAs adhere to the following conditions:

Methodology Requirement	Project
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.	This project involves rehabilitating community water sources, specifically handpumps installed onto boreholes within which natural processes are used for filtration. Monitoring water quality is a key principle of ongoing monitoring, if necessary to treat water quality, chlorine interventions or other recommended treatment by the local testing facility will betaken. If this process is undertaken, water quality retests will be conducted to test the effectiveness of the chlorination treatment and repeated if the retest does not result in a positive test.
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 backup fossil–fuel engines that are used for no more than 10% of operating hours (parameter SWDS 33).	The project activity involves rehabilitating and maintaining non-functioning borehole hand pumps. The project does not include water pumps powered by fossil-fuel engines.
c. All projects involving CWT and CWS technologies must also include ongoing maintenance and repair of the project technology.	The project activity involves installing new borehole handpumps or rehabilitating and maintaining non-functioning borehole handpumps. Pumps are monitored and reactive repairs are conducted if there is an issue with the pump. Repairs are logged and recorded as non-functioning days, the days discounted

	will include the entire period of time from the day it was reported to, and including the day the handpump was completely fixed. This ensures only days where the borehole is providing water the whole day are accounted for in the ER calculations. WQTs are conducted throughout the year to ensure the water quality meets national standards.
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).	Technical assessments of existing technologies are carried out by the Water Resource Department to determine what spare parts are needed. CTFs are signed by the water committee representative and acts as an agreement between PP and water resource committee the technology was in need of repair.
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 & refugee camps.	N/A
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 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).	The distance that each household is from the CWS is collected in the user lists, and the GPS coordinates are recorded for each CWS.
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 Technologies8 (World Health Organization,	Not applicable as project activity relates to CWS only.

2011) or (ii) compliance with the national standard or guideline9 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).	
h. Project technology performance level (CWT and CWS): For each individual CWT or CWS, it shall be demonstrated at the start of each crediting period with water quality testing reports that the water directly supplied by the project water technology/source achieves both: i. microbial quality in line with either (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 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).	Full WQTs will be conducted at the start of Crediting Period in line with methodology requirements and in line with national standards.
i. The project must conduct annual water hygiene education campaigns for the end-users. (parameter SDWS 20).	Annual WASH training takes place once a year at each waterpoint. The training involves sensitization on principles of WASH, household water management and preventing pollution of the ground water. The annual surveys follow the core questions set out by the JMP (https://washdata.org/monitoring/methods/core-questions)
j. A project applying this methodology may make SDG claims if relevant monitoring parameter(s) is included in the monitoring plan to demonstrate and confirm the	SDG 3, 5, 6 & 13 are monitored in this project. SDG impacts are calculated (shown in the ex-antes) to quantify the projects impact on these SDGs.

project's contributions to SDGs. See parameter SDWS 19.	

B.3. VPA boundary

	Source	GHGs	Included	Justification/Explanation
Baseline scenario	Emissions from wood fuels utilised for obtaining safe drinking water displaced due to project activity	CO_2	Yes	Major source of emissions
		CH_4	Yes	Minor source of emissions
		N_2O	Yes	Minor source of emissions
	Emissions from fossil fuels utilised for obtaining drinking water displaced due to project activity	CO_2	Yes	Major source of emissions
		CH_4	No	Excluded for simplification
		N_2O	No	Excluded for simplification
Project Scenario	Emissions from electricity for operating project water supply/treatment technology	CO_2	Yes	Important source of emissions
		CH_4	No	Excluded for simplification
		N_2O	No	Excluded for simplification
	Emissions from fossil fuels for operating project water supply/treatment technology	CO_2	Yes	Limited fuel energy may be required
		CH_4	No	Excluded for simplification
		N_2O	No	Excluded for simplification

B.4. Establishment and description of baseline scenario

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

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

CO2balance seeks to re-register this project as a Gold Standard micro scale project for its second crediting period, using the methodology 'Emission Reductions from Safe Drinking Water Supply v 1.0'. Prior to the project, many existing boreholes were poorly managed, or proved too expensive to maintain properly. In this project CO2balance have worked with international NGO United Purpose, community groups and local government in Malawi to identify communities without access to a safe water source where boreholes were to be installed; and identified broken down boreholes which were renovated so that they now deliver clean and safe water. The number of boreholes per VPA rehabilitated in one VPA to achieve 10,000 tCO2e is approximately 38 but varies according to user numbers and the amount of pure water supplied by each unit. CO2balance and United Purpose have rehabilitated and delivered the maintenance programme for each borehole to ensure that the quality of the water delivered by the boreholes is fit for human consumption for the entire length of the project.

The Baseline survey for the first crediting period was conducted in Autumn 2013, while the Baseline Water Boiling Test was conducted between 10/12/2013 and 14/12/2013. For this second crediting period, a second baseline survey was conducted during August 2020.

Surveyed households were selected via a random sampling procedure. A list of 205 non-functional community boreholes within the validated project areas of Dowa and Kasungu districts, not currently in the project, were provided from the local government to conduct the revalidation surveys.

Using Raosoft online resource it was found that, under 90/30 precision, 8 villages were required for a statistically representative selection. Using Research Randomizer online resource, a random number list was generated and thus 8 villages selected. There were no specific household information available for generating a random sample of the specific households which would be surveyed. As such, in line with the procedure with was followed conducting the initial baseline survey, it was stated that 13 baseline surveys and 5 WBTs would be selected in randomly selected households.

For completeness, at least 13 households were surveyed in each of these villages, for a total of 113 surveys. The results from the Baseline study have, and will be, applied to subsequent emissions reductions and SDG calculations.

C_b	Expressed as a percentage, proportion of project households who in the baseline were already using a safe water supply that did not require boiling it.	0.9%

$P_{b, boil}$	Percentage of persons boiling water for purification in the baseline scenario.	90%
Supressed demand users	Percentage of persons not boiling water for purification in the baseline scenario and not using a safe water supply (1 – Cb - Pb, boil)	1.77%
fNRB	Fraction of non-renewable biomass	0.87
$T_{b,y}$	Time spent collecting water and firewood per household per day prior to project	88.94 minutes
$X_{f,wood}$	Proportion of fuel f used in the baseline (fraction)	100 %

The baseline situation has not changed significantly in these past seven years, nor is it expected to change significantly during the next years considering the current situation in Malawi, its economic development of the last years and predictions for the future. Malawi is a least developed country (LDC) and is one of the poorest countries in the world with a Human Development Index ranking of 172 out of 189 countries worldwide.

fNRB Assessment

The fNRB value has been taken from a C4 EcoSolutions report, independently contracted by CO2balance for the purposes of assessing the fNRB of Malawi, dated 1st July 2021. The CDM Tool 30 EB 108 Annex v3.0 2020 was the approach taken. The calculations been updated in October 2023 ("Malawi_fNRB Calculation Sheet_01 July 2021_Oct2023") to reflect the current Malawi population (year 2022 *Worldbank* source). Other updated values are:

- Non-energy Commerical Biomass Consumption has been updated to 2022 based on FAOSTAT Industrial Roundwood Production for Malawi. This value, given in m3 is then converted to tonnes using a wood density factor of 0.5.
- Charcoal Conversion Factor has been changed from 6 to 4 and Default Wood Consumption has been changed from 05. To 0.4 to be in line with CDM TOOL33
- Renewable Biomass of 3,760,153 (compared to 8,340,492) propose a decrease in fNRB from 0.94 to 0.87 (see tab '1-fNRB Calculation')

The C4 EcoSolutions report has been uploaded with the other project documents for reference and viewing.

B.5. Demonstration of additionality

Specify the methodology, activity requirement or product requirement that establishes deemed additionality	As demonstrated in the Gold Standard for the Global Goals Community Services Activity Requirements section 2.5.2 - Projects that meet any of the following criteria are

for the proposed project (including the version number and the specific paragraph, if applicable).	considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification: 1. Positive list (Annex B). 2. Projects located in LDC, SIDS, LLDC. 3. Micro-scale projects.
Describe how the proposed project meets the criteria for deemed additionality.	Malawi is an LDC. This project is also a Micro-scale project and so is deemed additional by the relevant activity requirement. Further, finance derived from Gold Standard Certification funded the implementation and certification of the project, and funds the ongoing implementation of the project, such as repairs, maintenance, sensitisation campaigns, water quality tests, water treatment, technician fees, logistics, training and overheads, and recurring Gold Standard Certification fees.

