



**Gold Standard**<sup>®</sup>  
for the Global Goals



# MONITORING REPORT

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**PUBLICATION DATE** 14.10.2020

**VERSION** v. 1.1

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

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This document contains the following Sections

Key Project Information

SECTION A - Description of project

SECTION B - Implementation of project

SECTION C - Description of monitoring system applied by the project

SECTION D - Data and parameters

SECTION E - Calculation of SDG Impacts

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## KEY PROJECT INFORMATION

### Programme of Activity Information

<b>GS ID of Programme</b>	1247
<b>Title of Programme</b>	Improved Kitchen Regimes Multi-Country PoA
<b>Version of POA-DD applicable to this monitoring report</b>	Version 4.0
<b>Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)</b>	GS1247 VPA 65 Zoba Debub Community Boreholes (GS5038) GS1247 VPA 66 Zoba Debub Community Boreholes (GS5039) GS1247 VPA 67 Zoba Debub Community Boreholes (GS5040) GS1247 VPA 68 Zoba Debub Community Boreholes (GS5041) GS1247 VPA 69 Zoba Debub Community Boreholes (GS5042) GS1247 VPA 70 Zoba Debub Community Boreholes (GS5043) GS1247 VPA 119 Zoba Debub Community Boreholes (GS5825) GS1247 VPA 120 Zoba Debub Community Boreholes (GS5826) GS1247 VPA 121 Zoba Debub Community Boreholes (GS5827) GS1247 VPA 176 Zoba Debub Community Boreholes (GS7330) GS1247 VPA 177 Zoba Debub Community Boreholes (GS7331) GS1247 VPA 178 Zoba Debub Community Boreholes (GS7332) GS1247 VPA 179 Zoba Debub Community Boreholes (GS7333) GS1247 VPA 180 Zoba Debub Community Boreholes (GS7334) GS1247 VPA 181 Zoba Debub Community Boreholes (GS7335) GS1247 VPA 182 Zoba Debub Community Boreholes (GS7336)

### Key Project Information

<b>GS ID (s) of Project (s)</b>	GS5038 GS5039
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	GS5040 GS5041 GS5042 GS5043 GS5825 GS5826 GS5827 GS7330 GS7331 GS7332 GS7333 GS7334 GS7335 GS7336
<b>Title of the project (s) covered by monitoring report</b>	GS1247 VPA 65 Zoba Debub Community Boreholes (GS5038) GS1247 VPA 66 Zoba Debub Community Boreholes (GS5039) GS1247 VPA 67 Zoba Debub Community Boreholes (GS5040) GS1247 VPA 68 Zoba Debub Community Boreholes (GS5041) GS1247 VPA 69 Zoba Debub Community Boreholes (GS5042) GS1247 VPA 70 Zoba Debub Community Boreholes (GS5043) GS1247 VPA 119 Zoba Debub Community Boreholes (GS5825) GS1247 VPA 120 Zoba Debub Community Boreholes (GS5826) GS1247 VPA 121 Zoba Debub Community Boreholes (GS5827) GS1247 VPA 176 Zoba Debub Community Boreholes (GS7330) GS1247 VPA 177 Zoba Debub Community Boreholes (GS7331) GS1247 VPA 178 Zoba Debub Community Boreholes (GS7332) GS1247 VPA 179 Zoba Debub Community Boreholes (GS7333) GS1247 VPA 180 Zoba Debub Community Boreholes (GS7334) GS1247 VPA 181 Zoba Debub Community Boreholes (GS7335) GS1247 VPA 182 Zoba Debub Community Boreholes (GS7336)
<b>Version number of the PDD/VPA-DD (s) applicable to this monitoring report</b>	VPA 65-70 (GS5038-43) – v1.5 VPA 119-121 (GS5825-7) – v4 VPA 176-82 (GS7330-6) – v2
<b>Version number of the monitoring report</b>	Version 3
<b>Completion date of the monitoring report</b>	03/10/2022

<b>Date of project design certification</b>	VPA 65-70 - 03/02/2017 VPA 119-121 - 04/05/2019 VPA 176-182 - 06/18/2019
<b>Date of Last Annual Report</b>	N/A
<b>Monitoring period number</b>	MP4/MP3 VPA 65 (GS5038) - <b>MP4</b> VPA 66 (GS5039) - <b>MP4</b> VPA 67 (GS5040) - <b>MP4</b> VPA 68 (GS5041) - <b>MP4</b> VPA 69 (GS5042) - <b>MP4</b> VPA 70 (GS5043) - <b>MP4</b> VPA 119 (GS5825) - <b>MP3</b> VPA 120 (GS5826) - <b>MP3</b> VPA 121 (GS5827) - <b>MP3</b> VPA 176 (GS7330) - <b>MP4</b> VPA 177 (GS7331) - <b>MP4</b> VPA 178 (GS7332) - <b>MP4</b> VPA 179 (GS7333) - <b>MP4</b> VPA 180 (GS7334) - <b>MP4</b> VPA 181 (GS7335) - <b>MP4</b> VPA 182 (GS7336) - <b>MP4</b>
<b>Duration of this monitoring period</b>	GS5038 – GS5043 MP4 01/06/2020 – 31/05/2021 GS5825 – GS5827 MP3 01/06/2020 – 31/05/2021 GS7330 – GS7336 MP4 01/06/2020 – 31/05/2021
<b>Project Representative</b>	Chiara Martin
<b>Host Country</b>	State of Eritrea
<b>Activity Requirements applied</b>	<input checked="" type="checkbox"/> Community Services Activities <input type="checkbox"/> Renewable Energy Activities <input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
<b>Methodology (ies) applied and version number</b>	TPDDTEC 1.0
<b>Product Requirements applied</b>	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A

**Table 1 - Sustainable Development Contributions Achieved**

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
SDG3 – Good Health and Well Being	Variation in household smoke (All VPAs)	90% decrease in household smoke (All VPAs)	tCO2e
SDG5 – Gender Equality	Variation of time spent on firewood collection	1.06 hours of time saved by borehole project on average per household per day (All VPAs)	hours
SDG6 – Clean Water and Sanitation	People gain access to safe water	23,067 additional people gain access to safe water  VPA breakdown: GS5038: 1,350 GS5039: 1,350 GS5040: 1,346 GS5041: 1,273 GS5042: 1,250 GS5043: 1,350 GS5825: 1,890 GS5826: 1,620 GS5827: 1,620 GS7330: 1,562 GS7331: 1,256 GS7332: 1,620 GS7333: 1,620 GS7334: 1,350 GS7335: 1,350 GS7336: 1,261	people
SDG13 – Climate Action	Emission Reductions	Total Emission Reductions: 46,502 tCO2e/y  Per VPA: GS5038: 2,573 tCO2e/y GS5039: 2,573 tCO2e/y GS5040: 2,565 tCO2e/y GS5041: 2,427 tCO2e/y GS5042: 2,384 tCO2e/y GS5043: 2,573 tCO2e/y GS5825: 3,603 tCO2e/y GS5826: 3,946 tCO2e/y GS5827: 3,946 tCO2e/y GS7330: 3,789 tCO2e/y	Emission reductions/ carbon saving

		GS7331: 2,397 tCO2e/y GS7332: 3,088 tCO2e/y GS7333: 3,088 tCO2e/y GS7334: 2,573 tCO2e/y GS7335: 2,573 tCO2e/y GS7336: 2,404 tCO2e/y	
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**Table 2 – Product Vintages**

		Amount Achieved
Start Dates	End Dates	VERs
1/06/2020	31/12/2020	GS5038: 1,504 (MP4) GS5039: 1,504 (MP4) GS5040: 1,500 (MP4) GS5041: 1,419 (MP4) GS5042: 1,395 (MP4) GS5043: 1,504 (MP4) GS5825: 2,107 (MP3) GS5826: 1,806 (MP3) GS5827: 1,806 (MP3) GS7330: 1,742 (MP4) GS7331: 1,401 (MP4) GS7332: 1,806 (MP4) GS7333: 1,806 (MP4) GS7334: 1,504 (MP4) GS7335: 1,504 (MP4) GS7336: 1,406 (MP4)
01/01/2021	31/5/2021	GS5038: 1,069 (MP4) GS5039: 1,069 (MP4) GS5040: 1,065 (MP4) GS5041: 1,008 (MP4) GS5042: 989 (MP4) GS5043: 1,069 (MP4) GS5825: 1,496(MP3) GS5826: 2,140 (MP3)

		GS5827: 2,140 (MP3) GS7330: 2,047 (MP3) GS7331: 994 (MP4) GS7332: 1,282 (MP4) GS7333: 1,282 (MP4) GS7334: 1,069 (MP4) GS7335: 1,069 (MP4) GS7336: 998 (MP4)
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## SECTION A. DESCRIPTION OF PROJECT

### A.1. General description of project

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

In Eritrea over 45% of the rural population do not have access to safe water and rely exclusively on unprotected wells, lakes and other open water sources that are highly susceptible to contamination. Annexed from Ethiopia in 1962, the country has experienced periodic conflict and continuing tensions in the region.

Armed conflict, mandatory military service and external migration, takes men away from their villages and means that many rural families are headed by women, often widows. Female headed households in Eritrea face several disadvantages and as a result they cultivate less land and have fewer assets. These women then bear the burden of producing food as well as providing care for their families, including travelling to collect firewood and water.

Many existing boreholes in Eritrea and have fallen into disrepair because maintenance programmes have been poorly managed, or proven too expensive leaving people without access to clean water. CO2balance’s project partner Vita has worked to identify broken down boreholes, renovate them and supply a maintenance programme to ensure that clean, safe water is delivered as a result of this project. The boreholes included under the project are entirely human operated and fitted with hand pump models that are commonly used in the area such as Afridev, U3 Modified and India Mark II pumps.

Zoba Debub is a largely rural district in which many local people typically use wood fuel on inefficient three stone fires to purify their drinking, cleaning and washing water. This process results in the release of greenhouse gas emissions from the combustion of wood which can be avoided if a technology that does not require fuel (wood or fossil) supplies clean water desired by households. By providing safe water this project ensures that households consume less firewood during the process of water purification and therefore reduce greenhouse gas emissions from the combustion process.

In total 87 boreholes were rehabilitated as part of these projects between the 20th October 2016 and 2nd March 2018. The date, location and number of people served by each borehole are given in the table below, which forms the following project database. Please note, the users per borehole have been capped at 300 in line with GS caps, which have been applied within the emission reduction calculations.

