

TEMPLATE

MONITORING REPORT

PUBLICATION DATE **14.10.2020**

VERSION **v. 1.1**

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

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Key Project Information

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KEY PROJECT INFORMATION

Programme of Activity Information – (delete below table if N/A)

GS ID of Programme	GS1247
Title of Programme	Improved Kitchen Regimes Multi-Country PoA
Version of POA-DD applicable to this monitoring report	GS1247 IKR Micro PoA-DD CLEAN V4.0
Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)	GS1247 VPA 71: Lango Safe Water Project (GS5106) GS1247 VPA 72 Lango Safe Water Project (GS5186) GS1247 VPA 73 Lango Safe Water Project (GS5187) GS1247 VPA 74: Lango Safe Water Project (GS5188) GS1247 VPA 75 Lango Safe Water Project (GS5189) GS1247 VPA 76 Lango Safe Water Project (GS5190) GS1247 VPA 77 Lango Safe Water Project (GS5191) GS1247 VPA 78 Lango Safe Water Project (GS5192) GS1247 VPA 79 Lango Safe Water Project (GS5193) GS1247 VPA 80 Lango Safe Water Project (GS5194) GS1247 VPA 82 Lango Safe Water Project (GS5196) GS1247 VPA 83 Lango Safe Water Project (GS5197) GS1247 VPA 139: Lango Safe Water Project (GS6349) GS1247 VPA 140 Lango Safe Water Project (GS6350) GS1247 VPA 141 Lango Safe Water Project (GS6351)

	GS1247 VPA 183 Lango Safe Water Project (GS7362)
	GS1247 VPA 184 Lango Safe Water Project (GS7363)
	GS1247 VPA 185 Lango Safe Water Project (GS7364)
	GS1247 VPA 186 Lango Safe Water Project (GS7365)
	GS1247 VPA 187 Lango Safe Water Project (GS7366)

Key Project Information

GS ID (s) of Project (s)	GS5106 & 5186-94, GS5196-7 & 6349-51, GS7362-7366
Title of the project (s) covered by monitoring report	GS1247 VPA 71: Lango Safe Water Project (GS5106) GS1247 VPA 72 Lango Safe Water Project (GS5186) GS1247 VPA 73 Lango Safe Water Project (GS5187) GS1247 VPA 74: Lango Safe Water Project (GS5188) GS1247 VPA 75 Lango Safe Water Project (GS5189) GS1247 VPA 76 Lango Safe Water Project (GS5190) GS1247 VPA 77 Lango Safe Water Project (GS5191) GS1247 VPA 78 Lango Safe Water Project (GS5192) GS1247 VPA 79 Lango Safe Water Project (GS5193) GS1247 VPA 80 Lango Safe Water Project (GS5194) GS1247 VPA 82 Lango Safe Water Project (GS5196) GS1247 VPA 83 Lango Safe Water Project (GS5197)

	GS1247 VPA 139: Lango Safe Water Project (GS6349) GS1247 VPA 140 Lango Safe Water Project (GS6350) GS1247 VPA 141 Lango Safe Water Project (GS6351) GS1247 VPA 183 Lango Safe Water Project (GS7362) GS1247 VPA 184 Lango Safe Water Project (GS7363) GS1247 VPA 185 Lango Safe Water Project (GS7364) GS1247 VPA 186 Lango Safe Water Project (GS7365) GS1247 VPA 187 Lango Safe Water Project (GS7366)
Version number of the PDD/VPA-DD (s) applicable to this monitoring report	GS5106 & 5186-94: V2 GS5196-7: V5 GS6349-51: V6 GS7362-7366: V2
Version number of the monitoring report	03
Completion date of the monitoring report	08/07/2021
Date of project design certification	GS5106 & 5186-94: 11/09/2017 GS5196-7 & 6349-51: 26/12/2018 GS7362-7366: 16/08/2019
Date of Last Annual Report	04/01/2021
Monitoring period number	5
Duration of this monitoring period	MP2 GS7362: 01/04/2020 to 31/03/2021 GS7363: 01/04/2020 to 31/03/2021 GS7364: 01/04/2020 to 31/03/2021 GS7365: 01/04/2020 to 31/03/2021 GS7366: 01/04/2020 to 31/03/2021 MP3 GS5196: 01/04/2020 to 31/03/2021

	GS5197: 01/04/2020 to 31/03/2021 GS6349: 01/04/2020 to 31/03/2021 GS6350: 01/04/2020 to 31/03/2021 GS6351: 01/04/2020 to 31/03/2021 MP4 GS5189-94: 01/04/2020 to 31/03/2021 MP5 GS5106 & GS5186-8: 01/04/2020 to 31/03/2021
Project Representative	James Walker, CO2balance
Host Country	Republic of Uganda
Activity Requirements applied	☒ Community Services Activities ☐ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	TPDDTEC v1
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units/ Products
SDG 3 - Good Health and Well-being	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	GS5106: 2,301 GS5186: 2,301 GS5187: 1,789 GS5188: 1,789 GS5189: 1,278 GS5190: 1,278 GS5191: 2,045 GS5192: 2,485 GS5193: 2,381	P _{safe} (additional persons consuming safe water in the project activity compared to the baseline scenario)

		GS5194: 1,278	
		GS5196: 1,789	
		GS5197: 2,045	
		GS6349: 1,530	
		GS6350: 1,789	
		GS6351: 1,483	
		GS7362: 1,789	
		GS7363: 1,534	
		GS7364: 2,291	
		GS7365: 2,045	
		GS7366: 2,232	
		Total: 37,451 persons	
		consuming safe water across	
		all VPA's	
SDG 5 -	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	28.5% reduction in time spent collecting water across all VPA's	TR _y (reduction in time spent collecting water)
		GS5106: 2,319	
		GS5186: 2,319	
		GS5187: 1,804	
		GS5188: 1,804	
		GS5189: 1,288	
SDG 6 – Clean water and sanitation for all	By 2030, achieve universal and equitable access to safe and affordable drinking water for all.	GS5190: 1,288	P _{access} (additional persons with access to safe water in the project activity compared to the baseline scenario)
		GS5191: 2,062	
		GS5192: 2,505	
		GS5193: 2,400	
		GS5194: 1,288	
		GS5196: 1,804	
		GS5197; 2,062	
		GS6349: 1,543	
		GS6350: 1,804	
		GS6351: 1,495	
		GS7362: 1,804	

					GS7363: 1,546
					GS7364: 2,310
					GS7365: 2,062
					GS7366: 2,250
					Total: 37,755 additional persons with access to safe water in the project activity across all VPA's
					GS5106: 3,626
					GS5186: 3,670
					GS5187: 2,859
					GS5188: 2,865
					GS5189: 2,023
					GS5190: 2,046
					GS5191: 3,266
					GS5192: 4,006
					GS5193: 3,804
					GS5194: 2,009
					GS5196: 2,871
					GS5197: 3,308
					GS6349: 2,474
					GS6350: 2,857
					GS6351: 2,389
					GS7362: 3,482
					GS7363: 3,482
					GS7364: 4,336
					GS7365: 3,482
					GS7366: 3,800
					Total: 62,655 tco2e across all VPA's.

Table 2 – Product Vintages

Start Dates	End Dates	Amount Achieved			
		SDG 3	SDG 5	SDG 6	SDG 13
01/04/2020	31/12/2020	GS5106: 2,301 GS5186: 2,301 GS5187: 1,789 GS5188: 1,789 GS5189: 1,278 GS5190: 1,278 GS5191: 2,045 GS5192: 2,485 GS5193: 2,381 GS5194: 1,278 GS5196: 1,789 GS5197: 2,045 GS6349: 1,530 GS6350: 1,789 GS6351: 1,483 GS7362: 1,789 GS7363: 1,534 GS7364: 2,291 GS7365: 2,045 GS7366: 2,232	28.5%	GS5106: 2,319 GS5186: 2,319 GS5187: 1,804 GS5188: 1,804 GS5189: 1,288 GS5190: 1,288 GS5191: 2,062 GS5192: 2,505 GS5193: 2,400 GS5194: 1,288 GS5196: 1,804 GS5197: 2,062 GS6349: 1,543 GS6350: 1,804 GS6351: 1,495 GS7362: 1,804 GS7363: 1,546 GS7364: 2,310 GS7365: 2,062 GS7366: 2,250	GS5106: 2,761 GS5186: 2,799 GS5187: 2,142 GS5188: 2,143 GS5189: 1,511 GS5190: 1,534 GS5191: 2,451 GS5192: 3,010 GS5193: 2,896 GS5194: 1,542 GS5196: 2,177 GS5197: 2,488 GS6349: 1,861 GS6350: 2,172 GS6351: 1,795 GS7362: 2,619 GS7363: 2,619 GS7364: 3,261 GS7365: 2,619 GS7366: 2,858
01/01/2021	31/03/2021	See above	See above	See above	GS5106: 865 GS5186: 871 GS5187: 717 GS5188: 722

					GS5189: 512
					GS5190: 512
					GS5191: 815
					GS5192: 996
					GS5193: 908
					GS5194: 467
					GS5196: 694
					GS5197: 820
					GS6349: 613
					GS6350: 685
					GS6351: 594
					GS7362: 863
					GS7363: 863
					GS7364: 1,075
					GS7365: 863
					GS7366: 942

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

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Lango sub-region is a largely rural region 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.

The project activity involves rehabilitating and maintaining non-functioning borehole hand pumps. The hand pump models that are commonly used in the area include

Afridev, U3 Modified and India Mark II pumps. The crediting periods for each VPA are given in section A.4 and have a lifetime of 7 years.

Located across various districts of Lango sub-region, the project covers a total of 168 boreholes. This monitoring period covers 1st April 2020 to 31st March 2021. The project has been implemented in a total of 4 phases across 2016 – 2019, thus the age groups of VPAs vary.