B.5.1. Prior Consideration

N/A

B.5.2. Ongoing Financial Need

Revenue earned from the sale of generated carbon credits is required for the ongoing maintenance and upkeep of the project, for example conducting regular water quality testing to ensure potability of water, repairing broken down or contaminated boreholes, and paying field staff salaries.

B.6. Sustainable Development Goals (SDG) outcomes

Relevant Target/Indicator for each of the three SDGs

Most relevant SDG Target	SDG Impact

Sustainable Development Goals Targeted		Indicator (Proposed or SDG Indicator)
SDG 1 – No Poverty	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.4.1 Proportion of population living in households with access to basic services
SDG 3 – Good Health and Well-being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
SDG 5 - Gender Equality	5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location.
SDG 6 - Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.	6.1.1 Proportion of population using safely managed drinking water services
SDG 13 – Climate Action	13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing states, including focusing on women, youth and local and marginalized communities.	Total project emissions reductions

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

Outcomes for SDG 1 (No Poverty) are calculated as follows:

The outcome for SDG 1 is quantified as the additional number of persons having access to safe water in the project activity compared to the baseline scenario (Paccess). The number of persons using each safe water source point is determined during the sensitization process during the rehabilitation, possible drop off rates

in future will be taken into account in monitoring surveys. The percentage of users who were already consuming safe water in the baseline without boiling it (Cb) will be determined through the second crediting period's baseline survey. Calculations are as follows (parameters from sections B.6.3 and B.7.1 of the VPA-DD will be applied):

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

Where:

P_{access}	Number of additional persons having access to basic/limited safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to basic/limited safe water in the project activity.
C_b	Expressed as a percentage, proportion of project households who in the baseline were already using a safe water supply that did not require boiling it.
U_{py}	Usage rate in project scenario p during year y

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

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

The outcome for SDG 3 is quantified as the additional number of persons consuming safe water in the project activity compared to the baseline scenario (P_{safe}). The number of persons using each water point is determined in the sensitisation process during the rehabilitation. The percentage of users who were already consuming safe water in the baseline without boiling it (C_b) is determined through the baseline survey and deducted. Additionally, the percentage of users who consumed safe water by boiling it in the baseline ($P_{b,\,boil}$) is deducted. This is multiplied by the usage rate (U_{py}) in the project scenario. Calculations are as follows (parameters from sections B.6.3 and B.7.1 will be applied):

$$P_{safe} = P_y * (1 - C_b) * (1 - P_{b,boil}) * U_{py}$$

Where:

P_{safe}	Number of additional persons consuming safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to safe water in the project activity.
C_b	Expressed as a percentage, proportion of project households who in the baseline were already using a safe water supply that did not require boiling it.
$P_{b, boil}$	Percentage of persons boiling water for purification in the baseline scenario.
U_{py}	Usage rate in project scenario p during year y

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

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

These trends demonstrate that reducing the amount of firewood required by households has the potential to reduce the *time poverty* of women, because the time burden of collecting water and firewood, which falls disproportionately on women, will be reduced[4]. As the safe water sources are located centrally within communities, closer to public institutions and villages, the distance travelled to collect water will be reduced, reducing the time per trip spent collecting water. In addition, as the water sources will be maintained, they will provide a reliable water supply, ensuring that water needs for cooking, drinking, and food preparation can be met by one central water source, so the time spent collecting water is minimised. The average decrease per household in time spent gathering water and fuel will be taken as a proxy contribution towards the SDG target.

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[1] UN (2017) 'Progress towards the Sustainable Development Goals (E/2017/66)'. Available at https://unstats.un.org/sdgs/files/report/2017/secretary-general-sdg-report-2017--EN.pdf

[2] Charmes, J (2006) 'A Review of Empirical Evidence on Time Use in Africa from UN-Sponsored Surveys', in Word Bank 'Gender, Times Use, and Poverty in Sub-Saharan Africa'. World Bank Working Paper No. 73.

[3] Nankhuni (2004) 'Environmental Degradation, Resource Scarcity and Children's Welfare in Malawi: School Attendance, School Progress, and Children's Health'

[4] Hutton, Haller, and Bartram (2007) 'Global cost-benefit analysis of water supply and sanitation interventions' in Journal of Water and Health 5(4): p 481- 502

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

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

Where:

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

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

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

The outcome for SDG 6 is quantified as the number of persons having access to safe water in terms of safely managed service, basic service, limited service, unimproved service or surface water. The number of persons is determined either in the Baseline Survey for the purpose of the PDD or in the Project Survey for monitoring reports. People (%) are separated into Joint Monitoring Programme (JMP) Service ladder categories:

Safely Managed Service – people who drink water from an improved water source that is located on premises, available when needed and free from faecal and priority chemical contamination

Basic Service – people who drink water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing

Limited Service – people who drink water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing

Unimproved Service – people who drink water from an unprotected dug well or unprotected spring

Surface Water – people who drink water directly from a river, dam, lake, pond, stream, canal or irrigation canal

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

CO2 emission reductions are the indicator to demonstrate that the project has raised capacity for effective climate change-related planning and management. This outcome is measured using the VPA's emission reductions calculations.

Baseline Emissions

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

Where:

EF_b	=	Emission factor for the use of fuel to obtain safe water in the baseline (tCO_2e/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_2 emission factor from use of fuel *f* (tCO_2/TJ)
$EF_{b,f,nonCO2}$	=	Non-CO_2 emission factor arising from use of fuel *f*, when the baseline fuel *f* is biomass or charcoal (tCO_2e/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

where

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

Where:

360.83	=	Default amount of energy required to obtain 1 L of water after 5 minutes of boiling from a first principles approach[17] kJ/l
η_{wb}	=	Efficiency of the stoves for baseline water boiling (%). Weighted average of baseline stove types.

The baseline emissions shall be calculated as follows:

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

Where:

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

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

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:

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

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:

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

Where:

PE_y	=	Project emissions in year *y* (tCO_2)
$PE_{ff,p,y}$	=	Project emissions from fossil fuel use in year *y* (tCO_2)
$PE_{ec,p,y}$	=	Project emissions from electricity use in year *y* (tCO_2)

Project emissions from fossil fuel use are determined as follows.

$$PE_{ff,p,y} = \sum P_{p,f,y} \times NCV_f \times EF_f \quad \text{Eq. 9}$$

Where:

$P_{p,f,y}$	=	Quantity of fossil fuel *f* that is consumed in the project during year *y* (mass or volume units)
NCV_f	=	Net calorific value of fossil fuel *f* (TJ/fuel units)
EF_f	=	Emission factor of fossil fuel *f* (tCO_2/TJ)

Project emissions from electricity use are estimated as follows.

$$PE_{ec,p,y} = \sum EC_{p,y} \times EF_{ec} \times (1 + TDL_{ec}) \quad \text{Eq. 10}$$

Where:

$EC_{p,y}$	=	Quantity of electricity that is used by the project during year *y* (kWh)
EF_{ec}	=	Emission factor associated with the electricity use (tCO_2/kWh)
TDL_{ec}	=	Transmission and distribution losses associated with the electricity use (%)

Emission Reduction calculation:

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_2e/yr)
BE_y	=	Baseline emissions in year y (t CO_2e/yr)
PE_y	=	Project emissions in year y (t CO_2e/yr)
LE_y	=	Leakage emissions in year y (t CO_2e/yr)

Detailed equations can be found in Section B.6.3 for full breakdown.

B.6.2. Data and parameters fixed ex ante

Copy the table for each piece of data and parameter; use headings to group parameter tables by SDG

SDG 1, 3, 5, 6 & 13

Parameter ID	**SDWS 1**
Data/parameter	Number of household/institution per CWT/CWS
Unit	- Coordinates of CWT/CWS – Acceptable formats for GPS coordinates include DMS (degrees, minutes and seconds), DMM (degrees and decimal minutes), and DD (decimal degrees) - Number of end-user premises, quantity
Description	End users premises (e.g. household, institutions) within 1km distance of project water source. Recorded for each CWT/CWS installation ex-ante at the time of start of crediting period. In case of progressive installation – for new CWT/CWS units before 1st issuance for new units.
Source of data	- GPS coordinates for each individual water point location - Number of eligible households/institutions for each water point collected in user lists
Value(s) applied	68
Choice of data or Measurement methods and procedures	HH Lists
Purpose of data	Determine location of water point, number of end-users and distance from water point
Additional comment	This is subject to change on updating the project technology user lists and if additional technologies are incorporated into these VPAs.