VPA ID	GS ID	Borehole ID	Village	Lat	Long	Rehabilitation Date	No People Capped/Uncapped
65	5038	ZD037	Adiembahsea	14.60234	39.39475	20/10/2016	300 (613)
65	5038	ZD050	Adiferas-Maygoduf	14.73116	39.39709	27/10/2016	300 (764)
65	5038	ZD103	Adideraghudi	14.52234	38.80716	27/12/2016	300 (908)
65	5038	ZD114	Adenfi	14.63129	38.79645	29/01/2017	300 (390)
65	5038	ZD138	Adiraghenay	14.52966	38.42865	18/03/2017	300 (388)
66	5039	ZD038	Adighubo	14.58613	39.39523	20/10/2016	300 (685)
66	5039	ZD039	Kesadburka	14.60510	39.37565	21/10/2016	300 (380)
66	5039	ZD040	Adichoka	14.57931	39.38140	21/10/2016	300 (635)
66	5039	ZD045	Adimenekseyto	14.53146	39.48664	24/10/2016	300 (391)
66	5039	ZD101	Endagherghish	14.55700	38.75309	25/12/2016	300 (1123)

67	5040	ZD042	Adimighiderbena	14.60044	39.46406	22/10/2016	295
67	5040	ZD044	Adimesraha	14.61916	39.45731	23/10/2016	300 (748)
67	5040	ZD104	Adiguwur	14.52174	38.78847	27/12/2016	300 (569)
67	5040	ZD105	Adibaresom	14.53625	38.71119	28/12/2016	300 (514)
67	5040	ZD110	Kusmodengolo	14.70787	38.84775	24/01/2017	300 (849)
68	5041	ZD043	Adiqelqelmelasa	14.61063	39.47063	22/10/2016	214
68	5041	ZD049	Adiareghen	14.55251	39.34296	26/10/2016	300 (776)
68	5041	ZD102	Himbar	14.56032	38.75577	25/12/2016	300 (882)
68	5041	ZD111	Adihdug	14.58293	38.85257	25/01/2017	300 (623)
68	5041	ZD120	Adighodo	14.77771	39.12907	18/01/2017	300 (586)
69	5042	ZD046	Adigolo- Imbasoyra	14.72127	39.50390	25/10/2016	271
69	5042	ZD051	Adikaribosa- maygoduf	14.72284	39.40948	27/10/2016	218
69	5042	ZD106	Adiguer	14.55558	38.77398	28/12/2016	300 (511)
69	5042	ZD145	Mekabirtsabla	14.53337	38.50480	22/03/2017	300 (1065)
69	5042	ZD148	Adihawya	14.55404	38.54628	23/03/2017	300 (1301)
70	5043	ZD041	Dibdib	14.63570	39.41110	21/10/2016	300 (648)
70	5043	ZD048	Ambesetegheleb a	14.52690	39.36560	26/10/2016	300 (489)
70	5043	ZD109	Adishertai	14.56879	38.67112	04/01/2017	300 (522)
70	5043	ZD123	Haddishadihalai	15.01517	39.30918	27/02/2017	300 (609)
70	5043	ZD151	Adishimandit	14.53306	38.55421	24/03/2017	300 (502)
119	5825	ZD162	Adisemharo	14.86439	38.54125	07/05/2017	300 (615)
119	5825	ZD165	Adibelesey	15.02274	38.57111	10/05/2017	300 (765)
119	5825	ZD178	Adilalayadi	14.86234	38.65809	16/05/2017	300 (610)
119	5825	ZD183	Maihans	14.63533	38.79704	10/12/2017	300 (318)
119	5825	ZD191	Adiasmeru	14.97780	38.58642	29/12/2017	300 (391)
119	5825	ZD199	Adiembahagoda	14.54391	39.44573	27/01/2018	300 (312)
119	5825	ZD204	Embamedhan	14.55520	39.37903	31/01/2018	300 (430)
120	5826	ZD158	Adinefas	14.86579	38.42416	04/05/2017	300 (599)
120	5826	ZD167	Aditsetserat	15.02267	38.57102	11/05/2017	300 (659)
120	5826	ZD180	Areza	14.92754	38.56274	17/05/2017	300 (714)
120	5826	ZD189	Dekiwerasi	14.94946	38.61462	27/12/2017	300 (428)
120	5826	ZD190	Adiwesek	14.81237	38.41819	28/12/2017	300 (432)
120	5826	ZD207	Adinedwe	14.56684	39.47941	11/02/2018	300 (411)
121	5827	ZD157	Adinefas-Maiaye	14.866 80	38.40997	04/05/2017	300 (414)

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121	5827	ZD164	Adimomosh-sebea	15.00224	38.57816	09/05/2017	300 (708)
121	5827	ZD176	Adikushet	14.94407	38.66774	15/05/2017	300 (893)
121	5827	ZD192	Adighurdi	14.93222	38.58708	31/12/2017	300 (319)
121	5827	ZD201	Adiembakom	14.53887	39.43643	28/01/2018	300
121	5827	ZD211	Damba	14.61719	39.37820	02/03/2018	300 (1106)
176	7330	ZD052	Saloda	14.64671	39.46481	28/10/2016	300 (472)
176	7330	ZD112	Betghebriel	14.61149	38.87411	26/01/2017	300 (693)
176	7330	ZD127	Dekilefey	14.75073	39.2851	19/02/2017	300 (878)
176	7330	ZD129	Arazn	14.63906	39.25501	22/02/2017	300 (830)
176	7330	ZD135	Adikolakul	14.54717	38.49318	16/03/2017	235
176	7330	ZD140	Maighorzo 1	14.51071	38.42885	19/03/2017	300 (1203)
177	7331	ZD108	Kuhulizbi	14.51105	38.63651	03/01/2017	300 (1015)
177	7331	ZD119	Adimesghan	14.77644	39.15696	18/01/2017	196
177	7331	ZD139	Adihans	14.53787	38.45353	19/03/2017	300 (1360)
177	7331	ZD142	Adihidug	14.54723	38.51401	20/03/2017	300 (510)
177	7331	ZD152	Aditsekemete	14.52733	38.55903	25/03/2017	300 (1190)
178	7332	ZD115	Dembesilase	14.63725	38.81214	30/01/2017	300 (988)
178	7332	ZD117	Adighad 2	14.79131	39.17464	17/01/2017	300 (467)
178	7332	ZD118	Adighad 1	14.79244	39.17344	17/01/2017	300 (491)
178	7332	ZD132	Aditelae	14.75135	39.18513	24/02/2017	300 (864)
178	7332	ZD137	Adiserenta	14.54437	38.49462	17/03/2017	300 (474)
178	7332	ZD146	Meztaeshenfae	14.52633	38.49049	22/03/2017	300 (611)
179	7333	ZD121	Adizebe	14.75382	39.13788	26/02/2017	300 (309)
179	7333	ZD122	Adihabenat	14.79504	39.08945	27/02/2017	300 (711)
179	7333	ZD130	Wulusho 1	14.63958	39.23034	23/02/2017	300 (808)
179	7333	ZD134	Adimesihal	14.61430	39.37714	06/03/2017	300 (797)
179	7333	ZD136	Endabaynas	14.54377	38.4754	17/03/2017	300 (597)
179	7333	ZD147	Adimerobi	14.57015	38.54163	23/03/2017	300 (898)
180	7334	ZD116	Adilghese	14.67419	38.84986	31/01/2017	300 (838)
180	7334	ZD125	Maichena	14.56999	39.2709	15/02/2017	300 (913)
180	7334	ZD128	Chearegahit	14.77176	39.22009	20/02/2017	300 (497)
180	7334	ZD131	Wulusho 2	14.63845	39.23017	23/02/2017	300 (1006)
180	7334	ZD150	Gezaterer	14.53168	38.55079	24/03/2017	300 (1009)
181	7335	ZD047	Adimelhidaga	14.72299	39.47275	25/10/2016	300 (811)
181	7335	ZD113	Unagaaben	14.63448	38.86509	27/01/2017	300 (824)
181	7335	ZD124	Ghenetseba	14.83629	39.08263	28/02/2017	300 (722)
181	7335	ZD143	Aditsetser	14.55885	38.51297	21/03/2017	300 (1341)
181	7335	ZD144	Adiamine	14.54193	38.51299	22/03/2017	300 (445)

182	7336	ZD107	Adiburkut	14.51480	38.68100	29/12/2016	300 (1120)
182	7336	ZD126	Adiflho	14.75765	039.29788	18/02/2017	300 (928)
182	7336	ZD133	Unawelesti	14.50053	39.279	25/02/2017	201
182	7336	ZD141	Maighorzo 2	14.51118	38.42827	20/03/2017	300 (1298)
182	7336	ZD149	Adinaamn	14.53102	38.55626	23/03/2017	300 (1116)

The date of rehabilitation was confirmed by a Repair Confirmation Form which was signed by the mechanic carrying out the repair along with a village administrator from the local community. The date of rehabilitation was used as the start date of operation and crediting for each borehole; we have conservatively assumed that the first day of crediting is not counted.

The number of days each borehole credited for in this monitoring period was multiplied by the number of people using the borehole to give the total number of project technology days for that borehole. The individual project technology days for each borehole were totaled to give the total number of project technology days for this monitoring period.

## A.2. Location of project

Below is the geographic reference to allow unique identification of the project boundary for the project. The district Zoba Dehub, Eritrea is marked in green on the Google Earth images. The target area and the fuel collection area are defined as being contained within project boundary, with the outer limits of the project boundary being clearly defined below in green on the Google Earth images. 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.



Project Area Coordinates		
	Latitude	Longitude
GPS1	14.674048°	38.262243°
GPS2	14.912112°	38.222587°
GPS3	15.196781°	38.392505°
GPS4	15.270219°	39.083873°
GPS5	14.841412°	39.670669°
GPS6	14.404751°	39.282490°

**A.3. Reference of applied methodology**

This project utilises the Gold Standard Methodology ‘Technologies and Practices to Displace Decentralized Thermal Energy Consumption V.01’.

**A.4. Crediting period of project**

The date of rehabilitation was used as the start date of operation. It was conservatively assumed that the first day of crediting is not counted and the crediting period begins the following day after the borehole is rehabilitated. The length of the first crediting period is to be 7 years, twice renewable, totaling 21 years.