A.2. Location of project

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

Figure 1: Map of Uganda with the Lango sub region outlined



Figure 2: Map outlining the four surveyed districts

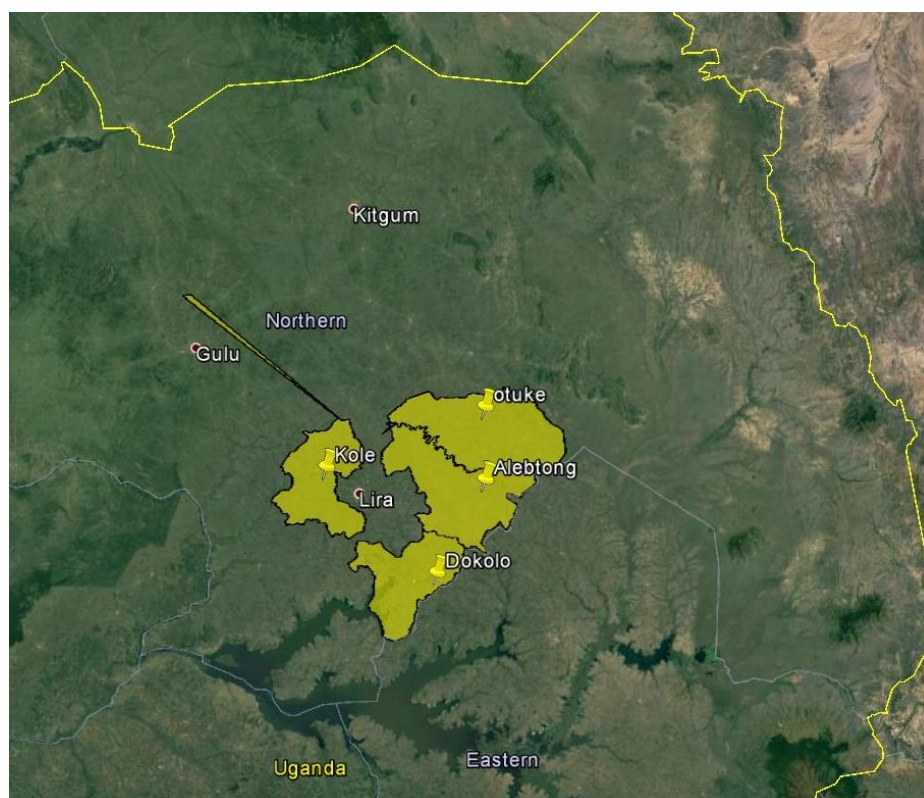


Table 1: Geographical characteristics of Alebtong, Dokolo, Otuke and Kole Districts

Country	Region	District	Population	Geographical Reference	
Uganda	Northern Uganda	Alebtong	227,541 (2014 Census)	Lat 2.257959	Lon 33.290910
Uganda	Northern Uganda	Dokolo	183,093 (2014 Census)	Lat 1.927760	Lon 33.075794
Uganda	Northern Uganda	Otuke	104,254 (2014 Census)	Lat 2.518926	Lon 33.397837
Uganda	Northern Uganda	Kole	239,327 (2014 Census)	Lat 2.370110	Lon 32.763304

A.3. Reference of applied methodology

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Technologies and Practices to Displace Decentralised Thermal Energy Consumption v1
Methodology applied.

GS Gender Equality Requirements & Guidelines document has been consulted for the project's gender equality annex.

A.4. Crediting period of project

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GS5106: 10/12/2016 to 09/12/2023

GS5186: 09/12/2016 to 08/12/2023

GS5187: 12/10/2016 to 11/10/2023

GS5188: 14/10/2016 to 13/10/2023

GS5189: 01/03/2017 to 28/02/2024

GS5190: 02/03/2017 to 01/03/2024

GS5191: 28/02/2017 to 27/02/2024

GS5192: 03/05/2017 to 02/05/2024

GS5193: 03/05/2017 to 02/05/2024

GS5194: 18/10/2016 to 17/10/2023

GS5196: 03/05/2018 to 02/05/2025

GS5197: 03/05/2018 to 02/05/2025

GS6349: 07/05/2018 to 06/05/2025

GS6350: 21/09/2018 to 20/09/2025

GS6351: 19/09/2018 to 18/09/2025

GS7362: 12/06/2019 to 11/06/2026

GS7363: 12/06/2019 to 11/06/2026

GS7364: 12/06/2019 to 11/06/2026

GS7365: 11/06/2019 to 10/06/2026

GS7366: 11/06/2019 to 10/06/2026

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

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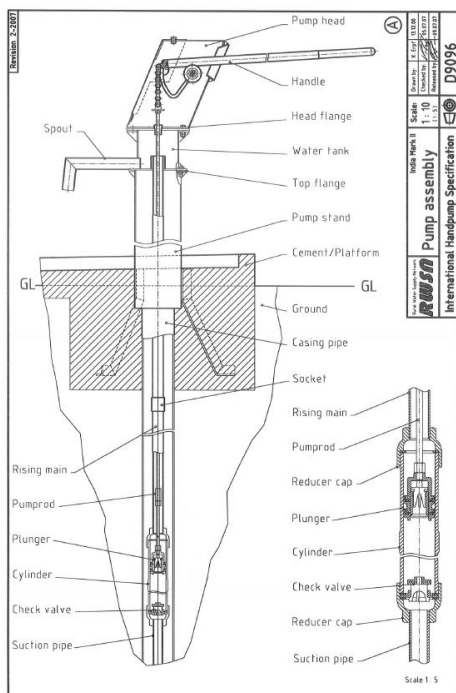
In Uganda over 45% of the rural population do not have access to safe water and rely exclusively on unprotected wells, lakes and other open water sources that are highly susceptible to contamination. Many existing boreholes in Lango sub-region, including the districts of Alebtong, Dokolo, Otuke and Kole, are owned by community groups or community-based organizations (CBOs) and have fallen into disrepair because maintenance programmes have been poorly managed, or proven too expensive. CO2balance has worked with community groups in these districts 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 U3 Modified and India Mark II pumps.



	Afridev	India Mark II	U3 Modified
Cylinder diameter (mm):	63.5	50	50
Maximum Stroke (mm):	125	225	125
Approx. discharge at about 75 watt input m3/h:	at 10 m head 1.4	at 10 m head 1.8	at 10 m head 1.2
	at 15 m head 1.1	at 15 m head 1.3	at 15 m head 1.0

	at 20 m head 0.9	at 20 m head 1.0	at 20 m head 0.8
	at 30 m head 0.7	at 30 m head 0.8	at 30 m head 0.6
Pumping lift (m):	10-50	10-45	20-45
Water consumption (lpcd):	15-20	15-20	15-20

India Mark II Specification¹:



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

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

The maintenance programme ensures that all project boreholes are functional. The Water Resource Committees are trained to maintain the boreholes and carry out small repairs. For more technical maintenance the CO2balance field team arrange for technicians to visit the boreholes. Each borehole is visited bimonthly to meet with the WRC and inspect the hand pump and surrounding area. The project ensures that the boreholes provide water of a sufficient quality through a programme of quarterly chlorination, WASH training and management of the surrounding areas, and confirmed by annual water quality tests.

In total 168 boreholes have been rehabilitated across 20 VPAs between 11th October 2016 – 16th September 2019. The date, location and number of people served by each borehole is given in the table below, which forms the project database. Boreholes that have not met the requirements for crediting, will be removed within the ER calculations (no removals in this monitoring period).

Borehole ID	Date of Rehabilitation	Village	No. of users
VPA 71 – GS5106			
LAN001	16/12/2016	Aderolongo	358
LAN002	16/12/2016	Awito	411
LAN003	16/12/2016	Ejang	349
LAN004	15/12/2016	Kulu Omara	414
LAN005	15/12/2016	Te-Cwao	379
LAN006	15/12/2016	St Paul Amoi	418
LAN007	12/12/2016	Acilkom	357
LAN008	12/12/2016	Aweloge	459
LAN009	09/12/2016	Aber	383
LAN010	13/12/2016	Kongotye	502
Total			4,030
VPA 72 – GS5186			
LAN011	09/12/2016	Aduru	254
LAN012	08/12/2016	Apel II	421
LAN013	09/12/2016	Apur B	385
LAN014	13/12/2016	Te-Abwolo	300
LAN015	14/12/2016	Amunga SW	553

LAN016	14/12/2016	Amunga P/S	568
LAN017	10/12/2016	Kulu Okani	367
LAN018	10/12/2016	Kulu Eluk	441
LAN019	10/12/2016	Alito T/C	486
LAN020	10/12/2016	Otkwac Amalo	362
Total			4,140
VPA 73 - GS5187			
LAN021	11/10/2016	Tangala	390
LAN022	12/10/2016	Otikokin	482
LAN023	11/10/2016	Aliwok	404
LAN024	19/10/2016	Atelela	503
LAN025	19/10/2016	Awat 'A'	473
LAN026	27/10/2016	Center Lira	372
LAN027	21/10/2016	Abongo Ipale	640
LAN028	18/10/2016	Apuru	353
LAN029	17/10/2016	Bar Ibule	377
Total			3,994
VPA 74 - GS5188			
LAN030	19/10/2016	Adak	496
LAN031	19/10/2016	Abucero	450
LAN032	14/11/2016	Akwac A	575
LAN033	14/10/2016	Awonayap A	417
LAN034	15/10/2016	Baropiro	416
LAN035	13/10/2016	Baroceco	475
LAN036	13/10/2016	Barabolo	300
LAN037	15/10/2016	Baralegi	383
LAN038	18/10/2016	Anyonomac	437
Total			4,086
VPA 75 - GS5189			
LAN039	07/03/2017	Apala 'A'	990
LAN040	28/02/2017	Telela	736
LAN041	09/03/2017	Lwala	969
LAN042	06/03/2017	Okar	397
LAN043	01/03/2017	Araodyang	450
LAN044	07/03/2017	Teyago	444