SDG 1, 3, 6 & 13

Parameter ID	SDWS 2
Data/parameter	Project technology description
Unit	N/A
Description	Detailed description of the planned project technology shall include as a minimum: **CWT and CWS:** - manufacturer name - product name (if applicable) - technology type - capacity (in case of pumps: rated flow rate, or flow-rate calculation) For all technologies, any performance certifications issued by national standard body or an appropriate certification part recognised by national standards body or recognised International Organisation agency also shall be provided. **Rehabilitated technologies:** In case the project technology (CWT and CWS) is rehabilitated, the following is also required as part of technology description: - Evidence of Non-operational time prior to proposed rehabilitation (at minimum with evidence letter from local representative or government, etc.); - Evidence of lack of an existing maintenance or repair plan (at minimum with evidence letter from local representative or government, etc.); - Original installation date/month (approximate month/year); and - Information/evidence to confirm the details of rehabilitation activity (e.g. parts replaced, specifications followed, personnel conducting the repairs and date of retrofitting) CTF and RCFs demonstrate evidence of such project details.
Source of data	**CWT and CWS:** Any of the following sources shall be used: - Manufacturer specifications

	- Commercial guarantee - Technical reports from the installer - Third-party certification by a qualified entity, for example recognised certification agency by National/ International Standard body **Rehabilitated technologies:** - Sources mentioned for CWT and CWS above and - Technical reports from a qualified entity that undertakes the rehabilitation Professional opinion or expert opinion is not accepted as a source for this parameter.
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	CTFs and RCFs collect required project details
Purpose of data	Outline project details
Additional comment	-

SDG 1 & 6

Parameter ID	**SDWS 3**
Data/parameter	Project technology performance level
Unit	N/A
Description	The water directly supplied by the water source (CWS or from the CWT) must comply with i. 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 ii. 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 contamination18 and physical and aesthetic aspects. Once at the start of the crediting period, and microbial quality at the CWS and CWT location must be retested following an event that could lead to contamination of the source water (e.g. flooding).
Source of data	Water quality test report
Value(s) applied	Laboratories used for water quality testing must be approved by local health authorities and/or have quality accreditation; and The laboratory used shall have evidence to demonstrate that it has an adequate quality management plan in place which addresses both quality assurance and quality control test procedures. Table 4.6 Checklist for effective analytical quality assurance of WHO Guidelines, 1997 may be used as a guideline for laboratory compliance with quality assurance practices.
Choice of data or Measurement methods and procedures	Water quality laboratory analysis
Purpose of data	Determine water quality
Additional comment	-

SDG 1 & 6

Parameter ID	**SDWS 4**
Data/parameter	Regulatory framework for safe water supply
Unit	N/A
Description	The water quality will be tested in line with national standards for drinking water in Malawi. The water samples will be taken at the source by the testing body.

Source of data	National, sub-national and local authorities
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	N/A
Purpose of data	Adhere to regulatory framework for safe water supply
Additional comment	The project shall not undermine or conflict with any national, subnational and local regulations or guidance for safe drinking water supply, operation and maintenance, including any tariff requirements. Where the regulatory framework establishes any cap on parameters used by the methodology, for example number of users per borehole, this shall be accounted for in emission reduction calculations.

SDG 1 & 6

Parameter ID	**SDWS 5**
Data/parameter	Water sources in the project boundary
Unit	N/A
Description	PP will define 1km radius surrounding borehole. In the defined area, water source uses will be determined. Water sources will be photographed and GPS tagged. Using Annex 2 from the methodology, PP will determine the status of the water source (i.e 'improved' or 'unimproved').
Source of data	Survey
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	Survey

Purpose of data	Determine water sources in project boundary
Additional comment	To be ready in time for the next verification

SDG 13

Parameter ID	**SDWS 6**
Data/parameter	Stove technologies used in the project boundary
Unit	N/A
Description	Traditional Woodfuel Stoves are dominant in the project area. The baseline survey shows a negligible percentage of 2% of respondents reported using improved woodfuel stove use in both the rainy and dry seasons. In the case of boiling water, improved woodfuel stoves were used by a negligible percentage of 4% of respondents when they used more than one stove type.
Source of data	Baseline survey
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	Baseline survey
Purpose of data	Determine stove technology in project boundary
Additional comment	-

SDG 13

Parameter ID	**SDWS 7**
Data/parameter	Expected technical life of project technology
Unit	Treatment volume or operational hours or time period

Description	The expected technical life of an individual project technology shall be defined in the PDD. The details include both technology/device life and filter life, if a filter is used and it is replaceable.
Source of data	**CWS/CWT:** Any one of the following sources shall be used: - Manufacturer specifications - Guarantee from the installer - Third-party certification by a qualified entity, for example recognised certification agency by National/ International Standard body If none of the required sources mentioned above are available, report of representative and robust field study results may be acceptable. **Rehabilitated technologies:** - Guarantee from a qualified entity that undertakes the rehabilitation Professional opinion or expert opinion is not accepted as a source for this parameter
Value(s) applied	Water Sources are designed to last for up to 18-25 years with adequate maintenance.
Choice of data or Measurement methods and procedures	N/A
Purpose of data	Determine technical life of project technology
Additional comment	The project shall ensure that the units are replaced with systems of comparable quality or retrofitted at the end of their technical life in order to continue claiming emission reductions. If no replacement or retrofitting is provided, emission reduction claims are limited to the expected technical life. Supporting literature – Environ. Sci: Water Res. Technol., 2020, 6, 2138. Barriers to handpump serviceability in Malawi: life-cycle costing for sustainable service delivery.

	https://documents1.worldbank.org/curated/en/709911468332408521/pdf/719960WP0Box3700Handpump0Technology.pdf , Section 3, page 8.

SDG 3 & 13

Parameter ID	**SDWS 8**
Data/parameter	X_f
Unit	Percentages of fuel *f* use in target population
Description	The proportion of each different cooking fuel *f* used in the project boundary by end-users: - % among the target population if single fuel is used for water boiling. For example, the target population either use wood or charcoal - 60% end users use wood and 40% charcoal. - Weighted average on energy basis, if multifuel situation exists within premise. For example, a household that uses 1000 kg fuelwood per year and 500 kg charcoal per year for cooking and water boiling uses 51.4% fuelwood and 48.6% charcoal on an energy basis. If the project covers different types of end-users premises (e.g. households, schools), then the fuels used in the geographical area of the project by the same types of end-users are to be determined for each end-user premises type. Undertake assessment at the start of each crediting period. SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.1: Mortality rate attributed to consuming unsafe water. SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries

	and small island developing States, including focusing on women, youth and local and marginalized communities
Source of data	Baseline survey Q27
Value(s) applied	Wood: 0.99
Choice of data or Measurement methods and procedures	The baseline survey shows that 99% of households cook using firewood as their main fuel
Purpose of data	Determine the proportion of each different cooking fuel *f* used in the project boundary by end-users
Additional comment	

SDG 13

Parameter ID	**SDWS 9**
Data/parameter	$EF_{b,f,CO2}$
Unit	tCO_2/TJ
Description	CO_2 emission factor from use of fuels SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities
Source of data	IPCC defaults; Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5; https://www.ipccnggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf
Value(s) applied	112 tCO_2/TJ
Choice of data or Measurement methods and procedures	Deemed valid by methodology

Purpose of data	Calculation of baseline emissions
Additional comment	

SDG 13

Parameter ID	**SDWS 10**
Data/parameter	$EF_{b,f,nonCO2}$
Unit	tCO_2e/TJ
Description	Non-CO_2 emission factor from use of fuels, in case the baseline fuel is biomass or charcoal SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities
Source of data	IPCC defaults: Non-CO2 Emissions from Stationary Combustion. Annex 1, Table 2 and Table 3. https://www.ipccnggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf Global Warming Potential: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table2-14
Value(s) applied	9.46 tCO_2e/TJ
Choice of data or Measurement methods and procedures	Deemed valid by methodology
Purpose of data	Calculation of baseline emissions
Additional comment	