Please find the start dates for the projects below (crediting period begins following day):

Project GS ID	Start Date	Crediting period start date	Crediting period end date
5038	20/10/2016	21/10/2016	20/10/2023
5039	20/10/2016	21/10/2016	20/10/2023
5040	22/10/2016	23/10/2016	22/10/2023
5041	22/10/2016	23/10/2016	22/10/2023
5042	25/10/2016	26/10/2016	25/10/2023
5043	21/10/2016	22/10/2016	21/10/2023
5825	07/05/2017	08/05/2017	07/05/2024
5826	04/05/2017	05/05/2017	04/05/2024
5827	04/05/2017	05/05/2017	04/05/2024
7330	28/10/2016	29/10/2016	28/10/2023
7331	03/01/2017	04/01/2017	03/01/2024
7332	17/01/2017	18/01/2017	17/01/2024
7333	23/02/2017	24/02/2017	23/02/2024
7334	31/01/2017	01/02/2017	31/01/2024
7335	25/10/2016	26/10/2016	25/10/2023
7336	29/12/2016	30/12/2016	29/12/2023

## SECTION B. IMPLEMENTATION OF PROJECT

### B.1. Description of implemented project

Vita has rehabilitated 87 boreholes as part of these projects and all water points under the VPAs are in good working order and have been crediting since the beginning of their crediting period. All boreholes undergo annual water quality testing to ensure the water is safe for human consumption as per national water standards. The water quality is approved by the Ministry of Land, Water and Environment in Zoba Debub.

Furthermore, grievance expression process books placed at all water points have not received any feedback and Vita field staff have not received any feedback during this monitoring period from the borehole users on damage or breaking of boreholes therefore it can be assumed that the project is running as planned.

#### B.1.1 Forward Action Requests

**Forward Action Request # 1:** PD to update their usage survey format to capture seasonality and supply a copy for SustainCERT approval prior to conducting the study.

**PP response:** Annual monitoring for these VPAs was conducted in July 2020, before confirmation of the BAMG changes and updated requirement to capture seasonality within the annual surveys. As such, to ensure the usage rate is conservative in light of this, PP has imposed a 90% cap on the usage rate. The next usage survey conducted will use the most up to date version adapted to capture seasonality in line with the requirements.

**Forward Action Request # 2:** PD to provide full transparency on maintenance programme roles and responsibilities. This should include: the process of recording and reporting all faults/breakdowns and when a borehole starts working again. It should also include a summary of all planned annual maintenance tasks and the downtime expected.

**PP response:** Maintenance program has been submitted.

**Forward Action Request # 3:** Future monitoring reports must have % total borehole downtime (and days) recorded transparently in Project Technology Days parameter box for each VPA.

**PP response:** PP has included accordingly.

**Forward Action Request # 4:** A site visit must take place at the next verification.

**PP response:** The site visit took place in April 2022.

## B.2. Post-Design Certification changes

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

N/A

B.2.2. Corrections

[https://globalgoals.goldstandard.org/standards/RU\\_2021\\_Application-of-TPDDTEC-methodology-to-Safe-water-supply-projects.pdf](https://globalgoals.goldstandard.org/standards/RU_2021_Application-of-TPDDTEC-methodology-to-Safe-water-supply-projects.pdf)

The Baseline Water Boiling Test (BWBT) is now quantified by a capped value imposed following the GS BAMG Report. This is now capped at 0.4kg.

300 cap on users per boreholes included within these VPAs.

Functionality cap imposed relating to the amount of functionality evidence provided:

- 95% if sufficient evidence provided
- 75% if insufficient evidence provided

90% cap imposed on usage rate for this monitoring report.

Update on the fixed default emissions factor  $EF_{p,non\ co2}$  in line with the updated AR5 – ([https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf)). The new value applied is 9.46. Details of the updated calculation can be found in section D.1, in the specific parameter box.

Relevant SDG Indicator	SDG 13.B.1 (Climate Action)
Data/parameter:	$EF_{p,non\ co2}$
Unit	tCO <sub>2</sub> e/TJ
Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in baseline scenario
Source of data	Default emissions factor: <a href="https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf</a>  <ol style="list-style-type: none"> <li>1. <a href="https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf">https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf</a></li> <li>2.</li> </ol>

	Global Warming Potential: <a href="http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14">http://www.ipcc.ch/publications and data/ar4/wg1/en/ch2s2-10-2.html#table-2-14</a>				
Value(s) applied)	9.46 for calculations concerning the 2021 period				
Choice of data or measurement methods and procedures	Deemed valid by Methodology				
		Default Emissions factor (kg_gas/TJ <sub>NCV</sub> )	GWP of gas	Default Emissions factor (kg_CO <sub>2</sub> e/TJ <sub>NCV</sub> )	Default Emissions factor (t_CO <sub>2</sub> e/TJ <sub>NCV</sub> )
	Gas				
	CH <sub>4</sub>	300	28	8400	8.4000
	N <sub>2</sub> O	4	265	1,060	1.060
			<b>Total</b>	<b>9.46</b>	
Purpose of data	Calculation of emission reductions.				
Additional comments	This value corresponds with updated AR5 GWP value.				
	AR5 - <a href="https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf">https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf</a>				

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)				
<b>Data/parameter:</b>	EF <sub>p,non-co2</sub>				
Unit	tCO <sub>2</sub> e/TJ				
Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in baseline scenario				
Source of data	Default emissions factor: <a href="https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf</a>				
	2. <a href="https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf">https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf</a>				
	3. Global Warming Potential: <a href="http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14">http://www.ipcc.ch/publications and data/ar4/wg1/en/ch2s2-10-2.html#table-2-14</a>				
Value(s) applied)	9.46 for calculations concerning the 2021 period				
Choice of data or measurement methods and procedures	Deemed valid by Methodology				
		Default Emissions factor (kg_gas/TJ <sub>NCV</sub> )	GWP of gas	Default Emissions factor (kg_CO <sub>2</sub> e/TJ <sub>NCV</sub> )	Default Emissions factor (t_CO <sub>2</sub> e/TJ <sub>NCV</sub> )
	Gas				
	CH <sub>4</sub>	300	28	8400	8.4000
	N <sub>2</sub> O	4	265	1,060	1.060
			<b>Total</b>	<b>9.46</b>	

Purpose of data	Calculation of emission reductions.
Additional comments	This value corresponds with updated AR5 GWP value. AR5 - <a href="https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf">https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf</a>

B.2.3. Changes to start date of crediting period

N/A

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

There was a Design Change in February 2019 to apply a new bWBT parameter and with the aim of rebundling VPAs with different start dates.

B.2.5. Changes to project design of approved project

None that took place during this monitoring period.

## SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

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

The results of the surveys are collated in excel spreadsheets and stored on a central server in an electronic format then is sent to the UK head office for data analysis. The documentation procedure ensures a minimum chance of original data being lost – all original copies of our project documentation are retained in the Eritrean office and are available scanned upon request of the UK team.

In accordance with the Gold Standard methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption, the survey samples are randomly selected from the borehole user record and are determined in accordance with the required confidence/precision. The size of the sample is dependent on the methodological requirements and variance of the parameter being monitored to ensure the parameters measured satisfy 90/30 precision (90% confidence interval and 30% margin of error). The sample is reselected for every monitoring period to ensure the selection remains random.

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

### **Borehole database**

The borehole installation/rehabilitation record includes the following information:

- Date of installation/rehabilitation
- Quantity of boreholes installed
- The total number of people obtaining their water from each borehole

The total number of households using each borehole has been determined through the lists supplied by the community group and or district water officer responsible for that borehole. Using this method, the total number of people using each borehole has been determined and hence a figure for person days can be calculated. In line with the BAMG changes, the users per borehole are now capped to 300. Only 300 people per borehole are counted in the emission reduction calculations.

### **Ongoing Monitoring Studies**

The following ongoing monitoring studies were conducted; the results are given in the parameter boxes tables in Section 6.

- **Water consumption field test** (Equation parameters  $Q_{p,y}$  and  $Q_{p,rawboil,y}$ ) - Completed prior to first verification and then biennially after first verification
- **Quality of the treated water** - The quality of the treated water will be assessed to ensure that it is fit for human consumption. As Eritrea does not have national standards for water quality the project applies the WHO standards (Guidelines for drinking-water quality: fourth edition incorporating the first addendum. Geneva: World Health Organization; 2017). All parameters will be shown to be within levels considered acceptable for domestic human consumption.

- **Usage Survey** - boreholes have been installed between 20/10/2016 – 02/03/2018 and are expected to last the lifetime of the project, minimum samples of 30 for different aged technologies will be applied. Overall the annual usage survey will be conducted using a minimum sample size of 100. The results from the usage survey are used to determine the proportion of beneficiaries that use the borehole which is factored into the emission reduction calculations.
- **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. Data collected during the project surveys explores the following characteristics:
  - General information - Name, address, telephone number etc.
  - Household socio-demographic information.
  - Water use and purification characteristics.
  - Sources and availability of fuel.
- **Leakage Assessment** - The PDD has described which sources of leakage detailed within the methodology are relevant to this project and which have been discounted.

The potential sources of leakage listed in the methodology have been investigated, and addressed below:

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

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

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

There is no evidence to suggest significant (if any) use of renewable energy for purifying water in the project region as found in the Baseline Water Surveys. As solar purification devices are not used, renewable energy used for purifying water would likely be animal dung or crop residues which will be used due to ease of availability/proximity to the home rather than due to a shortage of wood fuel, therefore it is an independent factor. This leakage source can therefore be discounted.

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

As the majority of participants collect wood from within the project boundary, it is not expected that the NRB in other areas will be affected.

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

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

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

This project is not marketing efficient technology; it is eliminating the need for a fuel based technology to deliver pure water. Lower emission technology substitution within households is therefore not possible and this leakage source can therefore be discounted.  
Therefore, a value of 0 is applied for leakage.