Total			3,986
VPA 76 - GS5190			
LAN045	07/03/2017	Corner Apii	730
LAN046	01/03/2017	Alake	1191
LAN047	01/03/2017	Omerogweno	752
LAN048	09/03/2017	Apala Telela	699
LAN049	06/03/2017	Abur	1310
Total			4,682
VPA 77 - GS5191			
LAN050	01/03/2017	Abuka 'A'	534
LAN051	06/03/2017	Abolonyero	538
LAN052	28/02/2017	Awiro	476
LAN053	28/02/2017	Abak	483
LAN054	27/02/2017	Atop	463
LAN055	01/03/2017	Amoli	426
LAN056	09/03/2017	Awili	502
LAN057	09/03/2017	Witim	555
Total			3,977
VPA 78 - GS5192			
LAN058	05/05/2017	Akaidebe	243
LAN059	09/05/2017	Odoo Jeremiah	322
LAN060	04/05/2017	Okoto	263
LAN061	04/05/2017	Olengo 'A'	482
LAN062	04/05/2017	Tem Gumi	428
LAN063	05/05/2017	Omino	352
LAN064	03/05/2017	Atwako 'B'	322
LAN065	03/05/2017	Otoro	514
LAN066	02/05/2017	Aminalucu	253
LAN067	02/05/2017	Aminakech	377
LAN068	19/05/2017	Awiotang	438
Total			3,994
VPA 79 - GS5193			
LAN069	03/05/2017	Acede	388
LAN070	02/05/2017	Aming	410
LAN071	08/05/2017	Alango	252

LAN072	08/05/2017	Onger	430
LAN073	08/05/2017	Aminogwang	164
LAN074	23/05/2017	Ilera	437
LAN075	08/05/2017	Te-Ebule	280
LAN076	09/05/2017	Te-Yao	638
LAN077	22/05/2017	Nyamkere	298
LAN078	06/11/2017	Abiting	679
Total			3,976
VPA 80 - GS5194			
LAN079	18/10/2016	Alilo	400
LAN080	17/10/2016	Ayile	411
LAN081	27/02/2017	Aton	1216
LAN082	07/11/2017	Lela Opuk	610
LAN083	06/11/2017	Alango Okwangole	355
LAN084	06/11/2017	Amakilaka	351
LAN085	19/11/2017	Ober	609
Total			3,952
VPA 82 - GS5196			
LAN087	11/05/2018	Abongoawobe	488
LAN088	06/05/2018	Abuabura	394
LAN089	08/05/2018	Adagawaka	465
LAN090	04/05/2018	Agali Alingadyel	457
LAN091	05/05/2018	Akon	396
LAN092	02/05/2018	Alela	439
LAN093	07/05/2018	Arwenyo	535
LAN094	03/05/2018	Aweodike	458
Total			3,632
VPA 83 - GS5197			
LAN095	09/05/2018	Ilera Amintenyio	309
LAN096	05/05/2018	Otongero B	439
LAN097	09/05/2018	Teyao Aluti	554
LAN098	07/05/2018	Okeda A	475
LAN099	04/05/2018	Okeorkok	576
LAN100	02/05/2018	Okum	636

LAN101	03/05/2018	Olarolobo	461
LAN102	03/05/2018	Oloakero	469
Total			3,610
VPA 139 – GS6349			
LAN103	06/05/2018	Acoke	312
LAN104	08/05/2018	Obalodeo	672
LAN105	08/05/2018	Teyao Aloï	519
LAN106	20/09/2018	Aduru Okwangole	462
LAN107	08/05/2018	Obal	780
LAN108	18/09/2018	Akwac B	458
LAN109	19/09/2018	Yabwangi	407
LAN110	26/09/2018	Aloï 'A'	296
Total			3,594
VPA 140 – GS6350			
LAN111	26/09/2018	Alumeri	410
LAN112	27/09/2018	Amintato B	412
LAN113	20/09/2018	Amonomito	321
LAN114	25/09/2018	Apado	637
LAN115	25/09/2018	Awiny	352
LAN116	27/09/2018	Ayitatwon	567
LAN117	28/09/2018	Bung	376
LAN118	27/09/2018	Entebbe	577
Total			3,242
VPA 141 – GS6351			
LAN119	25/09/2018	Lakcani	472
LAN120	28/09/2018	Lela Ocika	578
LAN121	20/09/2018	Ober 2	491
LAN122	18/09/2018	Okeda "B"	464
LAN123	19/09/2018	Okurunyang A	471
LAN124	19/09/2018	Adwei	583
LAN125	26/09/2018	Aliwok B	515
LAN126	27/09/2018	Te-Okutu	240
Total			3,342

VPA 183 – GS7362			
LAN127	11/06/2019	Abalokara	463
LAN128	14/06/2019	Abilonino Tegot	516
LAN129	12/06/2019	Alwala	392
LAN130	16/06/2019	Acae-Ogik	563
LAN131	15/06/2019	Bar-Onger	524
LAN132	13/06/2019	Adag-Anii Alito	490
LAN133	12/06/2019	Adakingo	409
LAN134	13/06/2019	Akena B	646
Total			4,003
VPA 184 – GS7363			
LAN135	13/06/2019	Worekeni	458
LAN136	14/06/2019	Alelibanya	947
LAN137	16/06/2019	Abongo Papa	569
LAN138	15/06/2019	Aputi	441
LAN139	16/06/2019	Bar Pii Atidi	610
LAN140	15/06/2019	Acan-Mwol	517
LAN141	11/06/2019	Dogikore	313
LAN142	12/06/2019	Odeo	471
Total			4,326
VPA 185 – GS7364			
LAN143	11/06/2019	Omoladyang Dani	289
LAN144	14/06/2019	St. Anne	319
LAN145	13/06/2019	Te-Opok	533
LAN146	12/06/2019	Akao	330
LAN147	16/09/2019	Cungapenyi	323
LAN148	13/09/2019	Adagani Dokolo	393
LAN149	12/09/2019	Ageni 'A'	526
LAN150	16/09/2019	Adwongdokinyom	518
LAN151	14/09/2019	Angeta	390
LAN152	16/09/2019	Apanyapany	434

		Total	4,055
VPA 186 – GS7365			
LAN153	16/09/2019	Adak 'B'	380
LAN154	12/09/2019	Ajaa 'A'	498
LAN155	12/09/2019	Alut	423
LAN156	11/09/2019	Aluti	452
LAN157	13/09/2019	Acwer	454
LAN158	10/09/2019	Otongodel	684
LAN159	14/09/2019	Aringading	437
LAN160	15/09/2019	Awali	724
		Total	4,052
VPA 187 – GS7366			
LAN161	11/09/2019	Awat 'B'	406
LAN162	11/09/2019	Aweiwoo	493
LAN163	10/09/2019	Ayetayet 'A'	561
LAN164	16/09/2019	Aminalaki	497
LAN165	10/09/2019	Obelower	537
LAN166	16/09/2019	Onango	219
LAN167	12/09/2019	Oyengopere 'A'	557
LAN168	16/09/2019	Oyengopere 'B'	388
LAN169	14/09/2019	Adicwiny	528
		Total	4,186

B.1.1. Forward Action Requests

>>

MP4 Forward Action Requests from Verification

Forward Action Request # 1: PD shall submit the updated users list for next verification.

>> PP will be able to provide these at a later round of feedback during the verification process. The ERs are unlikely to change significantly, due to the cap of 300 users per borehole.

Forward Action Request # 2: Project Developer shall carry out a WCFT per the approved monitoring plan within six months of end of the interim measure validity date or earlier, where possible.

>> PP has conducted a WCFT per the approved monitoring plan.

Forward Action Request # 3: For the next MP, PD shall submit proof that all boreholes are indeed functioning.

>> PP has submitted photos of all the boreholes included in the project, showing they're functionality.

MP4 Forward Action Requests from Performance Review

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 has conducted a usage survey based on an updated format, approved by SustainCERT. Please see submitted Usage Survey for confirmation.

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 has provided a full repair log, of all breakdowns that have occurred from the boreholes across the monitoring period. The repair log contains information of the nature of each breakdown.

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 has recorded the total breakdown days of the boreholes in a parameter box in section D2, alongside the % total borehole downtime. For more detailed VPA analysis, please see the ER calculations.

B.2. Post-Design Certification changes

>>

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

>>

No temporary deviations have been made.

B.2.2. Corrections

>>

No corrections have been made.

B.2.3. Changes to start date of crediting period

>>

No changes have been made to any crediting periods.

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

>>

No permanent changes have been made.

B.2.5. Changes to project design of approved project

>>

No changes have been made to the project design.

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

>>

During this monitoring period, 142 project and usage surveys were conducted between the 23rd March 2021 and 28th March 2021. The random sample was made up of 200HHs, to ensure that number of HHs surveyed satisfies the methodological requirement of >100.

All surveys are administered by trained CO2balance staff and partner NGOs 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 that co2balance has devised ensures a minimum chance of original data being lost – all original copies of our project documentation are retained in the Uganda 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. The sample employs age sensitive sampling as the boreholes are been rehabilitated over multiple years. The boreholes are grouped into those rehabilitated in 2016-17 (81), 2017-18 (45) and 2018-19 (43). This totals 169 boreholes, 168 of which fill the VPAs covered in this monitoring report, and the other 1 borehole has a separate monitoring report, but all are monitored as a homogenous group. Based on the 90/30 precision defined in the methodology, 7 boreholes from each age group are included in the sample. The boreholes of each age group are assigned a random number. This is then sorted from lowest to highest, and the boreholes numbered 1-7 selected for the sample.

The household (HH) list for each randomly selected borehole is collated and each HH assigned a random number. This is then sorted in order from lowest to highest and based on a weighted average, the number of HHs are selected for the survey. This

provides a random sample of a total of 200 HHs in total. This more than satisfies the minimum required sample of 30 households per age group.