SDG 3 & 13

Parameter ID	**SDWS 11**
Data/parameter	n_{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. SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities
Source of data	Three-stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system, that is without either a grate or a chimney: default efficiency 10%. Default efficiency for improved cookstove – 30%.
Value(s) applied	11%
Choice of data or Measurement methods and procedures	The baseline survey shows that 96% of households cook on a three stone fire and 4% improved cookstoves. The value chosen was derived calculating the efficiency of the stove with the percentage of each. 11%=(0.1*96%)+(0.3*4%)
Purpose of data	Determine efficiency of the baseline water boiling.
Additional comment	

SDG 1, 3, 6 & 13

Parameter ID	**SDWS 12**
Data/parameter	C_b
Unit	Percentage

Description	Proportion of project households who in the baseline were already using a safe water supply that did not require boiling it (%) SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	Baseline Survey Qs 18-19
Value(s) applied	0.9%
Choice of data or Measurement methods and procedures	Established through questions in the baseline on a representative sample of the end users
Purpose of data	To calculate the additional number of persons having access to safe water in the project activity compared to the baseline scenario
Additional comment	

SDG 13

Parameter ID	**SDWS 14**
Data/parameter	NCV_f

Unit	TJ/fuel units, i.e. mass or volume units
Description	Net calorific value of fossil fuel f
Source of data	IPCC defaults
Value(s) applied	0
Choice of data or Measurement methods and procedures	N/A
Purpose of data	N/A
Additional comment	-

SDG 13

Parameter ID	**SDWS 15**
Data/parameter	EF_f
Unit	tCO_2/TJ
Description	Emission factor of fossil fuel *f*
Source of data	IPCC defaults
Value(s) applied	0
Choice of data or Measurement methods and procedures	N/A
Purpose of data	N/A
Additional comment	-

SDG 13

Parameter ID	**SDWS 16**
Data/parameter	EF_{ec}

Unit	tCO_2/kWh
Description	Emission factor associated with the electricity use
Source of data	0
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	N/A
Purpose of data	N/A
Additional comment	-

SDG 13

Parameter ID	**SDWS 17**
Data/parameter	TDL_{ec}
Unit	%
Description	Transmission and distribution losses associated with the electricity use
Source of data	N/A
Value(s) applied	N/A
Choice of data or Measurement methods and procedures	N/A
Purpose of data	N/A
Additional comment	-

SDG 13

Parameter ID	**N/A**

Data/parameter	$SE_{w,b,y}$
Unit	kJ/L
Description	Specific energy required to boil water SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	N/A
Value(s) applied	3341.02
Choice of data or Measurement methods and procedures	Capped default value set by the Gold Standard for safe water supply projects
Purpose of data	Calculation of baseline emissions
Additional comment	96% 3SF, 4% ICS.

SDG 3

Parameter ID	**N/A**
Data/parameter	$P_{b,boil}$
Unit	Percentage
Description	Percentage of persons boiling water in the baseline SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services
Source of data	Baseline Survey Qs 18-19

Value(s) applied	90.1%
Choice of data or Measurement methods and procedures	The percentage of people stating that they used to boil their water for purification in the baseline scenario, evaluated through the baseline survey.
Purpose of data	Determine number of persons boiling water in the baseline
Additional comment	-

SDG 13

Parameter ID	**N/A**
Data/parameter	*fNRB*
Unit	Percentage
Description	Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass or charcoal
Source of data	Determined by: - C4 EcoSolutions, an independent organization contracted by CO2balance UK Ltd to conduct the survey and updated in October 2023 to reflect changes of the population in Malawi. The fNRB values for districts making up the project area are as follows: The average fNRB of the project area is 0.87. The report has been uploaded with the other project documents for reference and viewing.
Value(s) applied	0.87
Choice of data or Measurement methods and procedures	Deemed valid by methodology
Purpose of data	To calculate baseline emissions
Additional comment	See section B.4 for more detailed information.

SDG 5

Parameter ID	N/A
Data/parameter	$T_{b,y}$
Unit	Minutes
Description	Time spent collecting water and fuel per household per day in project SDG 5 (Gender Equality) 5.4: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location
Source of data	Project Survey
Value(s) applied	88.24
Choice of data or Measurement methods and procedures	Baseline Survey
Purpose of data	Annually
Additional comment	-
	Calculate time saved for women by the project
	-

B.6.3. Ex ante estimation of SDG Impact

SDG 1

$P_{access} = P_y * (1 - C_b) * Up,y$

$20,815 = 23,338 * (1 - 0.9) * 0.9$

Where:

P_{safe}	Number of additional persons having access to safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to safe water in the project activity.
C_b	Expressed as a percentage, proportion of project households who in the baseline were already using a safe water supply that did not require boiling it.
$X_{cleanboil,y}$	Proportion of project households that boil safe water in the project year y

SDG 3

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

$P_{safe} = P_y * (1 – C_b) * (1 – P_{b,boil}) * U_{py}$

2,019= 23,338* (1 – 0.9) * (1 – 0.903) * 0.9

Where:

P_{safe}	Number of additional persons consuming safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to safe water in the project activity.
C_b	Expressed as a percentage, proportion of project households who in the baseline were already using a safe water supply that did not require boiling it.
$P_{b, boil}$	Percentage of persons boiling water for purification in the baseline scenario.
U_{py}	Usage rate in project scenario p during year y

It is estimated that the number of additional persons consuming safe water in the project will be 1,918 people.

SDG 5

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

30 minutes = 88.94– 58.94

Where:

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

SDG 6

Analysis of access from Revalidation baseline survey:

Safely Managed Service – 0%

Basic Service – 0%

Limited Service – 0%

Unimproved Service – 62%

Surface Water – 38%

Estimated project access (informed from 2021 monitoring Project Survey):

Safely Managed Service – 0%

Basic Service – 44%

Limited Service – 56%

Unimproved Service – 0%

Surface Water – 0%

SDG 13

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

$EF_b = SE_{w,b,y} * \sum (x_f * (EF_{b,f,co2} * fNRB_{,f,y} + EF_{b,f,nonCO2}))/10^9$

$0.00036 = 3341.02 * \sum (0.99 * (112 * 0.87 + 9.46))/10^9$

$SE_{w,b,y} = 360.83/\eta_{wb}$

$3341.02 = 360.83 / 0.11$

$BE_y = EF_b * (1 – C_b – X_{cleanboil,y}) * Q_y * M_{q,y}$

$10,311 = 0.00036 * (1 – 0.9\% - 0) * 32,369,251 * 0.9$

Where $Q_y = \min(Q_{m,y}, Q_{pop,y})$

Due to lack of available sensors at the time of revalidation, Qpop,y has been applied here.

$32,369,251 = \min(40,937,325 , 32,369,251)$

Where $Q_{pop,y} = \sum_p HH_{p,y} * HN_{p,y} * QPW_p * DO_{p,y}$

$32,369,251 = \sum_p 5,304 * 4.4 * 4 * 346.75$

$PE_y = PE_{ff,p,h} + PE_{ec,p,y}$

$PE_y = 0 = 0 + 0$

$ER_y = BE_y – PE_y - LE_y$

$ER_y = 10,311 = 10,311 – 0 – 0.$

ER_y adjusted for Suppressed Demand = **10,128 (capped at 10,000)**

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

SDG 1

Year	Baseline estimate	Project estimate	Net benefit
Year 1	2,523 people with access to basic/limited safe water	23,338 people with access to basic/limited safe water	20,815 additional persons with access to basic/limited safe water
Year 2	2,523 people with access to basic/limited safe water	23,338 people with access to basic/limited safe water	20,815 additional persons with access to basic/limited safe water
Year 3	2,523 people with access to basic/limited safe water	23,338 people with access to basic/limited safe water	20,815 additional persons with access to basic/limited safe water
Year 4	2,523 people with access to basic/limited safe water	23,338 people with access to basic/limited safe water	20,815 additional persons with access to basic/limited safe water
Year 5	2,523 people with access to basic/limited safe water	23,338 people with access to basic/limited safe water	20,815 additional persons with access to basic/limited safe water
Total	**2,523 people with access to basic/limited safe water**	**23,338 people with access to basic/limited safe water**	**20,815 additional persons with access to basic/limited safe water**
Total number of crediting years: 5			
Annual average over the crediting period	2,523 people with access to basic/limited safe water	23,338 people with access to basic/limited safe water	20,815 additional persons with access to basic/limited safe water