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

**Cross Sampling**

The project proponent has elected to cross-sample technologies across all its homogenous borehole VPAs located within Zoba Debub (GS 5038-43; 5825-27; 7330-36). The samples for the survey listed below are randomly selected from the borehole information databases using the RSG procedure previously explained in line with the minimum sample size requirements as defined by the methodology. Cross sampling will be applied to the following surveys;

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

**SECTION D. DATA AND PARAMETERS**

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

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action), SDG 6.1.1 (Safe Water and Sanitation)
<b>Data/parameter:</b>	$C_j$
<b>Unit</b>	Percentage
<b>Description</b>	Portion of users of project safe water supply who were already in baseline using a non-boiling safe water supply.
<b>Source of data</b>	Baseline study.
<b>Value(s) applied)</b>	0.00%
<b>Choice of data or measurement methods and procedures</b>	The portion of safe water users is determined though the baseline project survey and refers to the number of users that already use safe water from water sources such as boreholes. Deemed valid by Methodology.
<b>Purpose of data</b>	Calculation of emission reductions
<b>Additional comments</b>	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	$EF_{b,co2}$
<b>Unit</b>	tco <sub>2</sub> /TJ
<b>Description</b>	co <sub>2</sub> emission factor arising from use of fuels in baseline scenario
<b>Source of data</b>	IPCC default value
<b>Value(s) applied)</b>	112
<b>Choice of data or measurement methods and procedures</b>	Deemed valid by Methodology.
<b>Purpose of data</b>	Calculation of baseline emissions.
<b>Additional comments</b>	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)				
<b>Data/parameter:</b>	EF <sub>b,non co2</sub>				
Unit	tCO <sub>2</sub> e/TJ				
Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in baseline scenario				
Source of data	IPCC Default emissions factor				
Value(s) applied)	8.692 for calculations up until 2020				
Choice of data or measurement methods and procedures	Deemed valid by Methodology				
		Default Emissions factor (kg_gas/TJ <sub>NCV</sub> )	GWP of gas	Default Emissions factor (kg_CO <sub>2</sub> e/TJ <sub>NCV</sub> )	Default Emissions factor (t_CO <sub>2</sub> e/TJ <sub>NCV</sub> )
	Gas				
	CH <sub>4</sub>	300	25	7,500	7.5000
	N <sub>2</sub> O	4	298	1,192	1.1920
			<b>Total</b>	<b>8.692</b>	
Purpose of data	Calculation of emission reductions.				
Additional comments	-				

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)				
<b>Data/parameter:</b>	EF <sub>b,non co2</sub>				
Unit	tCO <sub>2</sub> e/TJ				
Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in baseline scenario				
Source of data	Default emissions factor: <a href="https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf</a>  3. <a href="https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf">https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf</a> 4. Global Warming Potential: <a href="http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14">http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14</a>				
Value(s) applied)	9.46 for calculations concerning the 2021 period				
Choice of data or measurement methods and procedures	Deemed valid by Methodology				
		Default Emissions factor (kg_gas/TJ <sub>NCV</sub> )	GWP of gas	Default Emissions factor (kg_CO <sub>2</sub> e/TJ <sub>NCV</sub> )	Default Emissions factor (t_CO <sub>2</sub> e/TJ <sub>NCV</sub> )
	Gas				
	CH <sub>4</sub>	300	28	8400	8.4000
	N <sub>2</sub> O	4	265	1,060	1.060
			<b>Total</b>	<b>9.46</b>	
Purpose of data	Calculation of emission reductions.				
Additional comments	This value corresponds with updated AR5 GWP value.				

	AR5 - <a href="https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf">https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf</a>
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<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	EF <sub>p,co2</sub>
Unit	tCO <sub>2</sub> /TJ
Description	CO <sub>2</sub> emission factor arising from use of wood fuel in project scenario
Source of data	Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5
Value(s) applied)	112
Choice of data or measurement methods and procedures	Deemed valid by Methodology.
Purpose of data	Calculation of emission reductions.
Additional comments	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)																									
<b>Data/parameter:</b>	EF <sub>p,non co2</sub>																									
Unit	tCO <sub>2</sub> e/TJ																									
Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in project scenario																									
Source of data	IPCC Default emissions factor																									
Value(s) applied)	8.692 for calculations up until 2020																									
Choice of data or measurement methods and procedures	Deemed valid by Methodology																									
	<table border="1"> <thead> <tr> <th></th> <th>Default Emissions factor (kg<sub>gas</sub>/TJ<sub>NCV</sub>)</th> <th>GWP of gas</th> <th>Default Emissions factor (kg<sub>CO<sub>2</sub>e</sub>/TJ<sub>NCV</sub>)</th> <th>Default Emissions factor (t<sub>CO<sub>2</sub>e</sub>/TJ<sub>NCV</sub>)</th> </tr> </thead> <tbody> <tr> <td>Gas</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CH<sub>4</sub></td> <td>300</td> <td>25</td> <td>7,500</td> <td>7.5000</td> </tr> <tr> <td>N<sub>2</sub>O</td> <td>4</td> <td>298</td> <td>1,192</td> <td>1.1920</td> </tr> <tr> <td></td> <td></td> <td></td> <td><b>Total</b></td> <td><b>8.692</b></td> </tr> </tbody> </table>		Default Emissions factor (kg <sub>gas</sub> /TJ <sub>NCV</sub> )	GWP of gas	Default Emissions factor (kg <sub>CO<sub>2</sub>e</sub> /TJ <sub>NCV</sub> )	Default Emissions factor (t <sub>CO<sub>2</sub>e</sub> /TJ <sub>NCV</sub> )	Gas					CH <sub>4</sub>	300	25	7,500	7.5000	N <sub>2</sub> O	4	298	1,192	1.1920				<b>Total</b>	<b>8.692</b>
	Default Emissions factor (kg <sub>gas</sub> /TJ <sub>NCV</sub> )	GWP of gas	Default Emissions factor (kg <sub>CO<sub>2</sub>e</sub> /TJ <sub>NCV</sub> )	Default Emissions factor (t <sub>CO<sub>2</sub>e</sub> /TJ <sub>NCV</sub> )																						
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Purpose of data	Calculation of emission reductions.																									
Additional comments	-																									

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	EF <sub>p,non co2</sub>
Unit	tCO <sub>2</sub> e/TJ
Description	Non-CO <sub>2</sub> (CH <sub>4</sub> and N <sub>2</sub> O) emission factor arising from use of wood fuel in baseline scenario
Source of data	Default emissions factor: <a href="https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf</a>  4. <a href="https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf">https://ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf</a> 5. Global Warming Potential: <a href="http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14">http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14</a>

Value(s) applied)	9.46 for calculations concerning the 2021 period				
Choice of data or measurement methods and procedures	Deemed valid by Methodology				
		Default Emissions factor	GWP of gas	Default Emissions factor	Default Emissions factor
	Gas	(kg_gas/TJ <sub>NCV</sub> )		(kg_CO <sub>2</sub> e/TJ <sub>NCV</sub> )	(t_CO <sub>2</sub> e/TJ <sub>NCV</sub> )
	CH <sub>4</sub>	300	28	8400	8.4000
	N <sub>2</sub> O	4	265	1,060	1.060
			<b>Total</b>	<b>9.46</b>	
Purpose of data	Calculation of emission reductions.				
Additional comments	This value corresponds with updated AR5 GWP value.				
	AR5 - <a href="https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf">https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf</a>				

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	NCV <sub>b</sub>
Unit	TJ/ton
Description	Net calorific value of the wood fuel used in the baseline
Source of data	IPCC Default emissions factor
Value(s) applied)	0.0156
Choice of data or measurement methods and procedures	Deemed valid by Methodology.
Purpose of data	Calculation of emission reductions.
Additional comments	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	NCV <sub>p</sub>
Unit	TJ/ton
Description	Net calorific value of the wood fuel used in the project
Source of data	IPCC Default emissions factor
Value(s) applied)	0.0156
Choice of data or measurement methods and procedures	Deemed valid by Methodology.
Purpose of data	Calculation of emission reductions.
Additional comments	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	fNRB <sub>i,y</sub>
Unit	Fractional non-renewability
Description	Non-renewability status of woody biomass fuel in scenario i during year y
Source of data	CDM Default stated in following document: <a href="https://cdm.unfccc.int/Panels/ssc_wg/meetings/035/ssc_035_an20.pdf">https://cdm.unfccc.int/Panels/ssc_wg/meetings/035/ssc_035_an20.pdf</a>
Value(s) applied)	0.97

Choice of data or measurement methods and procedures	Default values of fraction of non-renewable biomass as outlined by the UNFCCC CDM.
Purpose of data	Calculation of emission reductions.
Additional comments	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action), SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	$W_{b,y}$
Unit	T/litre
Description	Quantity of wood fuel that is used to treat 1 litre of water in the baseline scenario b during year y
Source of data	Baseline Water Boiling Test
Value(s) applied)	Default 0.0004 (baseline WBT 0.0008892)
Choice of data or measurement methods and procedures	The baseline water boiling test is used to determine the amount of wood used to purify 1 litre of water by boiling. This data is gathered according to: <i>Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1, Draft General Guidelines On Sampling And Surveys</i> ; EB37 Annex 27; and <i>Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities (Version 02)</i> ; EB65 Annex 2
Purpose of data	Calculation of emission reductions.
Additional comments	Capped in line with GS BAMG report outcomes.

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	$W_{p,y}$
Unit	T/litre
Description	Quantity of wood fuel that is used to treat 1 litre of water in the project scenario p during year y
Source of data	Baseline Water Boiling Test
Value(s) applied)	Default 0.0004 (baseline WBT 0.0008892)
Choice of data or measurement methods and procedures	The baseline water boiling test is used to determine the amount of wood used to purify 1 litre of water by boiling. This data is gathered according to: <i>Technologies and Practices to Displace Decentralized Thermal Energy Consumption Version 1, Draft General Guidelines On Sampling And Surveys</i> ; EB37 Annex 27; and <i>Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities (Version 02)</i> ; EB65 Annex 2
Purpose of data	Calculation of emission reductions.
Additional comments	Capped in line with GS BAMG report outcomes.