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
- GPS location of the borehole
- Model of the borehole
- Quantity of boreholes installed
- The total number of people obtaining their water from each borehole
- Mode of use: commercial/domestic

The total number of households using each borehole has been determined through the lists supplied by the community group and district officials. Further studies are conducted to screen and determine the exact number of people using the rehabilitated boreholes. Using this method, the total number of people using each borehole has been fixed and hence a figure for person days can be calculated.

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 on a minimum sample of 40 households.
- **Quality of the treated water** - The quality of the treated water was assessed to ensure that it is fit for human consumption. The parameters used to assess the water quality is in line with Ugandan standards for potable water. Any boreholes which failed to meet water quality standards, were removed from crediting from the monitoring period.

- **Usage Survey** - The annual usage survey was conducted using a sample size of 200 households. 142 households were surveyed, meeting the minimum requirements of over 100.
- **Project Survey** – The project survey was conducted using the same sample as the Usage Survey, surveying end users currently using project technologies to explore changes in project scenario over time.
- **Leakage** - The PDD has described which sources of leakage detailed within the methodology are relevant to this project and which have been discounted. 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.

SECTION D. DATA AND PARAMETERS

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

>>

Relevant SDG Indicator	SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.1: Mortality rate attributed to household and ambient air pollution. 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Cj
Unit	Percentage
Description	Portion of users of project safe water supply who were already in baseline using a non- boiling safe water supply.
Source of data	Baseline study. Credible literature, studies, survey, reports, relevant to the project target area

Value(s) applied)	4.56%
Choice of data or measurement methods and procedures	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.
Purpose of data	Calculating ERs, SDG 3 & 6
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	EFb,co2
Unit	tco2/TJ
Description	co2 emission factor arising from use of fuels in baseline scenario
Source of data	IPCC default value
Value(s) applied)	112
Choice of data or measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
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Data/parameter:	EFb,non co2																							
Unit	tco2/TJ																							
Description	Non-co2 emission factor arising from use of fuels in baseline scenario																							
Source of data	IPCC Default emissions factor: Non-CO2 Emissions from Stationary Combustion. Annex 1, Table 2 and Table 3. https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf Global Warming Potential: https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf																							
Value(s) applied)	9.46 (2021), 8.692 (2020)																							
Choice of data or measurement methods and procedures	Deemed valid by Methodology <table border="1"> <thead> <tr> <th>Gas</th><th>Default Emissions factor (kg_gas/TJ_{NCV})</th><th>GWP of gas</th><th>Default Emissions factor (kg_CO₂e/TJ_{NCV})</th><th>Default Emissions factor (t_CO₂e/TJ_{NCV})</th></tr> </thead> <tbody> <tr> <td>CH₄</td><td>300</td><td>25 (2020) 28 (2021)</td><td>7,500 (2020) 8,400 (2021)</td><td>7.5 (2020) 8.4 (2021)</td></tr> <tr> <td>N₂O</td><td>4</td><td>298 (2020) 265 (2021)</td><td>1,192 (2020) 1,060 (2021)</td><td>1.192 (2020) 1.06 (2021)</td></tr> <tr> <td></td><td></td><td></td><td>Total</td><td>8.692 (2020) 9.46 (2021)</td></tr> </tbody> </table>				Gas	Default Emissions factor (kg_gas/TJ _{NCV})	GWP of gas	Default Emissions factor (kg_CO ₂ e/TJ _{NCV})	Default Emissions factor (t_CO ₂ e/TJ _{NCV})	CH ₄	300	25 (2020) 28 (2021)	7,500 (2020) 8,400 (2021)	7.5 (2020) 8.4 (2021)	N ₂ O	4	298 (2020) 265 (2021)	1,192 (2020) 1,060 (2021)	1.192 (2020) 1.06 (2021)				Total	8.692 (2020) 9.46 (2021)
Gas	Default Emissions factor (kg_gas/TJ _{NCV})	GWP of gas	Default Emissions factor (kg_CO ₂ e/TJ _{NCV})	Default Emissions factor (t_CO ₂ e/TJ _{NCV})																				
CH ₄	300	25 (2020) 28 (2021)	7,500 (2020) 8,400 (2021)	7.5 (2020) 8.4 (2021)																				
N ₂ O	4	298 (2020) 265 (2021)	1,192 (2020) 1,060 (2021)	1.192 (2020) 1.06 (2021)																				
			Total	8.692 (2020) 9.46 (2021)																				
Purpose of data	Calculating ERs																							
Additional comments	Following the new rule update regarding the applicability of global warming potential for GS for the Global Goals Projects, AR5 has been applied to 2021 ERs and AR4 to 2020 ERs.																							

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	EFp,co2
Unit	tco2/TJ
Description	co2 emission factor arising from use of fuels in project scenario
Source of data	Volume 2: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 2, Table 2.5; https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf
Value(s) applied)	112
Choice of data or measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	EFp,non co2

Unit	tco2/TJ				
Description	IPCC Default emissions factor: Non-CO2 Emissions from Stationary Combustion. Annex 1, Table 2 and Table 3. https://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_2_Non-CO2_Stationary_Combustion.pdf Global Warming Potential: https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf				
Source of data	IPCC default value				
Value(s) applied)	9.46 (2021), 8.692 (2020)				
Choice of data or measurement methods and procedures	Deemed valid by Methodology				
		Default Emissions factor		Default Emissions factor	Default Emissions factor
	Gas	(kg_gas/TJ _{NCV})	GWP of gas	(kg_CO ₂ e/TJ _{NCV})	(t_CO ₂ e/TJ _{NCV})
	CH ₄	300	25 (2020) 28 (2021)	7,500 (2020) 8,400 (2021)	7.5 (2020) 8.4 (2021)
	N ₂ O	4	298 (2020) 265 (2021)	1,192 (2020) 1,060 (2021)	1.192 (2020) 1.06 (2021)
			Total	8.692 (2020) 9.46 (2021)	
Purpose of data	Calculating ERs				
Additional comments	Following the new rule update regarding the applicability of global warming potential for GS for the Global Goals Projects, AR5 has been applied to 2021 ERs and AR4 to 2020 ERs.				

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	NCVb
Unit	TJ/ton

Description	Net calorific value of the fuels used in the baseline
Source of data	IPCC default value
Value(s) applied)	0.0156
Choice of data or measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	NCVp
Unit	TJ/ton
Description	Net calorific value of the fuels used in the project
Source of data	IPCC default value
Value(s) applied)	0.0156
Choice of data or measurement methods and procedures	Deemed valid by Methodology
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Wb,y
Unit	T/litre
Description	Quantity of fuel that is used to treat 1 litre of water in the baseline scenario b during year y
Source of data	Baseline Water Boiling Test
Value(s) applied)	0.0004
Choice of data or measurement methods and procedures	Gold Standard BAMG Cap.
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Wp,y
Unit	T/litre
Description	Quantity of fuel that is used to treat 1 litre of water in the project scenario p during year y
Source of data	Baseline Water Boiling Test
Value(s) applied)	0.0004

Choice of data or measurement methods and procedures	Gold Standard BAMG Cap.
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	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)	8.91
Choice of data or measurement methods and procedures	Suppressed demand is determined through a set of questions in the project survey that establish the method households use to purify their water, if any, and how they would choose to purify if they were not subject to monetary and access barriers. This is in line with the Gold Standard principles of suppressed demand outline in annex 2. A fixed suppressed demand baseline has been opted for.
Purpose of data	Calculating ERs
Additional comments	

Relevant SDG Indicator	SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.1: Mortality rate attributed to household and ambient air pollution. 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services
Data/parameter:	Pb,boil
Unit	Percentage
Description	Percentage of persons boiling water for purification in the baseline scenario
Source of data	Baseline study
Value(s) applied)	0.8%
Choice of data or measurement methods and procedures	-
Purpose of data	Calculating SDG 3 impact
Additional comments	

Relevant SDG Indicator	SDG 5 (Gender Equality) 5.4: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location
Data/parameter:	Tb,y
Unit	Minutes
Description	Time spent collecting water in the baseline scenario
Source of data	Gender Baseline study
Value(s) applied)	169.5
Choice of data or measurement methods and procedures	-
Purpose of data	Calculating SDG 5 impact
Additional comments	SDG 5: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.

D.2. Data and parameters monitored

>>

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	fNRB,i,y
Unit	Fractional non-renewability
Description	Non-renewability status of woody biomass fuel in scenario i during year y
Measured/calculated/default	Measured
Source of data	CDM Default National Figure
Value(s) of monitored parameter	0.89
Monitoring equipment	FNRB Assessment
Measuring/reading/recording frequency:	Fixed by baseline study for a given crediting period, updated if necessary as specified in section III.1 of methodology.
Calculation method (if applicable):	CDM default value
QA/QC procedures:	Transparent data analysis and reporting
Purpose of data	Calculating ERs
Additional comments	-

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Np,y
Unit	Project Technology Days
Description	Number of persons consuming water supplied by project scenario p per day through year y
Measured/calculated/default	Measured
Source of data	Borehole Project Database

Value(s) of monitored parameter	GS5106: 912,525 GS5186: 923,475 GS5187: 719,550 GS5188: 721,050 GS5189: 509,250 GS5190: 514,950 GS5191: 821,925 GS5192: 1,008,048 GS5193: 957,270 GS5194: 505,800 GS5196: 722,325 GS5197: 832,200 GS6349: 622,763 GS6350: 719,175 GS6351: 601,170 GS7362: 876,000 GS7363: 876,000 GS7364: 1,090,985 GS7365: 876,000 GS7366: 955,935 Total: 15,766,396
Monitoring equipment	Borehole database
Measuring/reading/recording frequency:	Measured per MP
Calculation method (if applicable):	Borehole users x days in MP – breakdown days
QA/QC procedures:	-
Purpose of data:	Calculating ERs
Additional comments:	

Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.1.1: Proportion of population using safely managed drinking water services SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Up,y
Unit	Percentage
Description	Usage rate in project scenario p through year y
Measured/calculated/default	Measured
Source of data	Annual Usage Survey
Value(s) of monitored parameter	90% (capped), 100% (actual figure), 100% (weighted average actual figure)
Monitoring equipment	The usage survey has been carried out by staff trained by CO2balance to meet the specific requirements of the methodology. All data presented in Excel is subject to checking and cross referencing of a sample of the raw data by the project developers.
Measuring/reading/recording frequency:	Measured annually
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	Calculating ERs

Additional comments:	
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Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Qp,y
Unit	Litres per person per day
Description	Quantity of safe water supplied in the project scenario p during the year y using the zero or low emissions clean water supply technology
Measured/calculated/default	Measured
Source of data	Water Consumption Field Test "WCFT Survey Result March 2021"
Value(s) of monitored parameter	24.7 (capped at 7.5) across all VPAs
Monitoring equipment	Method used similar to Kitchen Performance Test in which the volume of water consumed in each household is averaged over 3 days. Volume capped at 7.5 litres per person per day as per the methodology The WCFT is be carried out by staff trained by CO2balance to meet the specific requirements of the methodology. All data presented in excel is subject to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.
Measuring/reading/recording frequency:	Measured biennially
Calculation method (if applicable):	-
QA/QC procedures:	-

Purpose of data:	Calculating ERs
Additional comments:	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Qp,cleanboil,y
Unit	Litres per person per day
Description	Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology
Measured/calculated/default	Measured
Source of data	Water Consumption Field Test "WCFT Survey Result March 2021"
Value(s) of monitored parameter	0
Monitoring equipment	WCFT
Measuring/reading/recording frequency:	Measured biennially
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	Calculating ERs
Additional comments:	SDG 13: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Qp,rawboil, y
Unit	Litres per person per day
Description	The raw of unsafe water that is still boiled after installation of the water treatment technology
Measured/calculated/default	Measured
Source of data	Water Consumption Field Test "WCFT Survey Result March 2021"
Value(s) of monitored parameter	0
Monitoring equipment	WCFT
Measuring/reading/recording frequency:	Measured biennially
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	Calculating ERs
Additional comments:	SDG 13: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	Quality of Treated Water
Unit	Parameters as per national standards
Description	Performance of the treatment technology
Measured/calculated/default	Measured
Source of data	Water quality tests
Value(s) of monitored parameter	Pass - the National Water Quality Reference Laboratory has certified each water supply in line with national standards; boreholes which have failed to meet the standards have been removed from crediting.
Monitoring equipment	Laboratory Tests
Measuring/reading/recording frequency:	Tested annually
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	-
Additional comments:	SDG 13: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data/parameter:	LEp,y
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	Surveys
Measuring/reading/recording frequency:	Measured annually
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	Calculating ERs
Additional comments:	SDG 13: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.

Relevant SDG Indicator	SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.1: Mortality rate attributed to household and ambient air pollution. 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
Data/parameter:	Py
Unit	Number
Description	Number of persons having access to safe water in the project activity
Measured/calculated/default	Calculated
Source of data	User lists

Value(s) of monitored parameter	GS5106: 3,000 GS5186: 2,954 GS5187: 2,700 GS5188: 2,700 GS5189: 1,800 GS5190: 1,500 GS5191: 2,400 GS5192: 3,159 GS5193: 2,794 GS5194: 2,100 GS5196: 2,400 GS5197: 2,400 GS6349: 2,396 GS6350: 2,400 GS6351: 2,340 GS7362: 2,400 GS7363: 2,400 GS7364: 2,989 GS7365: 2,400 GS7366: 2,619 Total: 49,851
Monitoring equipment	User lists
Measuring/reading/recording frequency:	Recorded continuously
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	Calculating access to safe water
Additional comments:	

Relevant SDG Indicator/Safeguarding Principle	SDG 5
Data / Parameter	Usage of time saved on water collection
Unit	Percentage
Description	Uses of time saved which was previously spent on water collection
Measured/calculated/default	Measured
Source of data	Project Survey
Value(s) of monitored parameter	1. (Unpaid) Domestic work (includes cooking and caring for family members): 58% 2. Income generating activities: 30% 3. Religious activities: 3% 4. Social and leisure activities: 6% 5. Voluntary activities: 3% 6. Education and training: 0% 7. Other (Specify): 0%
Monitoring equipment	-
Measuring/reading/recording frequency:	Annual
Calculation method (if applicable):	Ask users how time saved on water collection in the project scenario, as opposed to the baseline scenario, is now being used.
QA/QC procedures:	-
Purpose of data	To quantify how time which was previously spent on water collection is now being used

Additional comments:	SDG 5: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.
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Relevant SDG Indicator	SDG 5 (Gender Equality) 5.4: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location
Data/parameter:	Tp,y
Unit	Minutes
Description	Time spent collecting water per household per day in project
Measured/calculated/default	Measured
Source of data	Project Survey
Value(s) of monitored parameter	121.2
Monitoring equipment	Project Survey
Measuring/reading/recording frequency:	Measured annually
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	Calculating time saved by project
Additional comments:	

Relevant SDG Indicator	SDG 3 (Good Health and Wellbeing) 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination 3.9.1: Mortality rate attributed to household and ambient air pollution. 3.9.2: Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services
Data/parameter:	P _{safe}
Unit	Number
Description	Number of additional persons consuming safe water in the project activity compared to the baseline scenario.
Measured/calculated/default	Calculated
Source of data	HH lists and Usage Survey

Value(s) of monitored parameter	GS5106: 2,301 GS5186: 2,301 GS5187: 1,789 GS5188: 1,789 GS5189: 1,278 GS5190: 1,278 GS5191: 2,045 GS5192: 2,485 GS5193: 2,381 GS5194: 1,278 GS5196: 1,789 GS5197: 2,045 GS6349: 1,530 GS6350: 1,789 GS6351: 1,483 GS7362: 1,789 GS7363: 1,534 GS7364: 2,291 GS7365: 2,045 GS7366: 2,232 Total: 37,451
Monitoring equipment	HH lists and surveys
Measuring/reading/recording frequency:	Measured annually
Calculation method (if applicable):	See Section E
QA/QC procedures:	-
Purpose of data:	To calculate the additional number of persons having access to safe water in the project activity compared to the baseline scenario.
Additional comments:	

Relevant SDG Indicator	SDG 5 (Gender Equality) 5.4: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate. 5.4.1: Proportion of time spent on unpaid domestic and care work, by sex, age and location
Data/parameter:	TR,y
Unit	Percentage
Description	Total reduction time spent collecting water for project activity in year y (%)
Measured/calculated/default	Measured
Source of data	Project Survey
Value(s) of monitored parameter	28.5%
Monitoring equipment	Project Survey
Measuring/reading/recording frequency:	Measured annually
Calculation method (if applicable):	See Section E
QA/QC procedures:	-
Purpose of data:	To quantify whether the project has contributed to a reduction in the amount of time spent collecting water compared to the pre-project scenario.
Additional comments:	

Relevant SDG Indicator	SDG 6 (Clean Water and Sanitation) 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
Data/parameter:	P _{access}
Unit	Number
Description	Number of additional persons having access to safe water in the project activity compared to the baseline scenario
Measured/calculated/default	Measured annually
Source of data	HH lists and Usage Survey
Value(s) of monitored parameter	GS5106: 2,319 GS5186: 2,319 GS5187: 1,804 GS5188: 1,804 GS5189: 1,288 GS5190: 1,288 GS5191: 2,062 GS5192: 2,505 GS5193: 2,400 GS5194: 1,288 GS5196: 1,804 GS5197; 2,062 GS6349: 1,543 GS6350: 1,804 GS6351: 1,495 GS7362: 1,804 GS7363: 1,546 GS7364: 2,310 GS7365: 2,062 GS7366: 2,250 Total: 37,755
Monitoring equipment	HH lists and surveys

Measuring/reading/recording frequency:	Measured annually
Calculation method (if applicable):	See Section E
QA/QC procedures:	-
Purpose of data:	To calculate the additional number of persons having access to safe water in the project activity compared to the baseline scenario
Additional comments:	

Relevant SDG Indicator	SDG 13 (Climate Action), 13B: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
Data / Parameter	Breakdown Days,y
Unit	Number
Description	Number of days a particular borehole was non-functioning during year y
Source of data	Borehole visits, communications from WRC
Value(s) applied	Total breakdown days: 10,528 Total % borehole operationality: 83%
Measurement methods and procedures	Please see ER calculations on how these days are incorporated.
Monitoring frequency	Ongoing
QA/QC procedures	-
Purpose of data	Calculating ERs

Additional comment	SDG 13: Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.
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D.3. Comparison of monitored parameters with last monitoring period

Data/Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
Psafe	37,451	45,491
TRy	28.5%	60.7%
Paccess	37,755	41,274
Py	49,851	49,851
Breakdown Days,y	10,528	3,302
Tp,y	121.2	66.6
Usage of time saved on water collection	1. (Unpaid) Domestic work (includes cooking and caring for family members): 58% 2. Income generating activities: 30% 3. Religious activities: 3% 4. Social and leisure activities: 6% 5. Voluntary activities: 3% 6. Education and training: 0% 7. Other (Specify): 0%	1. (Unpaid) Domestic work (includes cooking and caring for family members): 43% 2. Income generating activities: 38% 3. Religious activities: 23% 4. Social and leisure activities: 12% 5. Voluntary activities: 0% 6. Education and training: 0% 7. Other (Specify): 0%
Up,y	90%	90%
Qp,y	24.7 (7.5 cap)	7.56 (7.5 cap)
Np,y (PTD Total)	15,766,396	15,197,1389
Qp,rawboil,y	0	0
QP,cleanboil,y	0	0
LEp,y	0	0

D.4. Implementation of sampling plan

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The project proponent has elected to cross-sample technologies across all its homogenous borehole VPAs located within the Lango sub-regions. Cross sampling of devices was applied across VPAs GS5106, GS5186, GS5187, GS5188, GS5189, GS5190, GS5191, GS5192, GS5193, GS5194, GS5196, GS5197, GS6349, GS6350, GS6351, GS7362, GS7363, GS7364, GS7365 and GS7366. As all VPAs are homogenous - located in the same region, use the same technology, and share a common baseline - cross sampling of devices shall be applied across all VPAs rather than on a VPA by VPA basis.

Cross sampling was applied to the following surveys:

- Project surveys
- Usage Surveys

As per the methodology, for sampling purposes the boreholes were separated by age groups. Rehabilitation took place between October 2016 and October 2019. Therefore, boreholes were split into those from 2016-17 (81), from 2017-18 (45) and from 2018-19 (43). The monitoring system follows the 90/30 rule set out in TPDDTEC for selecting a sample. Based on this rule, the appropriate sample size for each age group is 7 boreholes. For both age groups, each borehole was assigned a random number using an online tool, with the first 7 selected for sampling. The household lists for these 7 boreholes were put together and assigned a random number with the same online tool. 96 HHs were selected from 2016-17 age group, 53 HHs from 2017-18 and 51 HHs from 2018-19, to provide 200 households for the Project and Usage Surveys.

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

The water quality tests were conducted by the ministry of water & environment of Uganda. The tests include a wide range of parameters to cover safe water consumption. Key parameters include turbidity, metal contents and presence of faecal coliform.

SECTION E. CALCULATION OF SDG IMPACTS

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

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SDG 3 (Good Health and Wellbeing)

The outcome for SDG 3 is quantified as the additional number of persons consuming safe water in the project activity compared to the baseline scenario (P_{safe}). The number of persons using each borehole is determined in the sensitization process during the rehabilitation. The percentage of users who were already consuming safe water in the baseline without boiling it (C_j) is determined through the baseline survey and deducted. Additionally, the percentage of users who consumed safe water by boiling it in the baseline ($P_{b,boil}$) is deducted. Calculations are as follows:

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

Where:

P_{safe}	Number of additional persons consuming safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to safe water in the project activity.
C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it.
$P_{b,boil}$	Percentage of persons boiling water for purification in the baseline scenario.

SDG 5 (Gender Equality)

By ensuring that there is a safe water source at the centre of communities, the projects have the potential to reduce the time poverty of women, because the time burden of collecting water, which falls disproportionately on women, will be reduced. As the safe water sources are located centrally within communities, closer to public institutions and villages, the distance travelled to collect water will be reduced, reducing the time per trip spent collecting water. In addition, as the water sources will be maintained, they will provide a reliable water supply, ensuring that water needs for

cooking, drinking, and food preparation can be met by one central water source, so the time spent collecting water is minimised. The average % decrease per household in time spent collecting water will be taken as a proxy contribution towards the SDG target.

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

$$TR_y = (T_{b,y} - T_{p,y}) / T_{b,y}$$

Where:

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

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 (P_{access}). The number of persons using each borehole is determined in the sensitization process during the rehabilitation. The percentage of users who were already consuming safe water in the baseline without boiling it (C_j) will be determined through the baseline survey. Calculations are as follows:

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

Where:

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

C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it.
$U_{p,y}$	Usage rate in project scenario p during year y

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 VPA's emission reductions calculations.

Baseline Emissions ($BE_{b,y}$)

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

Where:

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

Where:

$N_{j,y}$	Number of person.days consuming water supplied by project scenario p through year y ⁴⁷
C_j	Expressed as a percentage, this is the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it
$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during the year y in tons
$Q_{p,y}$	Quantity of safe water in litres consumed in the project scenario p and supplied by project technology per person per day
$Q_{p,rawboil,y}$	Quantity of raw water boiled in the project scenario p per person per day
$W_{b,y}$	Quantity of fuel in tons required to treat 1 litre of water using technologies representative of baseline scenario b during project year y , as per Baseline Water Boiling Test.

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

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SDG 3 (Good Health and Wellbeing)

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

SDG 5

$T_{p,y}$ Time spent collecting water per household per day in project (minutes)

SDG 6

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

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

SDG 13

Project Emissions ($PE_{b,y}$)

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

Where:

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

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

E.3. Calculation of leakage

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Leakage Assessment

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.

The baseline technologies displaced are predominantly three stone fires; 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. The primary purpose of these three rocks is for cooking so they will not be replaced/displaced in their entirety as a result of this project - which means they will not be reused outside the project boundary. This leakage source can therefore be discounted.

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

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

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

There are currently no other CDM or VER projects in the project area, however, this will be reviewed biennially.

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

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

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

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

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

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

SDG 3

$$P_{\text{safe}} = 37,451 = (49,851 - 5,297) * (1 - 0.0456) * (1 - 0.08) * 0.9$$

$$P_{\text{safe}} = (P_y - P_{y,\text{failure}}) * (1 - C_j) * (1 - P_{b,\text{boil}}) * U_{p,y}$$

Where:

P_{safe} Number of additional persons consuming safe water in the project activity compared to the baseline scenario

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

C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it.
$P_{yfailure}$	Number of people not gaining access to safe water due to failed water quality test.
$P_{b,boil}$	Percentage of persons boiling water for purification in the baseline scenario
$U_{p,y}$	Usage rate in project scenario p during year y

SDG 5

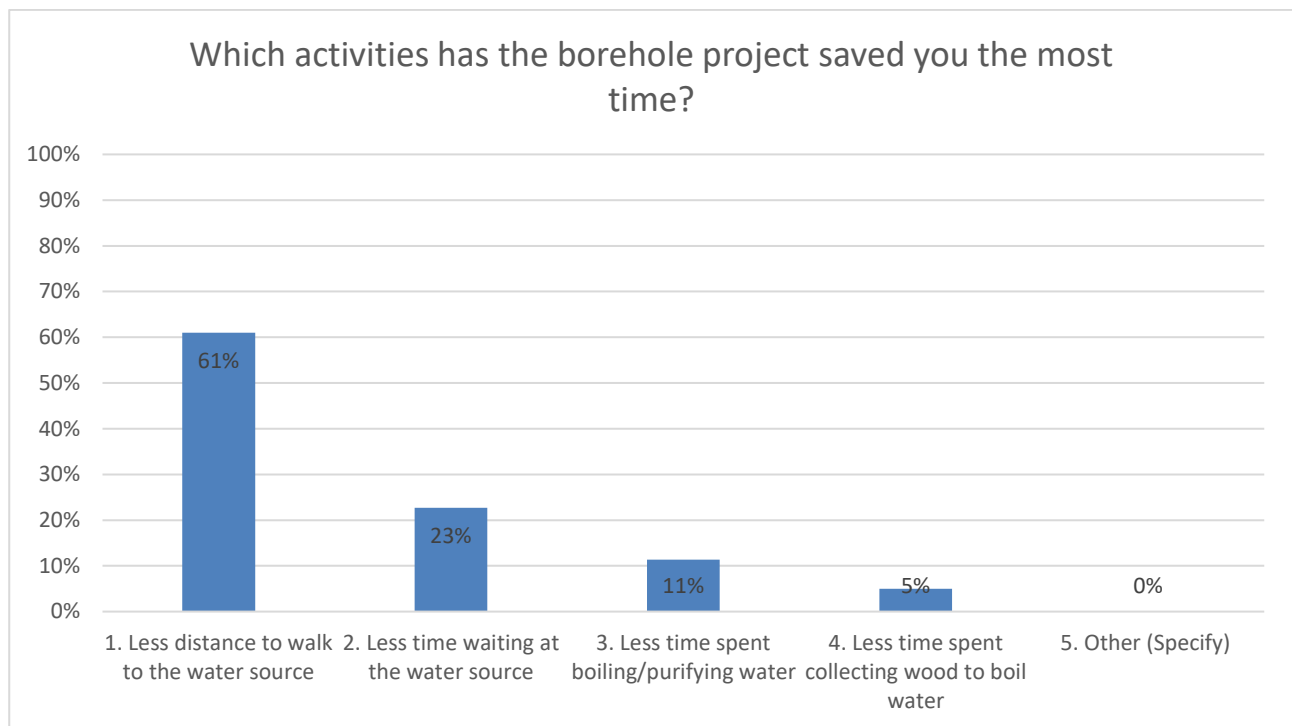
$$TR_y = 28.5\% = (169.5 - 121.2) / 169.5$$

$$TR_y = (T_{b,y} - T_{p,y}) / T_{b,y}$$

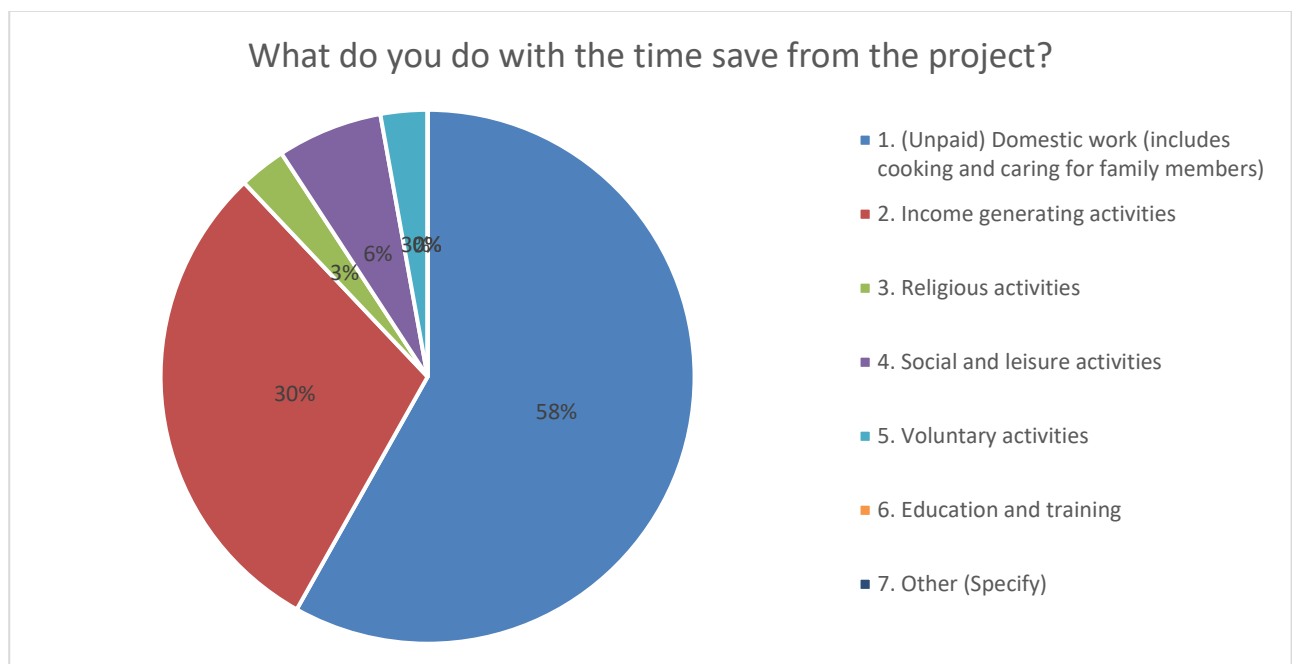
Where:

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

The project has saved households 48.3 minutes per day. 61% of households said it has reduced the walking distance to the water source and 23% saying they have spent less time at the water source.



The time saved from the project is used in the following ways:



SDG 6

$$P_{\text{access}} = 37,755 = (49,851 - 5,297) * (1 - 0.0456) * 0.9$$

Where:

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

P_{access}	Number of additional persons having access to safe water in the project activity compared to the baseline scenario.
P_y	Number of persons having access to safe water in the project activity.
C_j	Expressed as a percentage, the portion of users of the project technology j who in the baseline were already consuming safe water without boiling it.
$U_{p,y}$	Usage rate in project scenario p during year y

SDG 13 & Emission Reductions

In MP5 the project achieved a total capped ERs of 62,655 tCO₂e. Below is a summary of the ERs by VPA and vintage.

GS5106

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		912,525
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2612.74
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		912,525
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,448
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	4,004
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of <u>non</u> -suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,626
Emission Reductions claimed	ERy	tCO2/y	3,626

GS5186

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		923,475
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2644.09
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		923,475
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,502
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	4052
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of <u>non</u> -suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,670
Emission Reductions claimed	ERy	tCO2/y	3,670

GS5187

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		719,550
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2060.22
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		719,550
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	3,508
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,157
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,859
Emission Reductions claimed	ERy	tCO2/y	2,859

GS5188

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		721,050
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2064.51
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		721,050
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	3,515
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,164
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,865
Emission Reductions claimed	ERy	tCO2/y	2,865

GS5189

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		509,250
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	1458.08
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		509,250
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	2,483
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	ERy	tCO2/y	2,234
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,023
Emission Reductions claimed	ERy	tCO2/y	2,023

GS5190

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		514,950
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	1474.40
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		514,950
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	2,510
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	ERy	tCO2/y	2,259
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,046
Emission Reductions claimed	ERy	tCO2/y	2,046

GS5191

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		821,925
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2353.34
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		821,925
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,007
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,606
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,266
Emission Reductions claimed	ERy	tCO2/y	3,266

GS5192

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		1,008,048
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2886.24
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		1,008,048
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,914
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	4,423
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	4,006
Emission Reductions claimed	ERy	tCO2/y	4,006

GS5193

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		957,270
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2740.85
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		957,270
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,667
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	4,200
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of <u>non</u> -suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,804
Emission Reductions claimed	ERy	tCO2/y	3,804

GS5194

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		505,800
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	1448.21
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		505,800
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	2,466
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	2,219
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of <u>non</u> -suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,009
Emission Reductions claimed	ERy	tCO2/y	2,009

GS5196

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		722,325
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2068.16
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		722,325
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	3,521
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,169
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,871
Emission Reductions claimed	ERy	tCO2/y	2,871

GS5197

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		832,200
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2382.76
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		832,200
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,057
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,651
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,308
Emission Reductions claimed	ERy	tCO2/y	3,308

GS6349

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		622,763
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	1783.10
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		622,763
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	3,036
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	2,732
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,474
Emission Reductions claimed	ERy	tCO2/y	2,474

GS6350

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		719,175
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2059.14
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		719,175
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	3,506
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,155
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,857
Emission Reductions claimed	ERy	tCO2/y	2,857

GS6351

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		601,170
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	1721.27
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		601,170
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	2,931
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	2,638
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	2,389
Emission Reductions claimed	ERy	tCO2/y	2,389

GS7362

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		876,000
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2508.16
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		876,000
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,270
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,843
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,482
Emission Reductions claimed	ERy	tCO2/y	3,482

GS7363

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		876,000
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2508.16
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		876,000
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,270
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,843
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,482
Emission Reductions claimed	ERy	tCO2/y	3,482

GS7364

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		1,090,985
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	3123.71
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		1,090,985
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	5,318
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	4,787
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	4,336
Emission Reductions claimed	ERy	tCO2/y	4,336

GS7365

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		876,000
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2508.16
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		876,000
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,270
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	3,843
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,482
Emission Reductions claimed	ERy	tCO2/y	3,482

GS7366

Total Emission Reductions for Monitoring Period 5			
Baseline Fuel Use (Bby)			
Portion using safe water	Cj	fraction	4.56%
Project Technology Days	Njy		955,935
Fuel to treat 1 litre of water using baseline tech	Wb,y	T/L	0.0004000
Quantity safe water litres consumed in project scenario supplied by project technology	Qp,y	L/pd	7.5
Quantity of raw water boiled in addition to project technology water	Qp, raw, y	L/pd	0
Quantity fuel consumed in baseline scenario	Bb,y	T	2737.03
Project Fuel Use (Pby)			
Portion of safe users	Cj	fraction	0.0456
Project Technology Days	Njy		955,935
Fossil fuel required to treat 1 litre for water in project scenario	Wp,y	T/L	0.0004000
Quantity of raw water boiled in addition to project tech water	Qp, raw, y	L/pd	0
Quantity of safe water boiled	Qp, cleanboil, y	L/pd	0.00
Quantity of fuel consumed in project scenario per HH	Bp,y	T	0
Constants			
NRB	NRB	Fraction	0.89000
Emissions factor fuel (co2)	EFb,fuel,co2	tCO2/TJ	112
Emissions factor fuel (non-co2)	EFb, fuel, non-co2	TCO2/TJ	9.46
Net calorific value of fuel	NCV,b,fuel	TJ/T	0.0156
Emissions Reductions			
Baseline emissions per year	BEb,y	tCO2/y	4,660
Project emissions per year	PEp,y	tCO2/y	0
Usage rate	Up,y	fraction	0.9
Leakage	LEp,y	tCO2/y	0
Emission Reductions	Ery	tCO2/y	4,194
Suppressed Demand Assessment			
Percentage of suppressed demand users			91.09%
Percentage of non-suppressed demand users	Xboil	Percentage	8.91%
Emission Reductions	ERy	tCO2/y	3,800
Emission Reductions claimed	ERy	tCO2/y	3,800

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
3	Additional persons consuming safe water in the project activity compared to the baseline scenario	GS5106: 444	GS5106: 3,000	GS5106: 2,301
		GS5186: 398	GS5186: 2,954	GS5186: 2,301
		GS5187: 712	GS5187: 2,700	GS5187: 1,789
		GS5188: 712	GS5188: 2,700	GS5188: 1,789
		GS5189: 380	GS5189: 1,800	GS5189: 1,278
		GS5190: 80	GS5190: 1,500	GS5190: 1,278
		GS5191: 128	GS5191: 2,400	GS5191: 2,045
		GS5192: 398	GS5192: 3,159	GS5192: 2,485
		GS5193: 149	GS5193: 2,794	GS5193: 2,381
		GS5194: 680	GS5194: 2,100	GS5194: 1,278
		GS5196: 412	GS5196: 2,400	GS5196: 1,789
		GS5197: 128	GS5197: 2,400	GS5197: 2,045
		GS6349: 128	GS6349: 2,396	GS6349: 1,530
		GS6350: 412	GS6350: 2,400	GS6350: 1,789
		GS6351: 693	GS6351: 2,340	GS6351: 1,483
		GS7362: 412	GS7362: 2,400	GS7362: 1,789
		GS7363: 696	GS7363: 2,400	GS7363: 1,534
		GS7364: 443	GS7364: 2,989	GS7364: 2,291
		GS7365: 128	GS7365: 2,400	GS7365: 2,045
		GS7366: 140	GS7366: 2,619	GS7366: 2,232
5	Total reduction time spent collecting water for project activity in MP	169.5 minutes collecting water	121.2 minutes collecting water	28.5% reduction in time spent collecting water
	6	Additional persons having access to safe water in the project activity compared to the baseline scenario		
GS5106: 681		GS5106: 3,000	GS5186: 2,319	
GS5186: 635		GS5186: 2,954	GS5187: 1,804	
GS5187: 896		GS5187: 2,700	GS5188: 1,804	
GS5188: 896		GS5188: 2,700	GS5189: 1,288	
GS5189: 512		GS5189: 1,800	GS5190: 1,288	
	GS5190: 212	GS5190: 1,500	GS5191: 2,062	

		GS5191: 338	GS5191: 2,400	GS5192: 2,505
		GS5192: 654	GS5192: 3,159	GS5193: 2,400
		GS5193: 394	GS5193: 2,794	GS5194: 1,288
		GS5194: 812	GS5194: 2,100	GS5196: 1,804
		GS5196: 596	GS5196: 2,400	GS5197; 2,062
		GS5197: 338	GS5197: 2,400	GS6349: 1,543
		GS6349: 338	GS6349: 2,396	GS6350: 1,804
		GS6350: 596	GS6350: 2,400	GS6351: 1,495
		GS6351: 845	GS6351: 2,340	GS7362: 1,804
		GS7362: 596	GS7362: 2,400	GS7363: 1,546
		GS7363: 854	GS7363: 2,400	GS7364: 2,310
		GS7364: 679	GS7364: 2,989	GS7365: 2,062
		GS7365: 338	GS7365: 2,400	GS7366: 2,250
		GS7366: 369	GS7366: 2,619	
13	ERy (Tonnes of Carbon Dioxide equivalent)	GS5106: 3,358	GS5106: 0 tCO2e	
		GS5186: 3,398	GS5186: 0 tCO2e	
		GS5187: 2,647	GS5187: 0 tCO2e	GS5106: 3,626
		GS5188: 2,653	GS5188: 0 tCO2e	GS5186: 3,670
		GS5189: 1,874	GS5189: 0 tCO2e	GS5187: 2,859
		GS5190: 1,895	GS5190: 0 tCO2e	GS5188: 2,865
		GS5191: 3,025	GS5191: 0 tCO2e	GS5189: 2,023
		GS5192: 3,710	GS5192: 0 tCO2e	GS5190: 2,046
		GS5193: 3,523	GS5193: 0 tCO2e	GS5191: 3,266
		GS5194: 1,861	GS5194: 0 tCO2e	GS5192: 4,006
		GS5196: 2,658	GS5196: 0 tCO2e	GS5193: 3,804
		GS5197: 3,063	GS5197: 0 tCO2e	GS5194: 2,009
		GS6349: 3,058	GS6349: 0 tCO2e	GS5196: 2,871
		GS6350: 2,646	GS6350: 0 tCO2e	GS5197: 3,308
		GS6351: 2,212	GS6351: 0 tCO2e	GS6349: 2,474
		GS7362: 3,224	GS7362: 0 tCO2e	GS6350: 2,857
		GS7363: 3,224	GS7363: 0 tCO2e	GS6351: 2,389
		GS7364: 4,015	GS7364: 0 tCO2e	GS7362: 3,482
		GS7365: 3,224	GS7365: 0 tCO2e	GS7363: 3,482
		GS7366: 3,518	GS7366: 0 tCO2e	GS7364: 4,336
				GS7365: 3,482
				GS7366: 3,800

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 ² achieved during this monitoring period
3	GS5106: 3,713	GS5106: 2,301
	GS5186: 3,713	GS5186: 2,301
	GS5187: 3,713	GS5187: 1,789
	GS5188: 3,713	GS5188: 1,789
	GS5189: 3,713	GS5189: 1,278
	GS5190: 3,713	GS5190: 1,278
	GS5191: 3,713	GS5191: 2,045
	GS5192: 3,713	GS5192: 2,485
	GS5193: 3,713	GS5193: 2,381
	GS5194: 3,713	GS5194: 1,278
	GS5196: 3,726	GS5196: 1,789
	GS5197: 3,726	GS5197: 2,045
	GS6349: 3,726	GS6349: 1,530
	GS6350: 3,726	GS6350: 1,789
	GS6351: 3,726	GS6351: 1,483
	GS7362: 3,726	GS7362: 1,789
	GS7363: 3,726	GS7363: 1,534
	GS7364: 3,726	GS7364: 2,291
	GS7365: 3,726	GS7365: 2,045
	GS7366: 3,726	GS7366: 2,232
5	53.8% reduction in time spent collecting water	28.5% reduction in time spent collecting water
6	GS5106: 2,970	GS5106: 2,319
	GS5186: 2,970	GS5186: 2,319
	GS5187: 2,970	GS5187: 1,804
	GS5188: 2,970	GS5188: 1,804

² Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

	GS5189: 2,970	GS5189: 1,288
	GS5190: 2,970	GS5190: 1,288
	GS5191: 2,970	GS5191: 2,062
	GS5192: 2,970	GS5192: 2,505
	GS5193: 2,970	GS5193: 2,400
	GS5194: 2,970	GS5194: 1,288
	GS5196: 3,757	GS5196: 1,804
	GS5197: 3,757	GS5197: 2,062
	GS6349: 3,757	GS6349: 1,543
	GS6350: 3,757	GS6350: 1,804
	GS6351: 3,757	GS6351: 1,495
	GS7362: 3,757	GS7362: 1,804
	GS7363: 3,757	GS7363: 1,546
	GS7364: 3,757	GS7364: 2,310
	GS7365: 3,757	GS7365: 2,062
	GS7366: 3,757	GS7366: 2,250
	GS5106: 9,977	GS5106: 3,626
	GS5186: 9,977	GS5186: 3,670
	GS5187: 9,977	GS5187: 2,859
	GS5188: 9,977	GS5188: 2,865
	GS5189: 9,977	GS5189: 2,023
	GS5190: 9,977	GS5190: 2,046
	GS5191: 9,977	GS5191: 3,266
	GS5192: 9,977	GS5192: 4,006
	GS5193: 9,977	GS5193: 3,804
	GS5194: 9,977	GS5194: 2,009
13	GS5196: 9,973	GS5196: 2,871
	GS5197: 9,973	GS5197: 3,308
	GS6349: 9,973	GS6349: 2,474
	GS6350: 9,973	GS6350: 2,857
	GS6351: 9,973	GS6351: 2,389
	GS7362: 7,978	GS7362: 3,482
	GS7363: 7,978	GS7363: 3,482
	GS7364: 7,978	GS7364: 4,336
	GS7365: 5,546	GS7365: 3,482
	GS7366: 5,546	GS7366: 3,800
	Total: 184,661	Total: 62,655

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

The estimation provided in the Transition Annex is higher, as this was based on more users per VPA and did not take into account, borehole users being removed from crediting due to not meeting water quality standards.

SDG 5

The transition Annex estimated a 53.8% reduction in time spent collecting water. During this monitoring period, a 28.5% reduction in time spent collecting water. A smaller value can be attributable to many reasons, including demand by users for the use of a borehole.

SDG 6

The estimation provided in the Transition Annex is higher, as this was based on more users per VPA and did not take into account, borehole users being removed from crediting due to not meeting water quality standards.

SDG 13

GS7362-7366 are new VPAs during this monitoring period and have shorter periods of crediting days compared to the other 15 VPAs. The ex-ante estimates for GS7362-7366 have been adjusted to reflect the shorter monitoring period for these VPAs. The actual values achieved in the MP are mainly lower due to the accounting of breakdown days, whereas the ex-antes did not account for these and a cap of 300 users to be credited from each borehole.

SECTION F. SAFEGUARDS REPORTING

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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 discrimination and shall not lead			SDG 5 $T_{p,y}$ $TR_{,y}$ The time spent collecting wood fuel is monitored in the project survey. The

	to/contribute to adverse impacts on gender equality and/or the situation of women. Specifically, this shall include (not exhaustive): (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. (b) Slavery, imprisonment, physical and mental drudgery, punishment or coercion of	No No	The burden on the whole community of travelling far to collect water and gather firewood for water purification will be reduced. This will also mitigate the social isolation of spending a long time collecting these resources The project will decrease the drudgery by reducing time spent on water and	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.
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	women and girls.		firewood collection	
	(c)Restriction of women's rights or access to resources (natural or economic).	No	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.	
	(d) Recognise women's ownership rights regardless of marital status – adopt project	No	The project will decrease the workload of women in collecting water and firewood,	

	measures where possible to support to women's access to inherit and own land, homes, and other assets or natural resources. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work, specifically: (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		thereby allowing more time to engage in other activities.	
	(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	Yes	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	

	identified tasks/activities.		of members depending on their specific circumstances. They will also assist all communities members to provide feedback on the project, regardless of their situation.	
	(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.	Yes	The project aims to benefit the whole community equally and women's equal participation in the LSC and water point committees is encouraged	
	(c) Ensure that these conditions do not limit the access of women or men, as the case may be, to Project participation and benefits.	Yes	The project will encourage equal participation of men and women.	

	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 Displacement	Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project will not impact the physical or economic relocation 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	No	The project will not impact on land tenure arrangements or rights.	

	and/or other 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	No	The project will adhere to labour laws and requirements	

	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 other cannot be avoided, then guidance shall be sought from Gold Standard. Child labour, as defined by the ILO Minimum Age convention is not allowed. The Project Developer shall use adequate and verifiable	No	The projects will not use child labour	
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	mechanisms for age verification in recruitment procedures. Exceptions are children for work on their families' property as long as: (a) Their compulsory schooling (minimum of 6 schooling years) is not hindered, AND (b) The tasks they perform do not harm their physical and mental development, AND (c) The opinions and recommendations of an Expert Stakeholder shall be sought and demonstrated as being included in the project design.			
6.2 Negative Economic Consequences	Does the project cause negative	Yes	The project is not expected to have any	To ensure long term sustainability of the water

	economic consequences during and after project implementation, e.g., for vulnerable and marginalised social groups in targeted communities?		negative economic impacts or cause any risks.	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 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	No	No crops or other products will be produced in the project.	

	of crops or other products?			
9.2 Vulnerability to Natural Disaster	Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	There will be no impact by the project to natural disasters.	
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 and Critical Habitats	Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The project rehabilitates water points and decreases the consumption of 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)? Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No No	The project is not envisaged to have any impact on their habitat as it only affects borehole infrastructure. 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.

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No inputs or grievances were received during the monitoring period.

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

>>

No inputs or grievances were received during the previous monitoring period.

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

>>

No legal contests or disputes arose during the monitoring period.

Revision History

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