SDG 3

Year	Baseline estimate	Project estimate	Net benefit
Year 1	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water
Year 2	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water
Year 3	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water
Year 4	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water

Year 5	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water
Total	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water
Total number of crediting years: 5			
Annual average over the crediting period	21,319 people consuming safe or boiled water	23,338 people consuming safe water	2,019 additional people consuming safe water

SDG 5

Year	Baseline estimate	Project estimate	Net benefit
Year 1	88.94 minutes collecting water and firewood	58.94 minutes collecting water and firewood	30 minutes saved in time spent collecting water and firewood
Year 2	88.94 minutes collecting water and firewood	58.94 minutes collecting water and firewood	30 minutes saved in time spent collecting water and firewood
Year 2	88.94 minutes collecting water and firewood	58.94 minutes collecting water and firewood	30 minutes saved in time spent collecting water and firewood
Year 4	88.94 minutes collecting water and firewood	58.94 minutes collecting water and firewood	30 minutes saved in time spent collecting water and firewood
Year 5	88.94 minutes collecting water and firewood	58.94 minutes collecting water and firewood	30 minutes saved in time spent collecting water and firewood
Total	**445 minutes collecting water and firewood**	**295 minutes collecting water and firewood**	**150 minutes saved in time spent collecting water and firewood**
Total number of crediting years: 5			

Annual average over the crediting period	88.94 minutes collecting water and firewood	58.94 minutes collecting water and firewood	30 minutes saved in time spent collecting water and firewood

SDG 6

Year	Baseline estimate	Project estimate	Net benefit
Year 1	Safely Manged Service: 0% Basic Service: 0% Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	Safely Manged Service: 0% Basic Service: 44% Limited Service: 56% Unimproved Service: 0% Surface Water: 0%	Safely Manged Service: 0% Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)
Year 2	Safely Manged Service: 0% Basic Service: 0% Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	Safely Manged Service: 0% Basic Service: 44% Limited Service: 56% Unimproved Service: 0% Surface Water: 0%	Safely Manged Service: 0% Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)
Year 3~~2~~	Safely Manged Service: 0% Basic Service: 0% Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	Safely Manged Service: 0% Basic Service: 44% Limited Service: 56% Unimproved Service: 0% Surface Water: 0%	Safely Manged Service: 0% Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)
Year 4	Safely Manged Service: 0% Basic Service: 0% Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	Safely Manged Service: 0% Basic Service: 44% Limited Service: 56% Unimproved Service: 0% Surface Water: 0%	Safely Manged Service: 0% Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)
Year 5	Safely Manged Service: 0% Basic Service: 0% Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	Safely Manged Service: 0% Basic Service: 44% Limited Service: 56% Unimproved Service: 0% Surface Water: 0%	Safely Manged Service: 0% Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)
Total	**Safely Manged Service: 0%** **Basic Service: 0%**	**Safely Manged Service: 0%** **Basic Service: 44%**	**Safely Manged Service: 0%**

	Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	**Limited Service: 56% Unimproved Service: 0% Surface Water: 0%**	**Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)**
Total number of crediting years: 5			
Annual average over the crediting period	Safely Manged Service: 0% Basic Service: 0% Limited Service: 0% Unimproved Service: 62% Surface Water: 38%	Safely Manged Service: 0% Basic Service: 44% Limited Service: 56% Unimproved Service: 0% Surface Water: 0%	Safely Manged Service: 0% Basic Service: additional 44% Limited Service: additional 56% Unimproved Service: 0% (reduced by 62%) Surface Water: 0% (reduced by 38%)

SDG 13

Year	Baseline estimate	Project estimate	Net benefit
Year 1	10,000 tCO2e emitted (capped)	0 tCO2e emitted	Emissions reduced by 10,000 tCO2e (capped)
Year 2	10,000 tCO2e emitted (capped)	0 tCO2e emitted	Emissions reduced by 10,000 tCO2e (capped)
Year 2	10,000 tCO2e emitted (capped)	0 tCO2e emitted	Emissions reduced by 10,000 tCO2e (capped)
Year 4	10,000 tCO2e emitted (capped)	0 tCO2e emitted	Emissions reduced by 10,000 tCO2e (capped)
Year 5	10,000 tCO2e emitted (capped)	0 tCO2e emitted	Emissions reduced by 10,000 tCO2e (capped)
Total	**50,000 tCO2e emitted**	**0 tCO2e emitted**	**Emissions reduced by 50,000tCO2e**
Total number of crediting years: 5			

Annual average over the crediting period	10,000 tCO2e emitted (capped)	0 tCO2e emitted	Emissions reduced by 10,000 tCO2e (capped)

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored.

SDG 3

Parameter ID	**SDWS 18**
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. SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services
Source of data	Water quality tests conducted either by a lab or through a field kit at all appliances.
Value(s) applied	0.9 (estimated value)

Measurement methods and procedures	The National Water Quality Reference Laboratory has certified each water supply in line with national standards.
Monitoring frequency	Annual sampling, and the first round of testing shall be conducted at least after six months from the start date. - 1 full water quality test annually - 3 partial water quality tests quarterly
QA/QC procedures	1. Laboratories used for water quality testing must be approved by local health authorities and/or have quality accreditation; and 2. The laboratory used must demonstrate that it has an adequate quality management plan in place which addresses both quality assurance and quality control test procedures. 3. Field testing kits also are eligible, e.g. based on Colony Forming Unit method or Most Probable Number method. To use the field testing kits the project shall meet the following requirements: a. Testing kits must be approved by national agency or meet standards set by relevant international organisation e.g. US-EPA, and b. Testing kits shall be tested for its accuracy and robustness prior to application for project level monitoring, whereby local or accredited laboratory shall conduct water quality tests using testing kits and a relevant ISO standard or an equivalent standard, in parallel with field testing kits.
Purpose of data	Determine water quality in year
Additional comment	The water quality tests will be conducted on a sample basis in line with methodology requirements.

SDG 1, 3, 5, 6 & 13

Parameter ID	**SDWS 19**
Data/parameter	SDG claims
Unit	N/A

Description	The project will transparently include information in project documents (PDD & Monitoring reports) on following two aspects to make claims on SDG 6.1.1 contributions. i. Level of Service in the baseline/project scenario: The drinking water service levels classified in three categories: limited, basic or safely managed services. Households using improved drinking water sources which are located on premises, with water available when needed, and free from contamination*, are classified as having safely managed services. Households not meeting all of these criteria but 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 are classified as limited services. ii. Project contributions: The project developer shall select water service aspects i.e., Accessibility, Availability and Quality & identify the monitoring indicator(s) to monitor the project contributions. The project may use relevant monitoring indicators and information available in this methodology, for example SDWS 18 for Water Quality. The project may have contributions to one or all three aspects. The project developer shall only make claims on aspects that project is contributing to. The project addressed point i under SDG 6 monitoring, determining the number of persons who drink from the 5 JMP Service categories (safely managed, basic, limited, unimproved, surface water). Th monitoring indicators for Accessibility, Availability and Quality are: Accessibility – addressed in SDG 6 parameter by determining the distance of the safe water sources Availability – addressed in non-functionality calculations in ERs

	Quality – addressed in water quality testing procedures All 3 contributions will also be addressed in a detailed Project Survey which includes JMP WASH questions regarding drinking water and hygiene. Results will be outlined in an annual hygiene report.
Source of data	Annual surveys
Value(s) applied	N/A
Measurement methods and procedures	-
Monitoring frequency	Annual
QA/QC procedures	N/A
Purpose of data	Determine SDG claims
Additional comment	-

SDG 1 & 6

Parameter ID	**SDWS 20**
Data/parameter	Water hygiene education campaigns
Unit	N/A
Description	Hygiene campaigns carried out among project safe water end users. The following guidelines apply for conducting these campaigns: - Hygiene refers to access to sanitation amenities, equipment and infrastructure, as well as to the behaviour in respect to regular and correct use of such amenities. It also refers to behaviour that prevents infections from water-related diseases. - The project developer shall report the activities conducted each year in a detailed "Report of annual hygiene campaigns results" and summarize the results in the project monitoring reports.