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	Xboil Non Suppressed Demand
Unit	Percentage
Description	Percentage of premises that in the absence of the project activity would have used non-GHG emitting technologies like chlorine treatment techniques (if available) in the project boundary.
Source of data	Baseline study. Credible literature, studies, survey, reports, relevant to the project target area
Value(s) applied)	0%
Choice of data	Suppressed demand will be determined through a set of questions in the project survey that establish the method households use to purify their

or measurement methods and procedures	water, if any, and how they would choose to purify if they were not subject to monetary and access barriers. This is in line with the Gold Standard principles of suppressed demand outline in annex 2. A fixed suppressed demand baseline has been opted for, however, in the event the project surveys show a substantial change in fuel use characteristics, a new baseline shall be conducted.
Purpose of data	Calculation of emission reductions.
Additional comments	-

<b>Relevant SDG Indicator</b>	SDG 5.4.1 (Gender Equality)
<b>Data/parameter:</b>	$T_{b,y}$
Unit	Hours
Description	Time saved by borehole project on average per household per day prior to project (hours)
Source of data	Baseline survey
Value(s) applied)	0
Choice of data or measurement methods and procedures	Measured by question in the baseline survey.
Purpose of data	Calculating time saving by the project.
Additional comments	-

<b>Relevant SDG Indicator</b>	SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	$P_{b,y}$
Unit	Kg/household
Description	Quantity of fuel that is consumed in the baseline scenario b during year y (kg/household-day)
Source of data	Baseline Survey
Value(s) applied)	6.669
Choice of data or measurement methods and procedures	Baseline Water Boiling Test Result.
Purpose of data	Calculating quantity of fuel used in the baseline scenario.
Additional comments	-

## D.2 Data and parameters monitored

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action), SDG 6.1.1 (Safe Water and Sanitation)
<b>Data/parameter:</b>	$N_{p,y}$
Unit	Project Technology Days
Description	Number of persons consuming water supplied by project scenario p through year y
Measured/calculated/default	Measured
Source of data	Borehole Project Database
Value(s) of monitored parameter	GS5038: 520,125 (downtime: 0%, 0 days) GS5039: 520,125 (downtime: 0%, 0 days) GS5040: 518,391 (downtime: 0%, 0 days)

	GS5041: 490,305 (downtime: 0.22%, 4 days) GS5042: 481,636 (downtime: 0%, 0 days) GS5043: 520,125 (downtime: 0%, 0 days) GS5825: 728,175 (downtime: 0%, 0 days) GS5826: 796,290 (downtime: 0.18%, 4 days) GS5827: 796,290 (downtime: 0%, 0 days) GS7330: 764,427 (downtime: 0%, 0 days) GS7331: 484,063 (downtime: 0%, 0 days) GS7332: 624,150 (downtime: 0%, 0 days) GS7333: 624,150 (downtime: 0%, 0 days) GS7334: 520,125 (downtime: 0%, 0 days) GS7335: 520,125 (downtime: 0%, 0 days) GS7336: 485,797 (downtime: 0%, 0 days)
Monitoring equipment	Project Database
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Sum of the total number of people using each borehole in the project multiplied by the number of days crediting each borehole earns in a given monitoring period.
QA/QC procedures:	N/A
Purpose of data:	Calculation of emission reductions.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action), SDG 6.1.1 (Safe Water and Sanitation), SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	$U_{p,y}$
Unit	Percentage
Description	Usage rate in project scenario p through year y
Measured/calculated/default	Calculated
Source of data	Usage Survey
Value(s) of monitored parameter	90% capped (reported usage rate was 100%)
Monitoring equipment	Usage Survey
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	The usage survey has been carried out by trained local staff to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd. The Usage Rate is capped at 90% for conservativeness.
QA/QC procedures:	N/A
Purpose of data:	Calculation of usage.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action), SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	$Q_{p,y}$
Unit	Litres per person per day
Description	Quantity of safe water supplied in the project scenario p during the year y using the zero or low emissions clean water supply technology
Measured/calculated/default	Measured
Source of data	Water Consumption Field Test (WCFT)

Value(s) of monitored parameter	capped at 7.5(10.07 as calculated in WCFT))
Monitoring equipment	WCFT Survey
Measuring/reading/recording frequency:	Biennial
Calculation method (if applicable):	Method used similar to Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days. Volume is capped at 7.5 litres per person per day as per the methodology. The WCFT will be carried out by trained local staff to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd. Last survey took place between 01/07/2020 – 13/07/2020.
QA/QC procedures:	N/A
Purpose of data:	Calculation of emission reductions.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action), SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	$Q_{p, \text{cleanboil}, y}$
Unit	Litres per person per day
Description	Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology
Measured/calculated/default	Measured
Source of data	Water Consumption Field Test (WCFT)
Value(s) of monitored parameter	0
Monitoring equipment	WCFT Survey
Measuring/reading/recording frequency:	Biennial
Calculation method (if applicable):	Method used similar to Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days. The WCFT has been carried out by trained local staff to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.
QA/QC procedures:	N/A
Purpose of data:	Calculation of emission reductions.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	$Q_{p, \text{rawboil}, y}$
Unit	Litres per person per day
Description	The raw of unsafe water that is still boiled after installation of the water treatment technology
Measured/calculated/default	Measured
Source of data	Water Consumption Field Test (WCFT)
Value(s) of monitored parameter	0
Monitoring equipment	WCFT Survey
Measuring/reading/recording frequency:	Biennial
Calculation method (if applicable):	Method used similar to Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days. The WCFT has

	been carried out by trained local staff to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.
QA/QC procedures:	N/A
Purpose of data:	Calculation of emission reductions.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 6.1.1 (Safe Water and Sanitation)
<b>Data/parameter:</b>	Quality of Treated Water
Unit	Parameters as per national standards
Description	Performance of the treatment technology
Measured/calculated/default	Measured
Source of data	Laboratory Tests
Value(s) of monitored parameter	Pass
Monitoring equipment	Laboratory equipment
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	The Water Resource Department from the Ministry of Land, Water & Environment has certified each water supply as in line with national standards.
QA/QC procedures:	N/A
Purpose of data:	To test water quality for safety of human consumption.
Additional comments:	The lab carrying out the WQT is part of the WRD (Water Resources Department) of the Ministry of Land, Water and Environment which is a certified government laboratory.

<b>Relevant SDG Indicator</b>	SDG 13.B.1 (Climate Action)
<b>Data/parameter:</b>	LE <sub>p,y</sub>
Unit	tCO2e per year
Description	Leakage in project scenario p during year y
Measured/calculated/default	Calculated
Source of data	Baseline and Monitoring surveys
Value(s) of monitored parameter	0
Monitoring equipment	Desk based research
Measuring/reading/recording frequency:	Biennial
Calculation method (if applicable):	Assessed every two years using baseline and monitoring surveys.
QA/QC procedures:	N/A
Purpose of data:	Calculation of leakage.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 5.4.1 (Gender Equality)
<b>Data/parameter:</b>	T <sub>p,y</sub>
Unit	hours
Description	Project time saved by borehole project on average per household per day (hours)
Measured/calculated/default	Measured
Source of data	Project Survey

Value(s) of monitored parameter	1.06 (64 minutes)
Monitoring equipment	Project Survey
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Assessed every year using Project Survey Question 32
QA/QC procedures:	N/A
Purpose of data:	Calculation of SDG 5.
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 5.4.1 (Gender Equality)
<b>Data/parameter:</b>	TR <sub>y</sub>
Unit	hours
Description	Total time saved by borehole project on average per household per day for project activity in year y (hours)
Measured/calculated/default	Calculated
Source of data	Project Survey and baseline survey
Value(s) of monitored parameter	1.06 (64 minutes)
Monitoring equipment	Project Survey
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Assessed every year using Project Survey Question 32
QA/QC procedures:	N/A
Purpose of data:	Calculation of SDG 5
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	HARP <sub>y</sub>
Unit	percentage
Description	Total reduction in Household Air Pollution for project activity in year y (%)
Measured/calculated/default	Calculated
Source of data	Project Survey and baseline survey
Value(s) of monitored parameter	90%
Monitoring equipment	Project Survey
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Assessed every year using Project Survey
QA/QC procedures:	N/A
Purpose of data:	Calculation of SDG 3
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 3.9.1 (Good Health and Well-Being)
<b>Data/parameter:</b>	Pp <sub>y</sub>
Unit	Kg/household

Description	Quantity of fuel that is consumed in the project scenario p during year y (kg/household-day)
Measured/calculated/default	Measured
Source of data	Baseline and Project Surveys
Value(s) of monitored parameter	0
Monitoring equipment	Baseline Water Boiling Test
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Assessed every year using usage survey determining the number of people boiling water in the project scenario.
QA/QC procedures:	N/A
Purpose of data:	Calculation of SDG 3
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 6.1.1 (Clean Water and Sanitation)
<b>Data/parameter:</b>	P <sub>access</sub>
Unit	Number of people
Description	Number of additional persons having access to safe water in the project activity compared to the baseline scenario
Measured/calculated/default	Calculated
Source of data	Project Survey and baseline survey
Value(s) of monitored parameter	23,067 additional people gain access to safe water GS5038: 1,350 GS5039: 1,350 GS5040: 1,346 GS5041: 1,273 GS5042: 1,250 GS5043: 1,350 GS5825: 1,890 GS5826: 1,620 GS5827: 1,620 GS7330: 1,562 GS7331: 1,256 GS7332: 1,620 GS7333: 1,620 GS7334: 1,350 GS7335: 1,350 GS7336: 1,261
Monitoring equipment	Project Survey, Usage Survey and Household list
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Assessed every year using Project Survey, Usage Survey and Household list
QA/QC procedures:	N/A
Purpose of data:	Calculation of SDG 6
Additional comments:	-

<b>Relevant SDG Indicator</b>	SDG 6.1.1 (Clean Water and Sanitation)
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<b>Data/parameter:</b>	P,y
Unit	Number of people
Description	Number of persons having access to safe water in the project activity
Measured/calculated/default	Measured
Source of data	Usage Survey and Household list
Value(s) of monitored parameter	GS5038: 1500 (3063) GS5039: 1500 (3214) GS5040: 1495 (2975) GS5041: 1414 (3081) GS5042: 1389 (3366) GS5043: 1500 (2770) GS5825: 2100 (3441) GS5826: 1800 (3243) GS5827: 1800 (3740) GS7330: 1735 (4311) GS7331: 1396 (4271) GS7332: 1800 (3895) GS7333: 1800 (4120) GS7334: 1500 (4263) GS7335: 1500 (4143) GS7336: 1401 (4663)
Monitoring equipment	Usage Survey and Household list
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Assessed every year using Project Survey, Usage Survey and Household list
QA/QC procedures:	N/A
Purpose of data:	Calculation of SDG 6
Additional comments:	-

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

Data/Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
N <sub>p,y</sub>	GS5038: 520,125	GS5038: 1,121,058
	GS5039: 520,125	GS5039: 1,176,324
	GS5040: 518,391	GS5040: 1,088,850
	GS5041: 490,305	GS5041: 1,127,646
	GS5042: 481,636	GS5042: 1,174,494
	GS5043: 520,125	GS5043: 1,013,820
	GS5825: 728,175	GS5825: 1,259,406
	GS5826: 796,290	GS5826: 1,186,938
	GS5827: 796,290	GS5827: 1,368,840
	GS7330: 764,427	GS7330: 1,556,232
	GS7331: 484,063	GS7331: 1,467,294
	GS7332: 624,150	GS7332: 1,425,570
	GS7333: 624,150	GS7333: 1,507,920
	GS7334: 520,125	GS7334: 1,560,258
	GS7335: 520,125	GS7335: 1,444,236
	GS7336: 485,797	GS7336: 1,650,294

$U_{p,y}$	90%	100%
$Q_{p,y}$	7.5	7.5
$Q_{p,cleanboil,y}$	0	0
$Q_{p,rawboil,y}$	0	0
Quality of Treated Water	Pass	Pass
$LE_{p,y}$	0	0
$T_{p,y}$	1.06	1.07
$TR_{y}$	1.06	1.07
$HAPR_{y}$	90%	100%
$P_{p,y}$	0	0
$P_{access}$	GS5038: 1,350	GS5038: 3063
	GS5039: 1,350	GS5039: 3214
	GS5040: 1,346	GS5040: 2975
	GS5041: 1,273	GS5041: 3081
	GS5042: 1,250	GS5042: 3209
	GS5043: 1,350	GS5043: 2770
	GS5825: 1,890	GS5825: 3441
	GS5826: 1,620	GS5826: 3243
	GS5827: 1,620	GS5827: 3740
	GS7330: 1,562	GS7330: 4252
	GS7331: 1,256	GS7331: 4009
	GS7332: 1,620	GS7332: 3895
	GS7333: 1,620	GS7333: 4120
	GS7334: 1,350	GS7334: 4263
GS7335: 1,350	GS7335: 3946	
GS7336: 1,261	GS7336: 4509	
$P_{y}$	GS5038: 1500	GS5038: 3063
	GS5039: 1500	GS5039: 3214
	GS5040: 1495	GS5040: 2975
	GS5041: 1414	GS5041: 3081
	GS5042: 1389	GS5042: 3209
	GS5043: 1500	GS5043: 2770
	GS5825: 2100	GS5825: 3441
	GS5826: 1800	GS5826: 3243
	GS5827: 1800	GS5827: 3740
	GS7330: 1735	GS7330: 4252
	GS7331: 1396	GS7331: 4009
GS7332: 1800	GS7332: 3895	
GS7333: 1800	GS7333: 4120	
GS7334: 1500	GS7334: 4263	

GS7335: 1500  
GS7336: 1401

GS7335: 3946  
GS7336: 4509

#### D.4. Implementation of sampling plan

For the surveys, households were selected at random from the household lists. First, the hand pumps were randomly selected for monitoring; secondly, households served by those hand pumps were randomly selected for surveying.

Sample sizes were chosen to meet the minimum requirements set in the methodology requirements.

##### Water Consumption Field Test

The Water Consumption Field Test was carried out on a randomly selected sample of 40 households from the borehole user list. This complies with the recommended minimum sample size of 30 in the Gold Standard requirements. Furthermore, the sample confidence interval is within 30% of the mean. Between 2-3 staff carried out the test over a period of four days (1 day preparation and 3 days measurement) following a similar method as the Kitchen Performance Test, and all tests were conducted between 01/07/2020 – 13/07/2020. The total litres of water consumed each day was measured and divided by the number of people consuming water in that day – this measurement was repeated over 3 consecutive days and an overall average per household was calculated. The results showed that on average 10.07 litres of non boiled clean water used only for drinking, hand washing and food preparation (capped at 7.5l) and 0 litres of boiled clean water is consumed per person per day. The total amount of water credited for in this monitoring period is equal to the average amount of clean non-boiled water consumed per person per day (7.5l), minus the average amount of boiled clean water consumed per person per day (0).

##### Usage Survey

The usage survey establishes the proportion of beneficiaries that use the boreholes, a key parameter in the emission reduction calculations. A minimum samples of 30 for different aged technologies will be applied. The annual usage survey has been conducted using a minimum sample size of 100.

The usage surveys in this monitoring period were carried out by 2-3 staff between the 01/07/2020 – 13/07/2020. The households that participated in the survey were randomly selected from the borehole user lists. The results confirmed that 100% of the respondents and their family members use the boreholes that were rehabilitated by Vita.

##### Project Survey Analysis

Project surveys were conducted by 2-3 staff between 01/07/2020 – 13/07/2020 on a minimum sample size of 100 randomly selected households from across the homogenous VPAs in Zoba Debub to explore changes in the project scenario (demographics, water use and purification practices etc) over time.

Data collected during the project surveys includes the following:

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



## SECTION E. CALCULATION OF SDG IMPACTS

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

Details of equations used to estimate baseline values for SDG outcomes appear below. Calculation is provided in the corresponding Emission Reductions calculations in the ‘SDG Calculations’ Sheet.

#### Outcomes for SDG 3 (Good Health and Wellbeing):

Providing access to safe water and removing the need to boil, reduces the amount of non-renewable biomass burned. Therefore, the amount of safe water provided can be taken as a proxy indicator of how these VPAs contribute towards the SDG 3 target of substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

The quantity of biomass used in the baseline is calculated as follows:

$$P_{b,y} = W_{b,y} * Q_{p,y}$$

$$3 = 0.4 * 7.5$$

Where:

$P_{b,y}$  Quantity of fuel that is consumed in the baseline scenario b during year y (kg/household-day)

$W_{b,y}$  Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representative of baseline scenario b during year y

$Q_{p,y}$  Quantity of safe water supplied in the project scenario p during year y, using the “zero or low” emissions’ clean water supply technology

#### Outcome for SDG 5 (Gender Equality):

The average time saved per household due to the presence of the borehole project.  $T_{b,y}$  baseline parameter assumed to be 0 before the project activity will be taken as a proxy contribution towards the SDG target.

$$T_{b,y} = 0$$

#### Outcomes for SDG 6 (Clean Water and Sanitation):

The outcome for SDG 6 is quantified as the additional number of persons having access to safe water in the project activity compared to the baseline scenario. The baseline parameter for this SDG includes  $C_j$  which is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it (expressed as a percentage).

$$C_j = 0 \text{ (Baseline survey)}$$

#### Outcomes for SDG 13 (Climate Action):

CO2 emission reductions are the indicator to demonstrate that the project has raised capacity for effective climate change-related planning and management. This outcome is measured using the emission reduction calculations. The baseline indicators are detailed in Section D.1 and are as follows:

Baseline Emissions:

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

Example VPA, GS5038: 2,863 = 1,560 \* ((0.97 \* 112) + 9.00972) \* 0.0156

See accompanying Emissions Reductions calculations for all VPAs.

Where:

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

Example VPA, GS5038: 1,560 = (1 - 0) \* 520,125 \* 0.0004 \* (7.5 + 0)

See accompanying Emissions Reductions calculations for all VPAs.

Where:

$N_{j,y}$  Number of persons-days consuming water supplied by project scenario p through year y

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

$B_{b,y}$  Quantity of fuel consumed in baseline scenario b during the year y in tons

$Q_{p,y}$  Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day

$Q_{p,rawboil,y}$  Quantity of raw water boiled in the project scenario p per person per day

$W_{b,y}$  Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during the project year y, as per Baseline Water Boiling Test

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

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

### Outcomes for SDG 3 (Good Health and Wellbeing):

Providing access to safe water and removing the need to boil, reduces the amount of non-renewable biomass burned. Therefore, the amount of safe water provided can be taken as a proxy indicator of how these VPAs contribute towards the SDG 3 target of substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. Calculations are as follows:

$$HAPR_y = ((P_{b,y} - P_{p,y}) / P_{b,y}) * U_{p,y}$$

All VPAs:

$$90\% = ((3.0 - 0) / 3.0) * 90\%$$

Where:

HAPR<sub>y</sub> Total reduction in Household Air Pollution for project activity in year y (%)

P<sub>b,y</sub> Quantity of fuel that is consumed in the baseline scenario b during year y (kg/household-day)

P<sub>p,y</sub> Quantity of fuel that is consumed in the project scenario p during year y (kg/household-day)

U<sub>p,y</sub> Usage rate in project scenario p during year y

$$P_{b,y} = W_{b,y} * Q_{p,y}$$

All VPAs:

$$3.00 = 0.4 * 7.5$$

Where :

W<sub>b,y</sub> Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representative of baseline scenario b during year y

Q<sub>p,y</sub> Quantity of safe water supplied in the project scenario p during year y, using the “zero or low” emissions’ clean water supply technology

$$P_{p,y} = W_{b,y} * Q_{p,cleanboil,y}$$

All VPAs:

$$0 = 0.4 * 0$$

Where :

W<sub>b,y</sub> Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representative of baseline scenario b during year y

Q<sub>p,cleanboil,y</sub> Quantity of safe water boiled in the project scenario p during year y, after installation of the project technology

### Outcome for SDG 5 (Gender Equality):

The overall time saved by borehole project on average per household per day in the project activity is calculated as follows:

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

All VPAs:

$$1.06 = 1.06 - 0$$

Where:

TR<sub>y</sub> Total time saved by borehole project on average per household per day for project activity in year y (hours)

T<sub>b,y</sub> Baseline time saved by borehole project on average per household per day in year y (hours)

T<sub>p,y</sub> Project time saved by borehole project on average per household per day in year y (hours)

**Outcomes for SDG 6 (Clean Water and Sanitation):**

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

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

- GS5038: 1350 = 1500 \* (1-0) \* 0.9
- GS5039: 1350 = 1500 \* (1-0) \* 0.9
- GS5040: 1346 = 1495 \* (1-0) \* 0.9
- GS5041: 1273 = 1414 \* (1-0) \* 0.9
- GS5042: 1250 = 1389 \* (1-0) \* 0.9
- GS5043: 1350 = 1500 \* (1-0) \* 0.9
- GS5825: 1890 = 2100 \* (1-0) \* 0.9
- GS5826: 1620 = 1800 \* (1-0) \* 0.9
- GS5827: 11620 = 1800 \* (1-0) \* 0.9
- GS7330: 1562 = 1735 \* (1-0) \* 0.9
- GS7331: 1256 = 1396 \* (1-0) \* 0.9
- GS7332: 1620 = 1800 \* (1-0) \* 0.9
- GS7333: 1620 = 1800 \* (1-0) \* 0.9
- GS7334: 1350 = 1500 \* (1-0) \* 0.9
- GS7335: 1350 = 1500 \* (1-0) \* 0.9
- GS7336: 1261 = 1401 \* (1-0) \* 0.9

Where:

$P_{\text{access}}$  Number of additional persons having access to safe water in the project activity compared to the baseline scenario.

$P_y$  Number of persons having access to safe water in the project activity.

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

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

**Outcome for SDG 13 (Climate Action):**

CO2e emission reductions are the indicator to demonstrate that the project has raised capacity for effective climate change-related planning and management contributing to SDG 13. The emissions reductions for the current monitoring period can be found in the corresponding Emission reductions excel document and section E.4. below.

$$ER_y = ((BE_{b,y} - PE_{p,y}) * U_{p,y} - LE_{p,y}) * (1 - X_{\text{boil}})$$

$$ER_y = ((2,863-0) * 0.9 - 0) * (1 - 0)$$

Where:

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

And:

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

Where

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

And:

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

Where:

BE <sub>b,y</sub>	Baseline emissions in baseline scenario b per year y
PE <sub>p,y</sub>	Project emissions in project scenario p per year y
U <sub>p,y</sub>	Usage rate in project scenario p during year y
LE <sub>p,y</sub>	Leakage in project scenario p during year y
X <sub>boil</sub>	Expressed as a percentage, the portion of premises that in the absence of the project activity would have used non-GHG emitting technologies if they were available in the project boundary

Example VPA, GS5038:

$$ER_y = ((2,863-0) * 0.9 - 0) * (1 - 0) = 2576$$

See accompanying Emissions Reductions calculations for all VPAs.

### E.3. Calculation of leakage

**Leakage Assessment** - The PDD has described which sources of leakage detailed within the methodology are relevant to this project and which have been discounted.

The potential sources of leakage listed in the methodology have been investigated, and addressed below:

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

In all cases the baseline technologies displaced are three stones; these have no market value and are not a product as such. There is nothing limiting the use of three stone cooking across the country (the technology is lowest rung on the

energy ladder and the price is zero), which is why this cooking method is so widespread. In any case the primary purpose of these three rocks is for cooking so they will not be replaced/displaced in their entirety as a result of this project - which means they will not be reused outside the project boundary. This leakage source can therefore be discounted.

*b) The non-renewable biomass or fossil fuels saved under the project activity are used by non-project users who previously used lower emitting energy sources. There is no evidence to suggest significant (if any) use of renewable energy for purifying water in the project region as found in the Baseline Water Surveys. As solar purification devices are not used, renewable energy used for purifying water would likely be animal dung or crop residues which will be used due to ease of availability/proximity to the home rather than due to a shortage of wood fuel, therefore it is an independent factor. This leakage source can therefore be discounted.*

*c) The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario. As the majority of participants collect wood from within the project boundary, it is not expected that the NRB in other areas will be affected.*

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

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

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

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

Therefore, a value of 0 is applied for leakage.

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

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
SDG 3 Good Health and Well-being	Variation in household smoke (All VPAs)	0% reduction in exposure to Household Air Pollution due to no longer boiling water	90% reduction in exposure to Household Air Pollution due to no longer boiling water	90% reduction in exposure to Household Air Pollution due to no longer boiling water

<p>SDG 5 Gender Equality</p>	<p>Variation of time spent on firewood collection</p>	<p>0 hours of time saved by borehole project on average per household per day</p>	<p>1.06 hours of time saved by borehole project on average per household per day</p>	<p>1.06 hours of time saved by borehole project on average per household per day</p>
<p>SDG 6 Clean Water and Sanitation</p>	<p>People gain access to safe water</p>	<p>People with access to safe water:                      GS5038: 0                      GS5039: 0                      GS5040: 0                      GS5041: 0                      GS5042: 0                      GS5043: 0                      GS5825: 0                      GS5826: 0                      GS5827: 0                      GS7330: 0                      GS7331: 0                      GS7332: 0                      GS7333: 0                      GS7334: 0                      GS7335: 0                      GS7336: 0</p>	<p>GS5038: 1,350                      GS5039: 1,350                      GS5040: 1,346                      GS5041: 1,273                      GS5042: 1,250                      GS5043: 1,350                      GS5825: 1,890                      GS5826: 1,620                      GS5827: 1,620                      GS7330: 1,562                      GS7331: 1,256                      GS7332: 1,620                      GS7333: 1,620                      GS7334: 1,350                      GS7335: 1,350                      GS7336: 1,261</p>	<p>GS5038: 1,350                      GS5039: 1,350                      GS5040: 1,346                      GS5041: 1,273                      GS5042: 1,250                      GS5043: 1,350                      GS5825: 1,890                      GS5826: 1,620                      GS5827: 1,620                      GS7330: 1,562                      GS7331: 1,256                      GS7332: 1,620                      GS7333: 1,620                      GS7334: 1,350                      GS7335: 1,620                      GS7336: 1,261</p>
<p>SDG 13 Climate Action</p>	<p>Emission reductions</p>	<p>Baseline Emission Reductions of:                      GS5038: 0 tCO<sub>2</sub>e                      GS5039: 0 tCO<sub>2</sub>e                      GS5040: 0 tCO<sub>2</sub>e                      GS5041: 0 tCO<sub>2</sub>e                      GS5042: 0 tCO<sub>2</sub>e                      GS5043: 0 tCO<sub>2</sub>e                      GS5825: 0 tCO<sub>2</sub>e                      GS5826: 0 tCO<sub>2</sub>e                      GS5827: 0 tCO<sub>2</sub>e                      GS7330: 0 tCO<sub>2</sub>e                      GS7331: 0 tCO<sub>2</sub>e                      GS7332: 0 tCO<sub>2</sub>e                      GS7333: 0 tCO<sub>2</sub>e                      GS7334: 0 tCO<sub>2</sub>e                      GS7335: 0 tCO<sub>2</sub>e                      GS7336: 0 tCO<sub>2</sub>e</p>	<p>GS5038: 2,573 tCO<sub>2</sub>e/y                      GS5039: 2,573 tCO<sub>2</sub>e/y                      GS5040: 2,565 tCO<sub>2</sub>e/y                      GS5041: 2,427 tCO<sub>2</sub>e/y                      GS5042: 2,384 tCO<sub>2</sub>e/y                      GS5043: 2,573 tCO<sub>2</sub>e/y                      GS5825: 3,603 tCO<sub>2</sub>e/y                      GS5826: 3,946 tCO<sub>2</sub>e/y                      GS5827: 3,946 tCO<sub>2</sub>e/y                      GS5827: 3,946 tCO<sub>2</sub>e/y                      GS7330: 3,789 tCO<sub>2</sub>e/y                      GS7330: 3,789 tCO<sub>2</sub>e/y</p>	<p>GS5038: 2,573 tCO<sub>2</sub>e/y                      GS5039: 2,573 tCO<sub>2</sub>e/y                      GS5040: 2,565 tCO<sub>2</sub>e/y                      GS5041: 2,427 tCO<sub>2</sub>e/y                      GS5042: 2,384 tCO<sub>2</sub>e/y                      GS5043: 2,573 tCO<sub>2</sub>e/y                      GS5825: 3,603 tCO<sub>2</sub>e/y                      GS5826: 3,946 tCO<sub>2</sub>e/y                      GS5827: 3,946 tCO<sub>2</sub>e/y                      GS7330: 3,789 tCO<sub>2</sub>e/y                      GS7331: 2,397 tCO<sub>2</sub>e/y</p>

			GS7331: 2,397 tCO2e/y GS7332: 3,088 tCO2e/y GS7333: 3,088 tCO2e/y GS7334: 2,573 tCO2e/y GS7335: 2,573 tCO2e/y GS7336: 2,404 tCO2e/y	GS7332: 3,088 tCO2e/y GS7333: 3,088 tCO2e/y GS7334: 2,573 tCO2e/y GS7335: 2,573 tCO2e/y GS7336: 2,404 tCO2e/y
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**E.5. Comparison of actual SDG Impacts with estimates in approved PDD**

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values <sup>1</sup> achieved during this monitoring period
6	Number of additional persons with access to safe water: GS5038: 2751 GS5039: 2638 GS5040: 2699 GS5041: 2856 GS5042: 2765 GS5043: 2810 GS5825: 2979 GS5826: 2874 GS5827: 3204 GS7330: 3830 GS7331: 3408 GS7332: 3648 GS7333: 3718 GS7334: 3367 GS7335: 3603 GS7336: 3729	GS5038: 1,350 GS5039: 1,350 GS5040: 1,346 GS5041: 1,273 GS5042: 1,250 GS5043: 1,350 GS5825: 1,890 GS5826: 1,620 GS5827: 1,620 GS7330: 1,562 GS7331: 1,256 GS7332: 1,620 GS7333: 1,620 GS7334: 1,350 GS7335: 1,350 GS7336: 1,261

<sup>1</sup> Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

5	at least 0.5 hours of time saved by borehole project on average per household per day	1.06 hours of time saved by borehole project on average per household per day
3	80% reduction in exposure to Household Air Pollution due to boiling water	90% reduction in exposure to Household Air Pollution due to boiling water
13	<p>Ex-ante Emission Reductions of:</p> <p>GS5038: 10000 tCO<sub>2</sub>e  GS5039: 10000 tCO<sub>2</sub>e  GS5040: 10000 tCO<sub>2</sub>e  GS5041: 10000 tCO<sub>2</sub>e  GS5042: 10000 tCO<sub>2</sub>e  GS5043: 10000 tCO<sub>2</sub>e  GS5825: 10000 tCO<sub>2</sub>e  GS5826: 10000 tCO<sub>2</sub>e  GS5827: 10000 tCO<sub>2</sub>e  GS7330: 10000 tCO<sub>2</sub>e  GS7331: 10000 tCO<sub>2</sub>e  GS7332: 10000 tCO<sub>2</sub>e  GS7333: 10000 tCO<sub>2</sub>e  GS7334: 10000 tCO<sub>2</sub>e  GS7335: 10000 tCO<sub>2</sub>e  GS7336: 10000 tCO<sub>2</sub>e</p>	<p>Total Emission Reductions:  46,502 tCO<sub>2</sub>e/y</p> <p>Per VPA:</p> <p>GS5038: 2,573 tCO<sub>2</sub>e/y (5,262 tCO<sub>2</sub>e/y)  GS5039: 2,573 tCO<sub>2</sub>e/y (5,521 tCO<sub>2</sub>e/y)  GS5040: 2,565 tCO<sub>2</sub>e/y (5,110 tCO<sub>2</sub>e/y)  GS5041: 2427 tCO<sub>2</sub>e/y (5,293 tCO<sub>2</sub>e/y)  GS5042: 2,384 tCO<sub>2</sub>e/y (5,782 tCO<sub>2</sub>e/y)  GS5043: 2,573 tCO<sub>2</sub>e/y (4,758 tCO<sub>2</sub>e/y)  GS5825: 3,603 tCO<sub>2</sub>e/y (5,909 tCO<sub>2</sub>e/y)  GS5826: 3,946 tCO<sub>2</sub>e/y (5,569 tCO<sub>2</sub>e/y)  GS5827: 3,946 tCO<sub>2</sub>e/y (6,424 tCO<sub>2</sub>e/y)  GS7330: 3,789 tCO<sub>2</sub>e/y (7,405 tCO<sub>2</sub>e/y)  GS7331: 2,397 tCO<sub>2</sub>e/y (7,336 tCO<sub>2</sub>e/y)  GS7332: 3,088 tCO<sub>2</sub>e/y (6,690 tCO<sub>2</sub>e/y)  GS7333: 3,088 tCO<sub>2</sub>e/y (7,076 tCO<sub>2</sub>e/y)  GS7334: 2,573 tCO<sub>2</sub>e/y (7,322 tCO<sub>2</sub>e/y)  GS7335: 2,573 tCO<sub>2</sub>e/y (7,114 tCO<sub>2</sub>e/y)  GS7336: 2,404 tCO<sub>2</sub>e/y (8,007 tCO<sub>2</sub>e/y)</p>

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

All values in the ex-ante column above are those from the approved PDD.

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

**SDG 3**

Positive achievements have been achieved during this monitoring period.

**SDG 5**

Positive achievements have been achieved during this monitoring period.

**SDG 6**

The SDG 6 achievements during this Monitoring Period fall short of the estimated contributions due to introduction of the BAMG changes. Positive contributions to SDG have still been made.

**SDG 13**

The SDG 13 achievements during this Monitoring Period fall short of the estimated contributions due to introduction of the BAMG changes. Positive contributions to SDG have still been made.

**SECTION F. SAFEGUARDS REPORTING**

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

	<p>discrimination and shall not lead to/contribute to adverse impacts on gender equality and/or the situation of women. Specifically, this shall include (not exhaustive):</p>			<p>The time spent collecting wood fuel is monitored in the project survey. The project aims to reduce the burden on the whole community of traveling far to collect wood and in particular to women who perform the majority of unpaid domestic work.</p>
	<p>(a) Sexual harassment and/or any forms of violence against women – address the multiple risks of gender-based violence, including sexual exploitation or human trafficking.</p>	<p>No</p>	<p>The burden on the whole community of travelling far to collect water and gather firewood for water purification will be reduced. This will also mitigate the social isolation of spending a long time collecting these resources</p>	
	<p>(b) Slavery, imprisonment, physical and mental drudgery, punishment or coercion of women and girls.</p>	<p>No</p>	<p>The project will decrease the drudgery by reducing time spent on water and firewood collection</p>	
	<p>(c) Restriction of women’s rights or access to resources (natural or economic).</p>	<p>No</p>	<p>The project will increase women’s access to resources such as water by making safe water available in the community. The project will increase women’s ability to use, develop and protect natural resources by making safe water more readily available and enabling women to participate in project decision-making.</p>	
	<p>(d) Recognise women’s ownership rights regardless of</p>	<p>No</p>	<p>The project will decrease the workload of women in</p>	

	<p>marital status – adopt project measures where possible to support to women’s access to inherit and own land, homes, and other assets or natural resources.</p> <p>Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work, specifically:</p>		<p>collecting water and firewood, thereby allowing more time to engage in other activities.</p>	
	<p>(a) Where appropriate for the implementation of a Project, paid, volunteer work or community contributions will be organised to provide the conditions for equitable participation of men and women in the identified tasks/activities.</p>	<p>Yes</p>	<p>Equal participation of women and men in decision making will be encouraged by promoting their equal membership on water point committees (WPCs). These WPCs will be trained to facilitate the participation of members depending on their specific circumstances. They will also assist all communities members to provide feedback on the project, regardless of their situation.</p>	
	<p>(b) Introduce conditions that ensure the participation of women or men in Project activities and benefits based on pregnancy, maternity/paternity leave, or marital status.</p>	<p>Yes</p>	<p>The project aims to benefit the whole community equally and women’s equal participation in the LSC and water point committees is encouraged</p>	
	<p>(c) Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits.</p>	<p>Yes</p>	<p>The project will encourage equal participation of men and women.</p>	

	3.2.3 The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks.	Yes	The analysis of the project is in line with the country gender strategy is in section A.8. of the PDD	
3 Community Health, Safety and Working Conditions	The Project shall avoid community exposure to increased health risks and shall not adversely affect the health of the workers and the community.	Yes	The project will reduce the community exposure to water borne illness through the provision of a safe water source, and will reduce the risk of household air pollution by removing the need for households to boil water for purification.	SDG 3, 6 and 13 Np,y Qp,y Qp,cleanboil,y Quality of Treated Water Psafe Paccess P,y Pp,y Incidences of water borne illnesses are monitored through the annual Monitoring Project Survey. A WASH programme is carried out by the project including WASH training at the beginning of the project, as well as subsequent WASH follow-up training
4.1 Sites of Cultural and Historical Heritage	Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g., knowledge, innovations, or practices)?	No	The project area does not include sites or structures of historic and cultural value. Project activities do not compromise historic, cultural or religious practices.	
4.2 Forced Eviction and	Does the Project require or cause the physical or	No	The project will not impact the physical or economic relocation	

Displacement	economic relocation of peoples (temporary or permanent, full or partial)?		of peoples. The focus of the project is rehabilitating and installing water point infrastructure only.	
4.3 Land Tenure and Other Rights	Does the Project require any change to land tenure arrangements and/or other rights?	No	The project will not impact on land tenure arrangements or rights.	
4.4 Indigenous Peoples	Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	The project will take place on land owned either by the county government or by local people for which their permission will first be sought.	
5 Corruption	The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	No	The project shall ensure that all forms of corruption are avoided. Project beneficiaries are able to contact the project developer and implementer through the continuous grievance mechanism to report any form of corruption.	
6.1 Labour Rights	The Project Developer shall ensure that there is no forced labour and that all employment is in compliance with national labour and occupational health and safety laws, with obligations under international law, and consistency with the principles and standards embodied in the International Labour Organization (ILO) fundamental conventions. Where these are contradictory and a breach of one or	No	The project will adhere to labour laws and requirements	

	<p>other cannot be avoided, then guidance shall be sought from Gold Standard.</p> <p>Child labour, as defined by the ILO Minimum Age convention is not allowed. The Project Developer shall use adequate and verifiable mechanisms for age verification in recruitment procedures.</p> <p>Exceptions are children for work on their families' property as long as:</p> <p>(a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND</p> <p>(b) The tasks they perform do not harm their physical and mental development, AND</p> <p>(c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the project design.</p>	<p>No</p>	<p>The projects will not use child labour</p>	
<p>6.2 Negative Economic Consequences</p>	<p>Does the project cause negative economic consequences during and after project implementation, e.g., for vulnerable and marginalised social groups in targeted communities?</p>	<p>Yes</p>	<p>The project is not expected to have any negative economic impacts or cause any risks.</p>	<p>To ensure long term sustainability of the water points, and avoid unexpected breakdowns and spending, training was conducted at the beginning of the project on conducting minor maintenance. The project is expected to benefit all</p>

				members of the community
7.1 Emissions	Will the Project increase greenhouse gas emissions over the Baseline Scenario?	Yes	The project will reduce greenhouse gas emissions compared to the baseline scenario.	SDG 13 The ERs are monitored during the MP. During this MP a large number of emission reductions were achieved
7.2 Energy Supply	Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	Only hand pumped boreholes that use no electricity are included in the project.  The project will reduce fuel use due to reducing the need for water purification by boiling	
8.1 Impact on natural water patterns/flows	Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	There will be no significant change in the volume of water consumed by the households.	
8.2 Erosion and/or water body instability	Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The water is taken from boreholes at household usage levels. Therefore it is extremely unlikely that there will be additional erosion and/or water body instability or disruption of the natural pattern of erosion.	
9.1 Landscape modification and soil	Does the Project involve the use of land and soil for production of crops or other products?	No	No crops or other products will be produced in the project.	
9.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes,	No	There will be no impact by the project to natural disasters.	

	subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?			
9.3 Genetic Resources	Could the Project be negatively impacted by the use of genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development)?	No	No GMOs will be used in the project and the boreholes would not be affected by GMOs as they are all protected.	
9.4 Release of pollutants	Could the Project potentially result in the release of pollutants to the environment?	No	As safe ground water is used, there is no risk or releasing pollutants to the environment.	
9.5 Hazardous and Non-hazardous Waste	Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The project does not deal with hazardous or non-hazardous chemicals and/or materials.	
9.6 Pesticides and fertilizers	Will the Project involve the application of pesticides and/or fertilisers?	No	No pesticides and/or fertilisers will be used in the project.	
9.7 Harvesting of forests	Will the Project involve the harvesting of forests?	No	As the project reduces the consumption of firewood, there is a positive impact on forests.	
9.8 Food	Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project has no impact on the quantity or nutritional quality of food.	
9.9 Animal Husbandry	Will the Project involve animal husbandry?	No	The project will not involve animal husbandry.	
9.10 High Conservation Value Areas	Does the Project physically affect or alter largely intact or High	No	The project rehabilitates water points and decreases the consumption of	

and Critical Habitats	Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?		firewood, having a positive impact on conserving forest ecosystems.	
9.11 Endangered Species	Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?	No	The project is not envisaged to have any impact on their habitat as it only affects borehole infrastructure.	
	Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	The project only impacts borehole infrastructure and does not impact other areas where endangered species are present.	

## SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

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

No Stakeholder feedback or comments has been received during this monitoring period.

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

No Stakeholder feedback or comments were received during the previous monitoring period hence no follow up action has been taken during this monitoring period.

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

N/A



## Revision History

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