	- Any major changes in the health status of the water users as a result of contaminated water (e.g. an outbreak of water related disease) must be reported and, if relevant, a strategy put in place to address it through the subsequent hygiene campaign. - The detailed method used to assess hygienic handling of clean water must be provided with the PDD and verified by the VVB. - The details of the method should be adjusted to suit the circumstances of each project and also to suit learning year on year. 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. 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. For sampling requirements, follow section 4.2 |General requirements for sampling, below. The JMP core questions for households, schools and health care facilities are available at https://washdata.org/monitoring/methods/core-questions
Source of data	Report annual hygiene campaign results
Value(s) applied	N/A
Measurement methods and procedures	WASH training activities
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	Determine community WASH understanding
Additional comment	

SDG 1, 3, 6 & 13

Parameter ID	**SDWS 22**
Data/parameter	$X_{cleanboil,y}$
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. SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	Project Survey
Value(s) applied	0
Measurement methods and procedures	-
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Calculation of baseline emissions

Additional comment	-

SDG 1 & 6

Parameter ID	**SDWS 23**
Data/parameter	$Q_{m,y}$
Unit	Litres/year
Description	Monitored quantity of safe water provided by the project in year y SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services
Source of data	Sensor measures water volume directly, once commercially available.
Value(s) applied	To be measured
Measurement methods and procedures	Water sensor
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	Determine quantity of safe water provided by the project in year
Additional comment	The project will not be applying Qm,y as the required technology is not yet available. As soon as the required technology is available and reliable it will be implemented. Until this time Qpop,y will be applied.

SDG 1, 3, 6 & 13

Parameter ID	**SDWS 24**
Data/parameter	QPW_p
Unit	Litres/person/day

Description	Volume of drinking water per person per day for premises type p SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	Water Consumption Field Tests or default value (4 L)
Value(s) applied	4 L/person/day if Default value applied (5.5 L/person/day GS cap)
Measurement methods and procedures	Deemed valid by methodology
Monitoring frequency	Biennial
QA/QC procedures	-
Purpose of data	Determine volume of drinking for quantity of safe drinking water calculations
Additional comment	-

SDG 1, 3, 6 & 13

Parameter ID	**SDWS 25**
Data/parameter	$HN_{p,y}$
Unit	Number

Description	Number of individuals per premises type p in the project boundary in year y SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	Project Survey
Value(s) applied	4.4 people per household (2018 Malawian census data)
Measurement methods and procedures	Household questions in survey
Monitoring frequency	Annually
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. The revalidation baseline figure for average persons per household of 5.63 was cross-checked with the 2018 Malawian Census data, which revealed an average household figure of 4.4. Following the cross-checking, a value of 4.4 was applied in the ex-ante calculations.

	https://malawi.unfpa.org/sites/default/files/resource-pdf/2018%20Malawi%20Population%20and%20Housing%20Census%20Main%20Report%20%281%29.pdf Page 31.
Purpose of data	Determine number of individuals for quantity of safe drinking water calculations
Additional comment	

SDG 1, 3, 6 & 13

Parameter ID	**SDWS 26**
Data/parameter	$HH_{p,y}$
Unit	Number
Description	Number of premises type p served by the project in year y SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	Survey of the premises (e.g. households, schools) within 1 km distance of project water source to check how often the premises used the project water source during the year.

	This survey may be part of the project survey and may be performed in person, by telephone, by messaging (e.g. text, app), appropriate to the context. Premises that report at least every-two-days use may be counted.
Value(s) applied	20,290 (project database)
Measurement methods and procedures	Household questions in survey and user lists
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Determine number of premises type for quantity of safe drinking water calculations
Additional comment	-

SDG 1, 3, 6 & 13

Parameter ID	**SDWS 27**
Data/parameter	$DO_{p,y}$
Unit	Days
Description	Days the project technology is operational for end-users in premises p in year y SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.

Source of data	In order of preference: 1. Measure directly using operation sensor, or 2. Demonstrate from log of operation and maintenance system.
Value(s) applied	346.75 days (To be monitored)
Measurement methods and procedures	Maintenance log
Monitoring frequency	Annually
QA/QC procedures	Values higher than 347 days may only be applied when option 1 is used. 347 days is 95% of days, in line with pump-maintenance in the literature.
Purpose of data	Determine number of days for quantity of safe drinking water calculations
Additional comment	-

SDG 5

Parameter ID	**N/A**
Data/parameter	$T_{p,y}$
Unit	Minutes
Description	Time spent collecting water and fuel per household per day in project SDG 5 (Gender Equality) 5.4: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location
Source of data	Project Survey
Value(s) applied	58.94
Measurement methods and procedures	Survey
Monitoring frequency	Annually

QA/QC procedures	-
Purpose of data	Calculate time saved for women by the project
Additional comment	-

Parameter ID	**N/A**
Data/parameter	TRy
Unit	Minutes
Description	Total reduction time spent collecting water and fuel per day for project activity in year y SDG 5: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
Source of data	Project Survey
Value(s) applied	30 minutes (estimated)
Measurement methods and procedures	Calculate the average amount of time saved collecting water and fuel in the project scenario and compare to the pre-project scenario
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To quantify whether the project has contributed to a reduction in the amount of time spent collecting water compared to the pre-project scenario
Additional comment	-

SDG 1 & 6

Parameter ID	**N/A**
Data/parameter	P_y
Unit	Number

Description	Number of persons having access to safe water in the project activity End users premises (e.g. households, institutions) within 1 km distance of project water source or a total collection time of 30 minutes or less for a round trip, including queuing, using the travel modes of walking or pedaling. Recorded for each CWT/CWS installation ex-ante at the time of start of crediting period. In case of progressive installation - for new CWT/CWS units before 1st issuance for new units. SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services
Source of data	Household list If there are any insurmountable barriers (e.g. river without bridge) transecting the circle defined by the 1 km radius or 30 mins distance, then end-users on the far side of the barrier shall be excluded from the count.
Value(s) applied	Estimated 73,694 users (capped at 300 users per borehole, project database)
Measurement methods and procedures	Established through household user list
Monitoring frequency	Continuously
QA/QC procedures	
Purpose of data	Measure the number of persons having access to safe water in the project activity
Additional comment	Final number still to finalise. These are monitored and updated when required, this number may fluctuate to remain accurate.

SDG 3

Parameter ID	**N/A**

Data/parameter	Psafe
Unit	Number
Description	Total reduction in Household Air Pollution from boiling water for project activity in year y
Source of data	Household lists; Usage Survey; Water Consumption Field Test
Value(s) applied	2,019 (estimate)
Measurement methods and procedures	Review the number of people using the borehole according to the household lists for each VPA and multiply by the usage rate to calculate the number of people now using a safe water source in order to calculate the amount of biomass that would have been burnt to purify the water in the baseline scenario. Deduct from this any individuals that still boil water in the project scenario. SDG 13: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To calculate the additional number of persons who have access to safe water in the project activity compared to the baseline scenario and to calculate from that the percentage decrease in biomass used to purify water through boiling.
Additional comment	-

SDG 1 & 6

Parameter ID	**N/A**
Data/parameter	Paccess
Unit	Number
Description	Number of additional persons having access to safe water in the project activity compared to the baseline scenario. SDG 6: By 2030, achieve universal and equitable access to safe and affordable drinking water for all

	SDG 1: End poverty in all it's forms everywhere
Source of data	Household lists; Usage Survey
Value(s) applied	20,815 (estimate)
Measurement methods and procedures	Borehole users * Usage rate.
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To calculate the additional number of persons having access to safe water in the project activity compared to the baseline scenario
Additional comment	-

SDG 13

Parameter ID	**SDWS 35**
Data/parameter	LE_y
Unit	tCO_2e per year
Description	Leakage emissions during year y SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Source of data	Sources established by following Leakage emissions section
Value(s) applied	0
Measurement methods and procedures	Assessed every two years using baseline and monitoring surveys
Monitoring frequency	Biennial
QA/QC procedures	Compliance with the general requirements for sampling and general requirements for data and information sources
Purpose of data	Emission reduction calculations
Additional comment	-

B.7.2. Sampling plan

The 7 VPAs proceeding into CP2 are homogenous, and therefore are to be monitored together. The number of boreholes that will need to be sampled for a 90/10 confidence/precision will be determined. Out of those boreholes, households will be randomly sampled, complying with the minimum sample size for the particular survey/test. Individual participants will be selected from the borehole user database using the random selection process outlined in the monitoring plan. Sample sizes will be in line with the Gold Standard requirements. The surveys below will be monitored under the cross sampling approach;

- Project Surveys-Completed annually
- Usage Surveys-Completed annually
- Optional Water Consumption Field Tests-Completed biennially if decided to proceed with performing the test in the field. The default value 4 L/person/day will be applied in absence of the field test. In any case, the WCFT is capped at 5.5 L/person/day.

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

Seasonal information is captured within the surveys, with specific questions seeking seasonal fuel consumption and stove use within the project and usage survey.

B.7.3. Other elements of monitoring plan

The borehole installation/rehabilitation record includes the following information:

- Date of installation/rehabilitation
- GPS location of the borehole
- Model of the borehole
- Quantity of boreholes installed
- The total number of people obtaining their water from each water source and their distance from it
- Mode of use: commercial/domestic

The total number of households using each borehole has been determined through the lists supplied by the community group and district officials. Further studies are conducted to screen and determine the exact number of people using the rehabilitated water source.

The following ongoing monitoring studies will be conducted:

- **Water consumption field test** - Completed prior to first verification in MP1 and then biennially with a sample of at least 30 households. The default value of 4L / person / day has been applied in the calculations which will be applied in the absence of an updated field test.
- **Quality of the treated water** - The quality of the treated water will be assessed to ensure that it is fit for human consumption. The parameters used to assess the water quality will be in line with Malawian standards for potable water and all parameters will be shown to be within levels considered acceptable for domestic human consumption. The testing will take place on a sample basis in line with the methodology.
- **Usage Survey** - As all boreholes will be installed within 1 year of the start of the crediting period and are expected to last the lifetime of the project, minimum samples of 30 for different aged technologies will not be necessary. Therefore, the annual usage survey will be conducted using a minimum sample size of 100.
- **Project Survey** – Conducted on a minimum sample size of 100 households, surveying end users currently using project technologies to explore changes in project scenario over time.
- **Leakage** - The leakage assessment will be conducted biennially.
- **WASH Reporting** – Annual WASH training takes place once a year at each waterpoint. The training involves sensitisation on principles of WASH, household water management and preventing pollution of the ground water. A report will be produced annually in line with SDWS 20.
- **Quantity of safe drinking water provided by the project** – The project will not be applying Qm,y as the required technology is not yet available. As soon as the required technology is available and reliable it will be implemented. Until this time Qpop,y will be applied.

SECTION C. DURATION AND CREDITING PERIOD

C.1 Duration of project

C.1.1. Start date of project

VPAs transitioning to SDWS v1

GS5329 – 19/12/2015

GS5330 – 11/01/2016

GS5331 – 20/01/2016

GS5332 – 08/02/2016

GS5335 – 21/02/2016

GS5336 – 26/04/2016

GS5337 – 19/04/2016

VPAs being discontinued following the end of CP1:

GS5338 – 18/05/2016

GS5339 – 10/02/2016

GS5340 – 11/02/2016

GS5341 – 09/07/2016

GS5342 – 02/09/2026

GS5343 – 20/09/2016

GS5344 – 26/09/2016

GS5437 – 16/06/2016

GS5438 – 01/07/2016

GS5439 – 03/09/2016

GS5440 – 23/06/2016

GS5441 – 03/10/2016

C.1.2. Expected operational lifetime of VPA

17 years

C.2. Crediting period of project

C.2.1. Start date of crediting period

The start of crediting period 2 of transitioning VPAs:

GS5329 – 20/12/2022

GS5330 - 12/01/2023

GS5331 – 21/01/2023

GS5332 – 09/02/2023

GS5335 – 22/02/2023

GS5336 – 27/04/2023

GS5337 – 27/04/2023

C.2.2. Total length of crediting period

A total of 17 years, split over the following individual crediting periods:

CP1 – 7 years

CP2 – 5 years

CP3 – 5 years

SECTION D. SUMMARY OF SAFEGUARDING PRINCIPLES AND GENDER SENSITIVE ASSESSMENT

D.1. Safeguarding Principles that will be monitored

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

Principles	Mitigation Measures added to the Monitoring Plan
Principle 5. Corruption: **1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt projects**	Water point committees have been formed, and are supported, to manage the safe water source point. They receive training through WASH workshops where any forms of corruption are discouraged. Participants are be educated on the benefits of the project. Community members have lines of communication with the project developers to report any complaints or grievances. During the establishment and training of the water point committees, rules and regulations surrounding corruption are elaborated to ensure that all local community level corruption concerns are addressed. These are discussed during follow up visits.

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

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The project increases women's access to resources such as water by making safe water available in the community. The burden on the whole community of travelling far to collect water and gather firewood for water purification is reduced. This also helps to mitigate the social isolation of spending a long time collecting these resources.

	Equal participation of women and men in decision making is encouraged by promoting their equal membership on water point committees. These WPCs are trained to facilitate the participation of members depending on their specific circumstances. They also assist all community members to provide feedback on the project, regardless of their situation. Both women and men benefit from the project activities, no group is excluded from participating in the project activities and the water sources are open to the whole community. The project decreases the workload of women in collecting water and firewood, thereby allowing more time to engage in other activities. The project increases women's ability to use, develop, and protect natural resources by making safe water more readily available and enabling women to participate in project decision-making.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	The project aligns with: Malawi's Gender Equality Act (2014) – promoting education and training of women, and powers of human rights in relation to gender equality.

	Malawi's National Water Policy (2005) – improving community engagement with rural, community water infrastructure. Increasing access to improved sanitation system and education. Malawi's Growth and Development Strategy (MGDs II), improving access and affordability of key barriers keeping people constrained in poverty. Ensuring rural systems are improved sustainably with community involvement and empowered. Improved the health of communities to allow them to have the health to attain consistent jobs and attend school.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	No
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	No

SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

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

E.1. Summary of stakeholder mitigation measures

Dowa District meetings:

Dowa district contains 3 Traditional Authorities (TAs), Dzoole, Kayembe and Chakhaza, stakeholder consultation meetings were conducted in each.

District	TA	Date	Location	Stakeholders Invited	Invitation Method
Dowa	Dzoole	21/08/2013	Chiefs HQ	Cat A - F	Letter, Email, Radio Advert, Verbal
	Kayembe	22/10/2013	CCAP Church	Cat A	Verbal, Letter
	Chakhaza	23/10/2013	Chiefs HQ	Cat A	Verbal, Letter

Kasungu District meetings:
Kasungu District contains 2 TAs, Santhe and Chakhaza, stakeholder consultation meetings were conducted in both.

District	TA	Date	Location	Stakeholders Invited	Invitation Method
Kasungu	Santhe	22/08/2013	Chiefs HQ	Cat A - F	Letter, Email, Radio Advert, Verbal
	Kawamba	05/11/2013	Chiefs HQ	Cat A	Verbal, Letter

The planning, material, invitations and timeline requirements for such a consultation were all adhered to, specific information and evidence are available in the LSC reports produced in 2013.

Additional stakeholder meetings in both districts:

Following feedback from an Objective Observer visit, United Purpose (then Concern Universal) and CO2balance held a series of additional live meetings in April 2015 to give local participants more opportunity to comment on the project. Community representatives such as Group Village Heads (GVHs), Village Heads and Village Natural Resource Committees were invited via letters. Community members were verbally invited through these existing structures, especially GVHs and Village heads. The overall attendance of these additional meetings was at 415, showing good participation._The meetings were held as follows:

1. TA Chakhaza – CCAP Church – 15/04/15 @ 10am
2. TA Santhe – Nyaza CCAP Church – 17/04/15 @ 9am
3. TA Kayembe – Kayembe Health Centre – 16/04/15 @ 10am
4. TA Kayembe – Mbingwa Health Centre – 16/04/15 @ 1pm
5. TA Dzoole – TA Headquarters – 15/04/15 @10am
6. TA Chakhaza – Madisio Admarc – 15/04/15 @ 2pm
7. TA Santhe – Santhe Health Centre – 17/04/15 @ 3pm
8. TA Santhe – Mkhota Health Centre – 17/04/15 @ 1pm

The broad agenda for each meeting was as follows:

1. Opening of the Meeting
2. Project Overview
3. Stakeholder Feedback Round
4. Continuous Input Mechanism Grievance
5. Discuss a Procedure to get Borehole User Details – Household Level
6. Completion of Project Evaluation Forms
7. Meeting Closure

The first community meeting was held on 15/04/2015 and therefore the stakeholder feedback round was open for another two months, ending on 14/06/2015.

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)	To be placed at every water point. Easily accessible for communities and households whenever needed. Contact details of the key involved parties to be made clear and available within them.
Telephone Access	Contact phone numbers were provided from United Purpose field staff, 0999823966/ 0888879627 for use by the stakeholders to give feedback. CO2balance UK +44 (0) 1823 332233
Internet Access	Website hosting project details including Project Idea Note (PIN) and Project Summary as well as capacity to leave feedback. http://www.carbonzerofederation.com/account/ss_projects/view/117/public/ Justification – Illiteracy, low internet access in the rural areas.

	enquiries@co2balance. comcommodious.nyirenda@selfhelpafrica.org
GS Contact (mandatory)	help@goldstandard.org
Other	

SECTION D - **Eligibility and inclusion criteria for VPAs inclusion**

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 below.

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

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

		Both women and men benefit from the project activities, no group is excluded from participating in the project activities and the water sources are open to the whole community. The project decreases the workload of women in collecting water and firewood, thereby allowing more time to engage in other activities. The project increases women's ability to use, develop, and protect natural resources by making safe water more readily available and enabling women to participate in project decision-making. The project increases women's ability to use, develop and protect natural resources by making safe	

		water more readily available and enabling women to participate in project decision-making. No further risks or hazards for women and girls have been identified.	
Principle 3. Community Health, Safety and Working Conditions			
1. The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community	No	The project reduces the community exposure to water borne illness through the provision of a safe water source, and reduces the risk of household air pollution by removing the need for households to boil water for purification.	Incidences of water borne illnesses are monitored through the annual Monitoring Project Survey. A WASH programme is carried out by the project, including WASH training at the beginning of the project, and subsequent WASH follow-up trainings.
Principle 4.1 Sites of Cultural and Historical Heritage			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious	No	The project area does not include cultural and historic sites. The focus of the project is on rehabilitating and	Practical project work (i.e. water point maintenance) only occurs at existing water points.

values or intangible forms of culture? >>		installing water point infrastructure only.	
Principle 4.2 Forced Eviction and Displacement			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)? >>	No	The project does not impact the physical or economic relocation of peoples. The focus of the project is on rehabilitating and installing water point infrastructure only.	N/A
Principle 4.3 Land Tenure and Other Rights			
Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership? >>	No	The project does not impact on land tenure arrangements or rights.	N/A
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or	Yes	The project ensures that all forms of corruption are avoided. Project beneficiaries are able to contact the project developer and implementer	Water point committees have been formed, and are supported, to manage the safe water source points. They receive training through

reinforce corruption or corrupt Projects		through the continuous grievance mechanism to report any form of corruption.	WASH workshops where any forms of corruption are discouraged. Participants are be educated on the benefits of the project. Community members have lines of communication with the project developers to report any complaints or grievances. During the establishment and training of the water point committees, rules and regulations surrounding corruption are elaborated to ensure that all local community level corruption concerns are addressed. These are discussed during follow up visits. If any reports of corruption are received then the appropriate action will be taken.
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in	No	The project adheres to all labour laws and requirements.	Project Officers, who are trained and report to the Country Manager, are located

compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance, AND			in the field to oversee maintenance workers. Photos of workers and maintenance activities are taken for transparency and to document water point repairs.

e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. No child labour is allowed (Exceptions for children working on their families' property requires an Expert Stakeholder opinion) 5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures			
Principle 6.2 Negative Economic Consequences			

1. Does the project cause negative economic consequences during and after project implementation?	No	The project is not expected to have any negative economic impacts or cause any risks.	Grievance log books are located in each water point community, for members to report such concerns.
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project reduces greenhouse gas emissions compared to the baseline scenario.	N/A
>>			
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	Only hand pumped safe water source points that use no electricity are included in the project.	N/A
>>			
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such	No	There has been no significant change in the volume of water consumed by the households.	N/A

as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?			
>>			
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The water is taken from safe water source points at household usage levels. Therefore it is extremely unlikely that there is additional erosion and/or water body instability or disruption of the natural pattern of erosion.	N/A
>>			
Principle 9.1 Landscape Modification and Soil			
Does the Project involve the use of land and soil for production of crops or other products?	No	No crops or other products are produced in the project.	N/A
>>			
Principle 9.2 Vulnerability to Natural Disaster			

Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	There is no impact by the project to natural disasters.	N/A
>>			
Principle 9.3 Genetic Resources			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	No GMOs are used in the project and the safe water source points would not be affected by GMOs as they are all protected.	Frequent WQTs are carried out to ensure water is safe for consumption. This would be detected in such tests and addressed with the support of the Water Quality Analyst.
>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	As safe ground water is used, there is no risk of releasing pollutants to the environment.	N/A
>>			
Principle 9.5 Hazardous and Non-hazardous Waste			

Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The project does not deal with hazardous or non-hazardous chemicals and/or materials.	N/A
>>			
Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	No pesticides and/or fertilisers are used in the project.	Frequent WQTs are carried out to ensure water is safe for consumption.
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	As the project reduces the consumption of firewood, there is a positive impact on forests.	Surveys record fuel source and usage, highlighting whether firewood is increasingly extracted from forests.
>>			
Principle 9.8 Food			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project has no impact on the quantity or nutritional quality of food. The project does not involve animal husbandry.	N/A
>>			

Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry? >>	No	The project has no impact on the quantity or nutritional quality of food. The project does not involve animal husbandry.	N/A
Principle 9.10 High Conservation Value Areas and Critical Habitats			
Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified? >>	No	The project has no impact on the quantity or nutritional quality of food.	N/A
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where	No	There are several endangered species in Malaiw. The project does not have any impact on their habitats as it only affects safe water source point infrastructure. The project only impacts safe water source point infrastructure and does not	N/A

endangered species may be present through transboundary affects?		impact other areas where endangered species are present.	
>>			

APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

CME:

Organization name	CO2balance UK Ltd
Registration number with relevant authority	4889958 (UK company registration number)
Street/P.O. Box	Cook Way
Building	1 Discovery House
City	Taunton
State/Region	Somerset
Postcode	TA2 6BJ
Country	UK
Telephone	+44 (0) 1823 332233
E-mail	enquiries@co2balance.com
Website	www.co2balance.com
Contact person	Chiara Martin
Title	Senior Project Manager
Salutation	Ms
Last name	Chiara
Middle name	
First name	Martin
Department	Projects
Mobile	
Direct tel.	+44 (0) 1823 332233
Personal e-mail	chiara.martin@co2balance.com

VPA Implementer:

Organization name	United Purpose
Registration number with relevant authority	272465 (Registered Charity No)
Street/P.O. Box	United Purpose
Building	W2, 1st Floor, Wellington House
City	Cardiff
State/Region	Wales
Postcode	CF11 9BE
Country	UK
Telephone	+44 (0) 2920 220066
E-mail	zachary.lager@selfhelpafrica.org
Website	https://united-purpose.org/
Contact person	Zachary Lager
Title	
Salutation	Mr
Last name	Lager
Middle name	
First name	Zachary
Department	Projects
Mobile	
Direct tel.	+44 (0) 2920 220066
Personal e-mail	zachary.lager@selfhelpafrica.org

APPENDIX 3- SUMMARY OF APPROVED DESIGN CHANGES

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

Revision History

Version	Date	Remarks
2.0	4 May 2022	
1.1	7 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Inclusion criteria table added Gender sensitive requirements added Prior consideration (1 yr rule) and Ongoing Financial Need added Safeguard Principles Assessment as annex and a new section to include applicable safeguards for clarity Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on Stakeholder Consultation information required Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption