VALIDATION REPORT

For GS Voluntary Project Activities (VPAs)

GS7591 VPA 1 WESTERN KENYA BOREHOLE REHABILITATION PROJECT,

GS7591 VPA 3 CENTRAL KENYA BOREHOLE REHABILITATION PROJECT,

GS 7591 VPA 7 NORTHERN UGANDA SAFE WATER PROJECT,

GS7591 VPA17 CENTRAL MOZAMBIQUE SAFE WATER PROGRAMME, AND

GS7591 VPA32 ZAMBIAN CENTRAL PROVINCE SAFE WATER

UNDER POA

International Programme for Safe Water Access and Efficient Cookstoves

(GS7591)

REPORT NO.
GS.20.VAL.004

Date of this issue: 24/03/2021	**KBS Ref. No.:** GS.20.VAL.004
Organizational Unit:	**Client:**
Climate Change Division, KBS	CO2balance UK Ltd.

Summary of validation:

"CO2balance UK Ltd." has commissioned KBS to perform the validation of the proposed Gold Standard for the Global Goals VPAs:

VPA Title:	GS7591 VPA 1 Western Kenya Borehole Rehabilitation Project (GS7557) GS7591 VPA 3 Central Kenya Borehole Rehabilitation Project (GS7559) GS 7591 VPA 7 Northern Uganda Safe Water Project (GS 7592) GS7591 VPA17 Central Mozambique Safe Water Programme (GS7637) GS7591 VPA32 Zambian Central Province Safe Water (GS7687)
Methodology Applied:	Gold Standard Methodology: "Technologies and Practices to Displace Decentralized Thermal Energy Consumption". Version 3.1
Sectoral Scopes:	*1.1, 3.1*
Validity of methodology/ies (for RfR):	Methodology dated 25/08/2017

The scope of the validation is defined as an independent and objective review of the Voluntary Project Activity (VPA) design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the latest version of GS4GG rules, CDM Validation and Verification Standard, Project Cycle Procedure and Project Standard.

The purpose and goal of these VPAs is to reduce emissions from burning of non-renewable biomass for water treatment. The use of non-renewable biomass such as wood and charcoal for water boiling, leads to the emission of greenhouses gases, deforestation and poor indoor climate. The VPAs involve installation and/or repair of safe water technologies under the PoA, to significantly reduce the non-renewable biomass consumption.

The scope of the validation is defined as an independent and objective review of the VPA design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the GS4GG Principle & Requirements, version 1.2 /4/.

The report is based on the assessment of the VPA design document /2/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., remote audit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance, CDM decisions and GS4GG requirements /4/.

The review of the VPA design documentation and the subsequent follow-up interviews (conducted remotely) have provided KBS with sufficient evidence to determine the VPAs fulfilment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the carbon validation along with Gold Standard requirements.

- ☒ Will be recommended to the Gold Standard for the Global Goals with a request for registration
- ☐ Is not recommended for registration

	Validation Status:	☐ Findings not closed
Project type:	Small scale	☐ Draft validation report

<table>
<tr><td colspan="3">Subject: GS4GG VPA Validation</td><td>☒ Final validation report</td></tr>
<tr><td colspan="3">Validation Team:</td><td>Document Distribution</td></tr>
<tr><td colspan="3">Team Leader and Technical Expert (TA 1.1, 3.1): Rohit Badaya
Validator: Shikha Sharma
Local Expert country wise are as follows:
1. Kenya: Chetan Swaroop Sharma & Rohit Badaya
2. Mozambique: Vicente Gimo Júnior
3. Uganda: Rohit Badaya
4. Zambia: Rohit Badaya</td><td rowspan="3">☒ No Distribution without permission from the Client</td></tr>
<tr><td colspan="2">Technical Review Team:</td><td>Manager T&C</td></tr>
<tr><td colspan="2">Technical Reviewer (TA 1.1 & 3.1): Sanjay Kandari
Date: 24/03/2021</td><td>Name: Tushar Eknath Chaudhari
Date: 24/03/2021</td></tr>
<tr><td colspan="3">Authorized by:</td><td rowspan="3">☐ Limited Distribution</td></tr>
<tr><td colspan="3">Name: Kaushal Goyal, Managing Director
Date: 24/03/2021</td></tr>
<tr><td colspan="3">Rev Number: Date:</td><td rowspan="2">☐ Unrestricted Distribution</td></tr>
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Abbreviations

BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification request
COP	Conference of Parties
DNA	Designated National Authority
DNHA	Do Not Harm Assessment
DR	Document Review
EB	Executive Board
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GS4GG	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LSC	Local Stakeholder Consultation
LE	Leakage Emissions
MOP	Meeting of Parties
MoC	Modalities of Communication
MoV	Means of Verification
MP	Monitoring Plan
PoA	Programme of Activity
PE	Project Emissions
PP	Project Participant
QA/QC	Quality Assurance/Quality Control
RfR	Request for Registration
SD	Sustainable Development
SFR	Sustainability Feedback Round
T&C	Technical & Certification
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reductions
VPA	Voluntary Project Activity
VVB	Validation & Verification Body
VVS	Validation & Verification Standard

Table of Content

1. Validation Opinion

KBS Certification Services Pvt. Ltd. has been contracted by CO2balance UK Ltd. to perform the validation of the Voluntary Project Activities under the Programme of Activity GS7591:

VPA title: 1. GS7591 VPA 1 Western Kenya Borehole Rehabilitation Project (GS7557),

2. GS7591 VPA 3 Central Kenya Borehole Rehabilitation Project (GS7559),

3. GS 7591 VPA 7 Northern Uganda Safe Water Project (GS 7592),

4. GS7591 VPA17 Central Mozambique Safe Water Programme (GS7637),

5. GS7591 VPA32 Zambian Central Province Safe Water (GS7687)

GS Reference Number: GS7557, GS7559, GS 7592, GS7637, GS7687

Host Parties: The Republic of Kenya (VPA 1 & VPA 3), Uganda (VPA 7), Republic of Mozambique (VPA 17), Republic of Republic of Zambia (VPA 32).

The validation was performed in accordance with the Gold Standard requirements/4/, latest version of Validation and Verification Standard and related Standards/Guidance and host country criteria /5/, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The proposed voluntary project activities (VPA) will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change. In our opinion, the VPA meets all relevant Gold Standard, CDM criteria and all relevant host country criteria.

The VPAs correctly applies Gold Standard methodology: “Technologies and Practices to Displace Decentralized Thermal Energy Consumption”. Version 3.1 /6/. It is demonstrated that the project is not a likely baseline scenario. The emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

Based on the information seen and evaluated, KBS confirms that the implementation of the project will result positive contribution to sustainable development as follows:

1. **SDG 3:** Good Health and Well-Being: 90% decrease in household smoke (VPA 1 & VPA 3), 42,981 additional people consuming safe water (VPA 7), 90% reduction in Household Air Pollution (VPA 17), 90% decrease in household smoke (VPA 32).

2. **SDG 5:** Gender Equality: 0.5 hours per household per day saved on firewood collection time (VPA 1 & VPA 3), 60% decrease in time spent collecting water and firewood per household per day (VPA 7),11 % reduction in time collecting water and firewood(VPA 17), approximately 0.5 hours equivalent to 25% reduction in time collecting water and firewood (VPA 32).

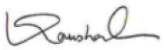
3. **SDG 6:** Clean Water and Sanitation: 36,720 additional people gain access to safe water (VPA 1), 36,832 additional people gain access to safe water (VPA 3), 46,494 additional people with access to safe water (VPA 7), 40,500 additional people gain access to safe water (VPA 17), and 41,234 additional people gain access to safe water (VPA 32).

4. **SDG 13**: Climate Action: The total annual average emission reductions are estimated to be 60,000 tCO2e/year for all the VPAs (VPA 1, VPA 3, VPA 7, VPA 17 and VPA 32).

The above stated outcomes have been checked and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change.

The VPAs will hence be recommended by KBS for request for registration with the Gold Standard.

Authorized Signatory



Name: Kaushal Goyal

Place: Faridabad

Date: 24/03/2021

2. Introduction

2.1 Objective

The CO2balance UK Ltd. has commissioned KBS to perform the validation of the Voluntary Project Activities “GS7591 VPA 1 Western Kenya Borehole Rehabilitation Project (GS7557)”, “GS7591 VPA 3 Central Kenya Borehole Rehabilitation Project (GS7559)”, “GS 7591 VPA 7 Northern Uganda Safe Water Project (GS 7592)”, “GS7591 VPA17 Central Mozambique Safe Water Programme (GS7637)” and “GS7591 VPA32 Zambian Central Province Safe Water (GS7687)” with regard to the relevant requirements for Gold Standard for Global Goals /4/.

The purpose of validation is to ensure a thorough, independent assessment of proposed Gold Standard Voluntary Project Activities submitted for registration under the Programme of Activity against the applicable GS requirements /4/.

In particular, the VPA's baseline, the monitoring plan (MP) and its compliance with relevant methodology /6/ and host country criteria /5/ are validated in order to confirm that the VPA design /2/ as documented is sound and reasonable and meets the stated requirements and identified criteria. The validation is seen as necessary to provide assurance to stakeholders of the quality of the voluntary project and its intended generation of verified emission reductions (VERs).

2.2 Scope

The scope of the validation is defined as an independent and objective review of the Voluntary Project Activity design document (VPA-DD) /1/ /2/, programme design document (PoA-DD) /14/, the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Gold Standard requirements /4/, UNFCCC rules and associated interpretations. KBS has employed a rule-based approach in the validation, focusing on the identification of significant risks for VPA's implementation and the generation of VERs.

3. Methodology

3.1 Review of GS VPA-DD and Additional Documentation

The validation is performed primarily as a document review of the available Voluntary Project Activity Design Document /1/ /2/. The assessment is performed by the validation team using a validation protocol. The cross checks between information provided in the VPA-DD and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

3.2 Site Visit[1]

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the VVB offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the VVB and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the VVB has skipped the on-site visit. However, as per the COVID 19 Interim Measures by GS4GG, the VVB may use alternative measures for auditing like remote audits.

As per para 4.1.1 (b) of COVID 19 Interim Measures/4/, Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation of the VPA. Along with desk review, audit team has conducted remote telephonic interviews corresponding to the VPA as follows:

- A complete desk review of the submitted VPA-DD /1//2/ (initial and final versions), as well as all applicable country legal requirement/5/ and supportive evidences have been checked by the validation team.

- Validation team has performed telephonic interviews with representatives of CME and households, stakeholders in order to check the implementation, current situation, management system of the PoA, programme technology, location, training provided, start date etc.

- Interview questions were filled as per Validation team interview checklist to check the implementation of the VPA, programme technology, baseline etc.

- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in the VPA-DD and supporting documents.

Details of interviewees, topics covered and additional information presented below:

<table>
<tr><td>Location:</td><td colspan="2">Kenya, Mozambique, Vietnam</td></tr>
<tr><td>Dates: 28/05/2020- 29/05/2020, 15/06/2020-18/06/2020</td><td colspan="2">Western Kenya: (28/05/2020- 29/05/2020- Zoom interviews)

Mozambique: (15/06/2020-18/06/2020- WhatsApp interviews)</td></tr>
<tr><td>Key points discussed:</td><td>Name of person interviewed</td><td>Designation, Organization</td></tr>
<tr><td rowspan="2">Project implementation and execution, project design and start date, LSC, organizational structure, the impact of the project activity on the local community was discussed.</td><td>Emma Donnachie</td><td>Regional Manager (Zambia and Mozambique VPAs), CO2balance</td></tr>
<tr><td>James Walker</td><td>Regional Manager (Uganda VPA), CO2balance</td></tr>
</table>

[1] VVB would like to clarify that as per section B.2 of the PoA-DD, a VVB/DOE site visit at Validation and Verification is only required for the first VPA in each homogenous group. Due to the common baseline and project technology (boreholes of similar type) of the VPAs 1, 3, 7, 17 and 32 (which fall in different homogeneous groups), site visit was only required for the 2 host countries as approved by SustainCERT through email communication dated 13/02/2020 , however due to the travel restrictions and health risks posed by COVID-19 pandemic, site visit could not be undertaken. Therefore, remote audit was carried out for 2 (Kenya, Mozambique) of the 4 host countries of sub-Saharan Africa (Kenya, Mozambique, Uganda, Zambia) in which the homogeneous group of VPAs are implemented.

Some of the question asked during the local stakeholder interviews and answers received: 1. Is there any child labour - No 2. The non-renewable biomass or fossil fuels saved under the project activity are used by non-project users who previously used lower emitting energy sources. - No 3. Any Human Rights abuses - No 4. Any form of forced or compulsory labour - No 5. Any child labour - No 6. Discrimination based on gender, race, religion, sexual orientation or any other basis – No 7. Unsafe or unhealthy work Environments - No	Ilona	Regional Manager (Kenya), CO2balance
	Anh Nguyen	Vietnam VPA implementer representative
	Nollege	Mozambique VPA implementer representative
	Moses Maina, Christine Atira	Kenya VPA implementer representative
	Henry Owuor Okello	Seme Kisumu,Sub-county water engineer (Government official)
	Cesário Ngozo	Mayor of Gondola Municipality, Mobambique
	Carlos Cuamba	*Director of SDPI – Chimoio* Officials from community groups/NGO/ Governments involved in the identification and rehabilitation of boreholes

List of households interviewed (Kenya VPA)

Household Representative	Borehole ID
Rhoda Ouma, Borehole manager	KUB 004 Minyiem B water point
Michael Orawo Ondege, Borehole manager	KUB 006 Ochok water point
Rose Awino, Water user	Ochok water point
Wilkister Ochola, Borehole manager	KUB 019 Kanyasonga water point
Irene Akinyi Alweny, Water user	KUB 019
Amos Oyago, Borehole manager	KUB 018
Rodah Akeyo Ongowo, Water user	Ami water point
Lilian Omondi Otieno, Water user	KUB 009 Owaro water point
Esther Odero Juma, Borehole manager	KUB 029 Kudho water point
Mary Adero Auma, Water user	KUB 026 Obwombi water point
Monica Omondi Ngwero, Water user	KUB 026 Kahanyo A water point
Mary Juma Magonya, Borehole manager	Kahanyo A water point
Eveline Okola Owiny, Borehole manager	KUB 024 Kajwang water point
Beatrice Atieno Mondo, Borehole manager /user	KUB 021 Korieng water point
Lonah Alando Omwanda, Baseline interviewee	-
Maurine Jumba, Baseline interviewee	-

List of households interviewed (Mozambique VPA)

Household Representative	Borehole ID

Ernesto Andre	B5 Makodamo, CHI01354 – Chimoio
Francisco Pedro	Macorre, SUS01543 – Sussundenga Sede
Tinashe Shepard	Unidade, SUS01395 - Sussundenga Sede
Charles Gutai Oliver Tomo. Community Leader	Sus01395
Agostinho Carlos Combucane	SUS01643
Isabel Gimo	Chicueu Berumbe, Borehole ID: SUS01453.
Estevão Inácio,	Unidade Muoha 2, SUS01655 – Muoha
Mussapa sede	SUS01559
Nhamacamba	SUS01426
Simão Marcos	SUS01427

3.3 Major Milestones in validation

Validation Contract	20/04/2020
Remote Audit	28/05/2020- 29/05/2020, 15/06/2020-18/06/2020
Draft Validation Report	23/08/2020
Final Validation Report	15/03/2021

3.4 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the latest version of Validation and Verification Standard. It serves the following purposes:

- Reference to available information relating to programmes or technologies similar to the proposed programme of activity under validation;
- Review, based on the approved methodology being applied, of the appropriateness of formulae and accuracy of calculations.
- Organises, details and clarifies the requirements the project is expected to meet; and
- Documents concerning the validation of a particular requirement and the result of the validation (reporting).

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	**Ref ID**	**Means of Verification (MoV)**	**Validation Assessment**	**Draft and/or Final Conclusion**
The various requirements are linked to checklist questions the programme should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

3.5 Findings

As an outcome of the validation process, the validation team can raise different types of findings

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable GS requirements have been met

Where a non-conformance arises the validator shall raise a **Corrective Action Request (CAR).** A CAR is issued, where:

- The project participants have made mistakes that will influence the ability of the programme of activity to achieve real, measurable additional emission reductions;
- The GS requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the programme of activity. FARs shall not relate to the GS requirements for registration.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate finding document (Annex 2). In this document, the project participant or CME is given the opportunity to "resolve" the outstanding CARs and respond to CLs and FARs.

3.6 Internal Quality Control

Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by an internal Technical Reviewer. TR reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and GS requirements. The TR either is qualified for the technical area within the sectoral scope(s) applicable to programme of activity or is supported by qualified independent technical expert at this stage.

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and PP must resolve them within agreed timeline.

The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Managing Director on behalf of KBS as final validation opinion. The Technical Reviewer and Manager T&C maybe be same person.

4. Validation Findings

4.1 Approval

Discussion:

The Voluntary Project Activities “GS7591 VPA 1 Western Kenya Borehole Rehabilitation Project (GS7557)”, “GS7591 VPA 3 Central Kenya Borehole Rehabilitation Project (GS7559)”, “GS 7591 VPA 7 Northern Uganda Safe Water Project (GS 7592)”, “GS7591 VPA17 Central Mozambique Safe Water Programme (GS7637)” and “GS7591 VPA32 Zambian Central Province Safe Water (GS7687)” under the PoA “International Programme for Safe Water Access and Efficient Cookstoves” GS ID 7591, is a voluntary programme of activity by the Coordinating & Management Entity (CME) “CO2balance UK Ltd.”. The programme is implemented in the host countries “The Republic of Kenya (VPA 1 & VPA 3), Republic of Uganda (VPA 7), Republic of Mozambique (VPA 17), Republic of Republic of Zambia (VPA 32)”. Due to the voluntary nature of the project activities, there is no need for a Letter of Approval (LoA) from any of the host country.

Findings:

No finding raised.

Opinion:

The name of the CME is consistent within the documents and supporting documents provided.

4.2 Authorization

Discussion:

The VPAs being voluntary project activities do not require any authorization from the host countries involved.

4.3 Sustainable Development

As these are Voluntary Project Activities (VPAs), it was not necessary to obtain approval of Sustainable Development from the DNA of host parties. However, the VPAs have environmental, social and economic benefits by reducing fuel consumption, indoor air pollution and also providing access to safe drinking water.

4.4 Project Description

Discussion:

The VPAs under the GS PoA “International Programme for Safe Water Access and Efficient Cookstoves (GS 7591)” are eligible for Gold Standard methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption version 3.1”.

The VPAs involve installation or rehabilitation of safe water technologies (primarily nonfunctional boreholes), which will reduce the amount of firewood used in purifying water from unsafe sources for the local communities. Local partner organizations and staff involved in the implementation of are CO2balance UK Ltd. (CO2balance) and various other organizations for different VPAs, like Village Water (partner NGO), WATSAN Mozambique (local NGO) for VPA 17, Village Water (partner NGO), ECHO (local NGO) for VPA 32 and are therefore, referred as Project Participants for the VPAs. However, “CO2balance UK Ltd.” is the sole entity responsible for the communication with the Gold Standard.

There is no public funding involved for the implementation which will result in a diversion of Official developmental Assistance as confirmed from the signed declaration for all the VPAs /7/. Voluntary Project Activities will be financed by the generation and marketing of Voluntary Emission Reductions (VERs), which has been confirmed during the remote audit interview of PP representatives.

It has also been confirmed that the PP, in order to establish the boundary, have taken into consideration all applicable national and/or sectoral policies and regulations /5/ within the chosen boundary.

Each VPA supports the provision of safe water using borehole technology to hundreds of households, and reduce CO2 emissions by reducing use of firewood for water purification. The rehabilitation of the borehole

saves carbon emissions as less firewood is burnt on making water safe for consumption. Many existing boreholes have fallen into disrepair because maintenance programmes have been poorly managed, or proven too expensive. CO2balance UK Ltd. employs local field staff in the communities to manage the project on the ground and works with the government and communities to identify broken down boreholes and rehabilitate them so that they deliver clean, safe water. As confirmed during the remote interviews, prior to the rehabilitation, location of borehole is checked (public or private, wherein the main focus is on public), then a technical assessment of damaged borehole is carried out to verify what kind of repair is required, and it is checked whether there is water availability. Further, information on how the communities access their drinking water is confirmed, the source of water is checked, distance between household and borehole to be rehabilitated is calculated, and it is also checked that there is a minimum 3 km distance between 2 boreholes. Following the technical assessment to check the feasibility and the nature of repair required, a borehole is rehabilitated as confirmed from the signed CTF or repair confirmation form /11/ by the technician and community representative. The capacity of communities to maintain their boreholes is also supported through the project to ensure that the water keeps flowing. The boreholes included under the VPAs are entirely human operated and powered by emission free technologies such as hand-powered pumps or solar pumps commonly used in the area.

Each VPA is a small-scale project activity and will be within the 600 tCO2/year limit specified by the UNFCCC (for type III activities) throughout the crediting period. The vast majority of pumps to be fixed are India Mark II, Afridev and the U3 modified pump, which are popular within the local communities. Validation team has checked the technical description /8/ of the boreholes as mentioned below:

	Afridev	**India Mark II**	**U3 Modified**
Cylinder Diameter (mm)	50	63.5	50
Maximum Stroke (mm)	225	125	125
Approx. discharge at about 75 watt input (m3/h)	At 10m 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 20m head 0.9	at 20 m head 1.0	at 20 m head 0.8
	At 30m head 0.7	at 30 m head 0.6	at 30 m head 0.6
Pumping Lift (m)	10-45	10-50	10-45
Water Consumption (litres per capita)	15-20	15-20	15-20

The VPAs will ensure that the quality of the water delivered by the boreholes is fit for human consumption for the entire length of the project, which will be a minimum five years. Quarterly water quality test will be done as per the national standard /17/. As per the requirement of the applied methodology TPDDTEC /05/, the Water quality must be tested every quarter, with the first test within 6 months of the stated project start date. The WQT reports /18/ of the boreholes have been checked and found to be within the 6 months of the rehabilitation date i.e. project start date.

The projects get funding for VPAs by marketing the anticipated carbon credits from the wood savings to ethical investors, so borehole owners must agree to transfer the potential emissions reductions over to “CO2balance UK Ltd.” in return for them supplying the work and materials to renovate and maintain the boreholes. Validation team has checked the sample form “Signed Transfer of Carbon Rights” /11/ which is also a Repair confirmation form signed by Borehole technician. The carbon right form is signed by the village administrator member on behalf and as a representative of the whole community and commits to explaining to all individuals that their use of the borehole is an agreement to transfer any rights to the carbon emissions reductions over to “CO2balance UK Ltd.”. The process of the signing of the carbon right transfer form has been confirmed during the remote interview of households and found appropriate.

The eligibility of VPA under GS4GG Principles & Requirements version 1.2 and Community Services Activity Requirements version 1.2 /4/ is as follows:

Eligibility Criteria	Means of Verification	Validation Team Assessment
Eligibility Criteria as per section 3.1.1 of GS4GG Principles & Requirements version 1.2		
3.1.1 (a) Types of Project Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	The projects involves the installation/rehabilitation of safe water sources. The project type is eligible under Community Services Activity Requirements s.3.1.1(b) and s3.1.1(d).	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Water quality test reports /18/ have been checked to confirm that the implementation of each VPA provides potable water to the communities. The implemented project technology reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby reduces CO2 emissions. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.
3.1.1 (b) Location of Project Projects may be located in any part of the world.	The host country and location of each this VPA is specified in Section A.4.4, in line with the locations outlined in Section A.3 of the POA-DD.	As confirmed during the remote audit (telephonic interview) and document review /7/, /9/, /11/, /15/ the VPA is located in the host countries of “The Republic of Kenya (VPA 1 & VPA 3), Republic of Uganda (VPA 7), Republic of Mozambique (VPA 17), Republic of Republic of Zambia (VPA 32)”, which is in line with Section A.3 of the PoA-DD. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.
3.1.1 (c) Project Area, Project Boundary and Scale The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance	The project boundary, including GPS co-ordinates and maps are included in Section B.3 This VPA is not included by any other carbon standard and will be capped at an energy output of 60,000 tCO2e per year as per CDM small-scale requirements.	The Project Area, Project Boundary and Scale of each VPA has been confirmed during the remote audit (WhatsApp and Zoom video interviews). It has also been confirmed that the small-scale VPAs included under the PoA is not included by any other carbon standard and will not exceed 60,000 tCO2e per year, as per CDM small-scale (Type III) requirements. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.

standards programme unless approved by Gold Standard (for example through dual certification). Also, if the Project Area overlaps with that of another Gold Standard or other voluntary or compliance standard programme of a similar nature, the project shall demonstrate that there is no double counting of impacts at design and performance certification (for example use of similar technology or practices through which the potential arises for double counting or misestimation of impacts amongst projects).		
3.1.1 (d) Host Country Requirements Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	VPA is in compliance with Host Country requirements.	The compliance of the VPAs with host country requirements /5/ has been checked and the validation team confirms that VPAs meet all the requirements of host countries. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.
3.1.1 (e) Contact Details As part of the Project Documentation the Project Developer shall provide (i) name and (ii) contact details of all Project Participants; AND in case of an organisation (iii) the legal registration details and (iv) documentation by the governing jurisdiction that proves that the entity is in good standing (defined as being a legal or other appropriate entity registered in or allowed to operate within the required jurisdiction and with no evidence of insolvency or legal/criminal notices placed against it or any of its Directors). Gold Standard retains the right (at its own discretion) to refuse use of the Standard where reputational concerns are highlighted.	Contact details of the Project Developer are included in Appendix 1.	The details of Project Participants of each VPA has been checked from Appendix 1 and confirmed during remote audit (WhatsApp and Zoom video interviews). Validation team confirms that the project developer (i.e. CO2balance UK Ltd.) of the VPAs is the CME of the PoA and solely responsible communication with the Gold Standard. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.

3.1.1 (f) Legal Ownership Full and uncontested legal ownership of any Products that are generated under Gold Standard Certification, (for example carbon credits) shall be demonstrated. Where such ownership is transferred from project beneficiaries this must be demonstrated transparently and with full, prior and informed consent (FPIC). Note that for certain Project types there is a requirement for full and uncontested legal land title/tenure to be demonstrated. These are contained within specific Activity or Product Requirements. All projects shall immediately report to Gold Standard any land title/tenure disputes arising.	At the point of technology installation, a Carbon Transfer Form (CTF) will be signed and uploaded to our database stating that the rights to the carbon credits will lie with CO2balance UK Ltd. An elected representative from each water resources committee responsible for a borehole will sign a CTF on behalf of all users thereof.	The legal ownership of each VPA lies with the Project developer, which has been confirmed during the remote audit (telephonic interview) and through the review of Carbon transfer form /11/. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.
3.1.1 (g) Other Rights As well as legal title and ownership, the Project Developer shall also demonstrate where required uncontested legal rights and/or permissions concerning changes in use of other resources required to service the Project (for example, access rights, water rights etc.). Any known disputes or contested rights must be declared immediately to Gold Standard by the Project Developer and resolved prior to further Project implementation in affected areas.	There are no disputes or contested rights that have been identified in relation to rights relevant to the project activity.	During the remote audit (WhatsApp and Zoom video interviews), it has been confirmed with the households, as well as the representatives of project developer, that there are no disputes or contested rights relevant to the project activities. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.
3.1.1 (h) Official Development Assistance (ODA) Declaration All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the	A declaration confirming that there is no diversion of ODA has been submitted.	ODA declaration /7/ of each VPA has been checked. The validation team has also confirmed during the remote audit interviews with the representatives of CME that there is no diversion of ODA for each VPA. Hence, all the VPAs meet the eligibility criteria of section 3.1.1 of GS4GG Principles & Requirements version 1.2.

Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.		
Eligibility Criteria as per Design Review		
Fraction of Non-renewable Biomass	Reference from where fNRB shall be calculated for VPAs shall be included in the eligibility criteria to avoid confusion at the time of VPA inclusion and for consistency	The values will be calculated in accordance with TPDDTEC v.3.1 Annex 1, or CDM Tool 30.
Test for Wb,y parameter	The test for fixed parameter Wb,y is based on the water boiling test.	Field tests may be conducted following the WBT Protocol. Value has been capped to 0.4 kg.
Water Project Treatment Capacity	The treatment capacity limits of project technology/source are required to be monitored to ensure that the water consumption level applied for emission reductions must not be greater than the treatment capacity of the project technology/sources.	Treatment capacity calculations shall be provided at each Verification and it shall be ensured consumption levels are not greater than the treatment capacity of the project technology/source.
Cookstove Project Theoretical Savings	The theoretical wood savings from a cook stove project shall be estimated based on following Py = Bb,y * (1-$\hbar$b/$\hbar$p,y) Py - quantity of firewood consumed in project Bb,y - quantity of firewood consumed in baseline $\hbar$b – efficiency of baseline technology $\hbar$p,y – efficiency of project technology	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Therefore, the criteria is not applicable.
Double Counting	Conditions to confirm that VPAs are neither registered as CDM project activities, included in another registered PoAs, nor the project activities that have been deregistered.	It shall be confirmed that VPA is not registered anywhere else. Details of technologies as verified from the technical manuals/8/ and corresponding GPS coordinates shall be cross checked at the time of verification.
Technical Specification	Specification of the technology/measure, such as the level and type of service, as well as performance specification based on, inter alia, testing/certification.	Technical specifications of the project technology as mentioned in section A.5 of the VPA-DD has been cross-checked with the technical manuals /8/.
Start Dates	Conditions to check the start dates of VPAs through documentary evidence.	Start date of VPA has been confirmed by carbon transfer forms, repair confirmation forms /11/.
Applicability	Conditions to ensure compliance with the applicability of the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents.	Applicability has been checked and assessed for each VPA in section 4.5.2 of this report.

Additionality	Conditions to ensure that VPAs meet the requirements for demonstration of additionality.	The conditions of VPA for meeting the criteria of additionality as discussed in section B.2 of the PoA-DD, section B.5 of the VPA-DD has been assessed in section 4.6 of this validation report.
LSC and EIA	Conditions related to undertaking local stakeholder consultation and environmental impact analysis.	The VPA specific conditions have been assessed in section 4.8 and 4.9 of this validation report.
Target Group	Target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/offgrid), and where applicable, distribution mechanisms (e.g. direct installation).	As confirmed during the remote audit, targeted group is inclusive of households of rural locations within project area and the method of distribution is the rehabilitation of boreholes, which has been confirmed from the repair confirmation form /11/.
Sampling	Sampling approaches are set out in each VPA and will follow the TPDDTEC v3.1 methodology.	Sampling approach followed by VPA is discussed in section 4.7 of this report.
Crediting Period	All VPAs submitted for inclusion after the first crediting cycle of such PoA and completion of transition to GS4GG shall follow the GS4GG Certification Cycle (i.e. 5 years renewals.	CME has chosen a renewable crediting period of 5 years, which is renewable twice i.e., 15 years in total. The crediting period start date of the VPA has been considered as 06/12/2019 for VPA 1, 21/01/2020 for VPA 3, 27/02/2020 for VPA 7, 05/02/2020 for VPA 17 and 20/03/2020 for VPA 32, which 1 day after the repair of first borehole for each VPA and is confirmed from database /9/ and is therefore, acceptable, to the validation team. However, in case of Northern Uganda VPA 7, the date of rehabilitation (Akwii Central) was 24/02/2020 /11/ which has been considered as the start date, but the CTF or Repair confirmation form was signed on 27/02/2020 /11/. The second borehole (Kidere) was rehabilitated on 26/06/2020, for which the Repair confirmation form was signed on 26/20/2020 /11/. Therefore, the start date of the crediting period has been chosen as 27/02/2020, as the start date of crediting period begins 1 day after the repair confirmation. CAR-01 for VPA 7 has been raised in this regard and successfully closed.
Eligible Project Types as per section 2 of Community Services Activity Requirements version 1.2		
2.1.2 All CSA Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to	By providing a safe water source in rural communities, the safe water project will improve access to safe water services/resources at community level.	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver

services/resources at the household or community or institution level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	As such, the project is Eligible Project Types in line with the requirements.	clean, safe water for human consumption. Water quality test reports /18/ have been checked to confirm that the implementation of each VPA provides potable water to the communities. The implemented project technology reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby reduces CO2 emissions. Hence, all the VPAs meet the eligibility criteria of section 2 of Community Services Activity Requirements version 1.2.
2.1.3 In relation to the above, all Projects shall, therefore, conform to the Principles & Requirements (and associated documents).	The project conforms with the Principles and Requirements detailed in the document. The project is eligible under section 4, Principle 1, section (a) of the Principles and Requirements as it follows an established Gold Standard methodology. Concerning point 4.1.7, the project does not support geoengineering or entail energy production from fossil fuels or nuclear. Rather it supports a switch away from polluting technologies to an emissions-free means of accessing safe water.	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Hence, all the VPAs meet the eligibility criteria of section 2 of Community Services Activity Requirements version 1.2.
General Eligibility Criteria as per section 2 of Community Services Activity Requirements version 1.2		
3.1.1 Types of project – Pre-identified CSA project types are noted below. Project Developers may submit new project types to Gold Standard for approval following the Principles & Requirements. (b) End-use energy efficiency: Project activities that reduce energy requirements as compared to baseline scenario without affecting the level and quality of services or products, where the end-user of the products and services are clearly identified and when the physical intervention is required at the user end. For example, efficient cooking, heating, lighting, etc.	By providing safe water, the project activity reduces the energy requirements compared to the baseline scenario by ensuring that households consume less firewood through no longer needing to purify their water.	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Water quality test reports /18/ have been checked to confirm that the implementation of each VPA provides potable water to the communities. The implemented project technology reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby reduces CO2 emissions. The validation team confirms that the each VPA is an End-use energy efficiency project and reduces energy requirements as compared to baseline scenario.

		Hence, all the VPAs meet the eligibility criteria of section 3 of Community Services Activity Requirements version 1.2.
3.1.2 Project Area, Boundary and Scale Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies or Product Requirements. For the purpose of applying UNFCCC methodologies for quantification of GHG reductions, 'small scale' is defined as in CDM Modalities and Procedures for three projects types; Renewable Energy, Energy Efficiency and Others.	The project Area and Boundary are defined in line with the applicable Methodology, outlined in Section A.4.4. The project is a Small-scale project issuing emission reductions which will be capped at the 60,000tCO2e per year	The boundary (as mentioned in Section B.3) and the scale of each VPA has been confirmed during the remote audit (WhatsApp and Zoom video interviews) and found to be in line with the applicable methodology/6/. Along with that the emission of the VPA will be capped at the maximum of 60,000 tCO2e per year as per CDM small-scale (Type III) requirements. It has also been confirmed that the PP, in order to establish the boundary, have taken into consideration all applicable national and/or sectoral policies /5/ and regulations within the chosen boundary. Hence, all the VPAs meet the eligibility criteria of section 3 of Community Services Activity Requirements version 1.2.
3.1.3 Where Gold Standard methodologies allow for a Suppressed Demand baseline scenario, this shall be limited to Small and Microscale Projects. Where a Suppressed Demand baseline is applied, it is not possible to 'stack' Gold Standard Impact Statements or Products as the definition of baseline may be contradictory.	This VPA is a small-scale project, therefore it is eligible to allow for suppressed demand in the baseline scenario. The baseline scenario is assessed in terms of suppressed demand. Supressed demand is determined through a set of questions in the Baseline Project Survey that establish the method that households use to purify their water, if any, and how they would choose to purify if they were not subject to monetary and access barriers. A fixed suppressed demand baseline has been opted for. However, in the event the project surveys show a substantial change in fuel use characteristics, a new baseline shall be conducted. No Gold Standard Certified Impact Statements or Products are intended to be stacked in case of a suppressed demand baseline.	As confirmed during the remote audit (WhatsApp and Zoom video interviews) with the PP, the voluntary project activities use a suppressed demand baseline. The validation team has checked the Baseline Project Survey results /12/ and confirms that the fixed suppressed demand determined by PP is reasonable and correct. Hence, all the VPAs meet the eligibility criteria of section 3 of Community Services Activity Requirements version 1.2.
3.1.4 Legal ownership: a) Projects involving the distribution of a large number of devices for	a) It will be clearly communicated that CO2balance UK Ltd is the Co-ordinating/Managing Entity which communicates with the Gold Standard	As discussed during the remote audit (WhatsApp and Zoom video interviews), local partner organisations and staff involved in

services such as heating, cooking, lighting, electricity generation, water treatment technology such as water filter etc. shall provide a clear description of the ownership of the Products that are generated under Gold Standard Certification all along the investment chain. In line with FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided. b) The transfer of Product ownership shall be discussed during the local stakeholder consultations for regular cycle projects.	and the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. The project is managed in the host country by CO2balance in-country staff. CO2balance UK Ltd. have legal ownership of the carbon credits produced as a result of the project. Water points are managed by communities, who are recognised as the main users of the water points in the project. At the point of technology installation, a Carbon Transfer Form (CTF) will be signed and uploaded to our database stating that the rights to the carbon credits will lie with CO2balance UK Ltd. An elected representative from each water resources committee responsible for a borehole will sign a CTF on behalf of all users thereof. b) The transfer of ownership was discussed during the local stakeholder consultation conducted by CO2balance UK Ltd, presenting the details of the project to the local community members, officials and Community Leaders who attended. No issues were raised during the meeting voicing issues regarding the transfer of product ownership.	the implementation of activities in some VPAs have been identified and indicated as participants at the individual VPA level. However, the CME "CO2balance UK Ltd." is the sole entity responsible for the communication with the Gold Standard and has a legal ownership of the carbon credits produced as a result of the project. As confirmed from the households and stakeholders, during WhatsApp and Zoom video interviews, the transfer of ownership was clearly discussed at the time of local stakeholder consultation and no issues were raised regarding the same. Hence, all the VPAs meet the eligibility criteria of section 3 of Community Services Activity Requirements version 1.2.

The start date of the VPAs are based on the date of the first borehole rehabilitation and have been considered as 05/12/2019 for VPA 1, 20/01/2020 for VPA 3, 24/02/2020 for VPA 7, 04/02/2020 for VPA 17 and 19/03/2020 for VPA 32. Validation team has checked the Repair confirmation form /11/ and confirmed the start date of each VPA. CAR-01 has been raised in this regard and successfully closed.

CME has chosen a renewable crediting period of 5 years, which is renewable twice i.e. 15 years in total. The crediting period start date of the VPA has been considered as 06/12/2019 for VPA 1, 21/01/2020 for VPA 3, 27/02/2020 for VPA 7, 05/02/2020 for VPA 17 and 20/03/2020 for VPA 32, which 1 day after the repair of first borehole for each VPA and is confirmed from database /9/ and is therefore, acceptable, to the validation team. However, in case of Northern Uganda VPA 7, the date of rehabilitation (Akwii Central) was 24/02/2020 /11/ which has been considered as the start date, but the CTF or Repair confirmation form was signed on 27/02/2020 /11/. The second borehole (Kidere) was rehabilitated on 26/06/2020, for which the Repair confirmation form was signed on 26/20/2020 /11/. Therefore, the start date of the crediting period has been chosen as 27/02/2020, as the start date of crediting period begins 1 day after the repair confirmation. CAR-01 for VPA 7 has been raised in this regard and successfully closed.

It can be concluded that the project activity will contribute to GHG emission reduction along with direct environmental, social and economic benefits to the users and supporting staff.

Findings:

The following findings were raised and successfully closed:

1) CL 02 and CAR 01 for VPA 1 and VPA 3
2) CL 02, CL 03 and CAR 01 for VPA 7
3) CL 02, CL 04 and CAR 01 for VPA 17 and VPA 32

Refer to Annex-1 for further details.

Opinion:

The assessment team confirms that each VPA-DD /2/ contains a transparent and accurate description and provides reader a clear understanding of the program of activity.

4.5 Baseline and monitoring methodology and Standardized baseline

4.5.1 General requirement

Discussion:

The small-scale VPAs fall within the “End-use energy efficiency” category and utilizes the Gold Standard methodology ‘Technologies and Practices to Displace Decentralized Thermal Energy Consumption V.03.1’ dated 25/08/2017” /6/.

Findings:

No findings raised

Opinion:

The applied baseline and monitoring methodology is valid and applicable to the VPA.

4.5.2 Applicability of selected methodology to the project activity

Discussion:

The VPAs under the PoA (GS7591) support the provision of safe water to thousands of households in the host countries “The Republic of Kenya (VPA 1 & VPA 3), Republic of Uganda (VPA 7), Republic of Mozambique (VPA 17), Republic of Republic of Zambia (VPA 32)”, using borehole technology. By providing safe water, thereby removing the need to boil water, the project will ensure that households consume less firewood during the process of water purification and as a result there will be a reduction in carbon dioxide.

The applied methodology is applicable to VPA introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non---domestic premises. The project activity comes under criteria of the applied methodology i.e. “introduction of improved biomass or fossil fuel cookstoves”. Therefore, the methodology is applicable for the Voluntary project activities.

The VPA have been assessed against all the applicability conditions justified under section B.2 of the VPA-DD/6/ against the criterion specified in the applied methodology.

Applicability Criteria	Compliance with Applicability Criteria
The project boundary needs to be clearly identified, and the technologies counted in the project are not included in any other voluntary market or CDM project activity (i.e. no double counting takes place). In some cases there maybe another similar activity within the same target area. Project proponents must therefore have a survey mechanism in place together with appropriate mitigation measures so as to prevent any possibility of double counting.	The boundary of all of the VPAs has been confirmed during the remote audit (WhatsApp and Zoom video interviews), using Google Earth Engine software and has taken into consideration all applicable national and/or sectoral policies and regulations /5/. The technologies implemented under the VPAs are given a unique identification number, as confirmed from the project database /9/, and verified during the remote audit interview with households. Each Borehole repaired under each VPA has GPS co-ordinates to avoid double counting of emission reductions & thus are distinguishable. The same has been confirmed by the Bore holes repaired data submitted by the PP /9/. Therefore, validation team confirms that the technologies counted in eachVPA are not included in any other voluntary market or CDM project activity (i.e. no double counting takes place). Hence, each VPA is in compliance with the applied methodology /6/.
The technologies each have continuous useful energy outputs of less than *150kW* per unit (defined as the total useful energy delivered from start to end of operation of a unit divided by time of operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario, the 150kW threshold applies to the displaced baseline technology.	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Boreholes displace energy supplied in the baseline as they eliminate the need to purify water through boiling. Based on the results of the BWBT /13/, the validation team confirms that the estimated energy output is 7.09 Kw for VPA 1, 6.25 Kw for VPA 3, 7.64 Kw for VPA 7, 25.21 Kw for VPA 17 and 34.38 Kw for VPA 32 which is well within the methodological limit of 150kw. Hence, the VPA is in compliance with the applied methodology /6/.

Using the baseline technology as a backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g. discounted price for the improved technology) and the definitive discontinuity of its use. The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology. For example, whether the existing baseline technology is not surrendered at the time of the introduction of the improved technology, or whether a new baseline technology is acquired and put to use by targeted end users during the project crediting period –see section 3.0. The success of the mechanism put into place must therefore be monitored, and the approach must be adjusted if proven unsuccessful5. If an old technology remains in use in parallel with the improved technology, the corresponding emissions must be accounted for as part of the project emissions.	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. The implemented project technology /8/ reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby saving time and expenditure on wood collection. The mechanism to encourage discontinuity of baseline technology is done through educating local people on the extensive health and environmental benefits. Furthermore, WASH program /17/ is carried out parallel to each project which will help to increase awareness regarding water use, health and hygiene among local communities. Hence, the VPA is in compliance with the applied methodology /6/.
The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. For technology producers and the retailers of the improved technology or the renewable fuel in use, this must be communicated by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end users, the end users will need to be informed and notified that they cannot claim for emission reductions from the project.	PP has clearly communicated to the stakeholders of each VPA about the claiming of ownership rights though Carbon right transfer form /11/, during the Local stakeholder consultation, as confirmed during remote interviews. The users are fully aware that the carbon ownership rights will be transferred to the project implementer (CME) as indicated in carbon right transfer form /11/. The carbon right form is signed by the village administrator member on behalf and as a representative of the whole community and commits to explaining to all individuals that their use of the borehole is an agreement to transfer any rights to the carbon emissions reductions over to CO2balance UK Ltd.. The process of the signing of the carbon right transfer form has been confirmed during the remote audit interviews with the stakeholders and found appropriate. Validation team has checked the sample form “Carbon transfer Form” /11/. Hence, the VPA is in compliance with the applied methodology /6/.

Project activities making use of a new biomass feedstock in the project situation (e.g. shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules. If the biomass feedstock is sourced from a dedicated plantation, the criteria must apply to both plantations established for the project activity AND existing plantations that were established in the context of other activities but will supply biomass feedstock. Furthermore, the following conditions apply:	As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Therefore, VPAs do not make use of new biomass feed stock. Hence, this para is not applicable.
a. Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove combination may include instances in which the project stove is a baseline stove.	As confirmed during the remote interviews, fuel used in both the project and baseline scenario is the same. Therefore, no additional harmful gases are released in any of the VPA. In fact, the purpose of the technologies rehabilitated through each VPA, is to reduce greenhouse gas (GHG) emissions from the burning of non-renewable biomass for purification of water through boiling.
b. Records of renewable fuel sales may not be used as sole parameters for emission reduction calculation, but may be used as data informing the equations in section II of this methodology. These records need to be correlated to data on distribution and results of field tests and surveys confirming (a) actual use of the renewable fuel and usage patterns (such as average fraction of non-renewable fuels used in mixed combustion or seasonal variation of fuel types), (b) GHG emission, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	As confirmed during the remote audit interviews, renewable fuels are not sold as a part of the VPA. Hence, the VPA is in compliance with the applied methodology /6/.

Findings:

No findings were raised.

Opinion:

The assessment team concludes that on the basis of observations made during remote audit (WhatsApp and Zoom video interviews) and document review /8/ /9/ /11/, each of the VPA meets the requirement of the applied methodology /6/.

4.5.3 Project boundary

Discussion:

As per the applied methodology /6/, Project proponents must provide clear definitions of project boundary, target area, and fuel production and collection area:

a. The project boundary is the physical, geographical sites of the project technologies. This boundary could also host the baseline and project fuel collection and production (e.g. charcoal, plant oil) and solid waste and effluents disposal or treatment facilities associated with fuel processing.

b. The target area is the region(s) or town(s) where the considered baseline scenario(s) are deemed to be uniform across political borders. This area could be within a single country, or across multiple

adjacent countries. The target area provides an outer limit to the project boundary in which the project has a target population.

c. In cases where woody biomass (including charcoal) is the baseline fuel or where the project activity introduces the use of a new biomass feedstock into the project situation, the fuel production and collection area is the area within which this woody or new biomass is produced, collected and supplied.

The VPAs involve installation or rehabilitation of safe water technologies (primarily nonfunctional boreholes), which will reduce the amount of firewood used in purifying water from unsafe sources for the local communities in the host countries “The Republic of Kenya (VPA 1 & VPA 3), Republic of Uganda (VPA 7), Republic of Mozambique (VPA 17), Republic of Republic of Zambia (VPA 32)” , which comes under the geographical boundary described in the PoA-DD /14/. The location and project boundary co-ordinates of each VPA are as given below:

Location (VPA 1): Kisumu, Siaya, Homa Bay and Vihiga counties of Western Kenya**,** in the Republic of Kenya.		
Project Area Coordinates:	**Latitude**	**Longitude**
North Region:	0.309717°	0.309717°
East Region:	-0.230603°	35.340878°
South Region:	-0.862680°	34.324276°
West Region:	-0.031670°	33.952407°

Location (VPA 3): Tharaka-Nithi, Meru, Embu, Nyeri, Laikipia Counties of Central Kenya**,** in the Republic of Kenya.		
Project Area Coordinates:	**Latitude**	**Longitude**
North Region:	0.870765°	36.796215°
East Region:	-0.075034°	38.416029°
South Region:	-0.916025°	37.519273°
West Region:	0.325047°	36.225738

Location (VPA 7): Northern Region of the Republic of Uganda.		
Project Area Coordinates:	**Latitude**	**Longitude**
Northerly Region:	4°13'2.66"N	33°59'31.87"E
Easterly Region:	1°54'51.89"N	35° 1'58.97"E
Southerly Region:	1°21'59.18"N	34°47'12.08"E
Westerly Region:	2°27'6.30"N	30°44'27.81"E

Location (VPA 17): Provinces of Tete, Manica, Sofala in the Republic of Mozambique		
Project Area Coordinates:	**Latitude**	**Longitude**
Northerly Region:	-14.012753°	33.231606°
Easterly Region:	-18.856469°	36.296826°
Southerly Region:	-21.575744°	33.056247°
Westerly Region:	-15.013777°	30.219776°

Location (VPA 32): Central Province of the Republic of Zambia.		
Project Area Coordinates:	**Latitude**	**Longitude**
Northerly Region:	-12.001698°	29.982113°
Easterly Region:	-13.426182°	31.427431°
Southerly Region:	-15.730997°	27.293390°
Westerly Region:	-15.187147°	25.308841°

The information was validated during the remote audit the remote audit (WhatsApp and Zoom video interviews), also with the use of Google Earth Engine software and the same has been found consistent in section B.3 of each VPA-DD /2/. It has also been confirmed that the PP, in order to establish the boundary, have taken into consideration all applicable national and/or sectoral policies and regulations /5/ within the chosen boundary.

The validation team was also able to confirm that all the identified emission sources which are impacted by the project activity are addressed by the approved methodology /6/ and can be seen in the table below.

Source		**GHG**	**Included ?**	**Justification/Explanation**
Baseline scenario	Combustion of firewood	CO_2	Yes	Important source of emissions
		CH_4	Yes	Important source of emissions
		N_2O	Yes	Gas included in the calculations. Emissions factors for fuel in stationery combustion by the IPCC
Project scenario	Combustion of firewood	CO_2	Yes	Important source of emissions
		CH_4	Yes	Important source of emissions
		N_2O	Yes	Gas included in the calculations. Emissions factors for fuel in stationery combustion by the IPCC

Findings:

No findings were raised.

Opinion:

The project boundary confirmed during remote audit, with the use of Google Earth Engine software and along with the documentary evidence, was found in conformance with the applied baseline methodology /6/. All sources of GHG emissions required by the methodology have been included in the project boundary and are

justified in reference to each VPA. There are no project emissions/leakage emissions of any sort which are not addressed by the applied methodology occurring because of the VPAs.

4.5.4 Baseline identification

Discussion:

The applied methodology /6/ requires the CME to follow the following guidance:

A baseline scenario is defined by the typical baseline fuel consumption patterns in a population that is targeted for adopting the new project technology. Hence, this "target population" is a representative baseline for the project activity.

CME has not defined the baseline scenario at POA level because of the implementation of VPAs in different host countries.

Under each VPA, the people of the host country, residing in rural and remote villages typically use wood fuel on inefficient three stone fires for water purification. As a large population of these host countries, do not have access to safe water, and therefore depend on boiling as the only treatment method available or are forced to drink dirty water due to suppressed demand factors such as lack of access to fuel, time and financial resources.

As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. The current practice i.e. the repair of the bore holes in the project scenario will displace the use of thermal efficiency used in the households to boil the water for drinking purpose which use non-renewable biomass in the baseline scenario.

The number of boreholes per VPA will be limited by the amount of pure water supplied by each unit; based on ex ante calculations, the maximum number of boreholes that can be rehabilitated in one VPA to achieve 60,000 tCO2e is approximately 136 boreholes for VPA 1, 140 boreholes for VPA 3, 175 waterpoints for VPA 7, 150 boreholes for VPA 17 and 157 boreholes for VPA 32, however, the exact number will be determined once actual survey data has been collected.

Therefore, baseline study i.e. Baseline survey /12/, Baseline Water Boiling test /13/ for the baseline establishment of VPAs in the respective host countries has been conducted by the PP, the results of which have been checked by the validation team and found appropriate.

a) **Baseline survey** (Kitchen survey)

In-line with Gold Standard requirements, the Baseline Survey provides critical information on demographics, household characteristics, kitchen habits, fuel use, water and fuel needed to purify water, suppressed demand and leakage. According to the relevant Gold Standard methodology the following information was captured in the surveys /12/:

- Address or location
- Telephone number (when possible)
- Number of people served by baseline technology
- Typical baseline technology usage patterns and tasks (commercial, institutional, domestic etc)
- Types of baseline technology used and estimated frequency
- Types of fuels used and estimated quantities
- Seasonal variations in baseline technology and fuel use
- Sources of fuels and prices paid or effort made

As confirmed during remote audit interviews and through the assessment of surveys /12/, in total a minimum of 100 Baseline Water Surveys were conducted for each VPA, in randomly selected households as per the baseline studies section 4 requirement of TPDDTEC version 3.1, which states that "the baseline survey for a group size of more than 1000 should have a minimum sample size of 100". This requirement has been met by PP as follows:

VPA (Location)	No. of surveys conducted	Date

VPA 1 (Western Kenya)	214 households	12/06/2019-10/10/2019
VPA 3 (Central Kenya)	256 households	10/04/2019-10/10/2019
VPA 7 (Northern Uganda)	321 households	10/10/2019-12/03/2020
VPA 17 (Mozambique)	110 households	08/01/2020- 16/03/2020
VPA 32 (Zambia)	110 households	06/01/2020- 06/02/2020

The representativeness of the sample has also been ensured by targeting baseline users across the project area, which were chosen based on the 90/30 confidence precision. It has also been checked from the submitted forms that the data collected is in accordance with the data requirement specified by the methodology (Page 13) i.e. user follow up, End user characteristics and the baseline technology and fuels used. CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17 was raised in this regard and successfully closed. Refer to Annex-1 for further details.

The survey comprised of questions covering broad topic areas such as household characteristics, water use before and after the borehole project and wood fuel use in the area.

The surveys revealed that all the respondents took their water from unsafe sources prior to the project. All respondents answered that they took steps to make the water safer; the principal method of water purification was boiling using firewood on a traditional three-stone fire.

Respondents gave reasons that they did not boil all the water that they collected; questions raised confirmed that reasons for not boiling were linked to poverty-related issues and are therefore considered as suppressed demand.

Suppressed Demand:

The baseline scenario has been assessed in terms of suppressed demand. Suppressed demand was determined through a set of questions in the Baseline Project Survey /12/ that establish the method that households use to purify their water, if any, and how they would choose to purify if they were not subject to monetary and access barriers. A fixed suppressed demand baseline for each VPA has been opted by the PP. However, in the event the project surveys show a substantial change in fuel use characteristics, a new baseline shall be conducted.

b) **Baseline Water Boiling Test** (BWBT)

The Baseline Water Boiling Test (BWBT) is conducted to calculate the quantity of fuel required to purify by boiling one litre of water for 10 minutes using technologies and fuels representative of the baseline scenario, The BWBT should be conducted using the 90/30 rule for selection of samples, accounting for variability in the types of prevalent baseline technologies.

The main objective of the fieldwork is to establish a conservative estimate of the baseline fuel required to boil 1 litre of water within the target area. This was measured by adapting the Water Boiling Test /10/ to work out the amount of wood used to boil 1 litre of water.

The baseline WBT results /13/ were provided to the validation team and same was also confirmed by interviewing the users of the boreholes and other stakeholders during the remote audit. As confirmed during remote audit interviews and through the assessment of results /13/, in total a minimum of 30 Baseline Water Boiling tests were conducted for each VPA (See the below table), in randomly selected households as per section 4 requirement of TPDDTEC version 3.1, which states that “the baseline survey for a group size of less than 300 should have a minimum sample size of 30” /6/. CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17 was raised in this regard and successfully closed. Refer to Annex-1 for further details.

The tests revealed information regarding current boiling technologies and fuel and amount of fuel needed to conduct the test; i.e. the difference between the volume of wood fuel at the start of the test and at the end. The details of baseline WBT conducted in each VPA is as follows:

VPA (Location)	No. of WBT	Date
VPA 1 (Western Kenya)	45	March 2020
VPA 3 (Central Kenya)	45	March 2020
VPA 7 (Northern Uganda)	65	August 2012[2]
VPA 17 (Mozambique)	30	14/01/2020- 31/03/2020
VPA 32 (Zambia)	40	06/01/2020- 06/02/2020

The BWBT values have been capped at 0.4 kg for three stone firewood baseline stove scenarios, as specified by GS-TAC due to the ongoing grievance.

Findings:

CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17 was raised in this regard and successfully closed. Refer to Annex-1 for further details.

Opinion:

The baseline of the VPA is identified as per the methodology "Technologies and Practices to displace decentralized thermal energy consumption" methodology". Version 03.1 and found reasonable.

4.5.5 Contribution to sustainable development goals

Discussion:

Specific contributions to be determined at VPA level are:

SDGs	Targets & Relevant Indicator
3. Good Health and Well being	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. 3.9.1 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)
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.

[2] The baseline survey shows that the baseline scenario has not changed since 2012. 98% of households still use 3SF and wood fuel to cook and boil water. Therefore, baseline WBT conducted in 2012 are still valid.

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
13. Climate Action	13.B Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities. 13.b.1 Number of least developed countries and small island developing States with nationally determined contributions, long-term strategies, national adaptation plans, strategies as reported in adaptation communications and national communications.

Methodological choice/ approaches for estimating the above mentioned SDG outcomes are as follows:

SDG 3: Good Health and Well being

As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. The implemented project technology /8/ reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby reducing household air pollution. Therefore, the VPAs contributes towards the SDG 3 target to "substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination"

For VPA 1, 3, 17, 32:

The overall reduction in Hosehold Air Pollution (HAP) by the project activity is calculated by:

HAPRy = ((Pb,y – Pp,y) / Pb,y) * Up,y

Where:

HAPRy = Total reduction in Household Air Pollution for project activity in year y (%)

Pb,y = Quantity of fuel that is consumed in the baseline scenario b during year y (kg/household-day)

Pp,y = Quantity of fuel that is consumed in the project scenario p during year y (kg/household-day)

Up,y = Usage rate in project scenario p during year y

Whereas, for VPA 7, the outcome of additional number of persons consuming safe water in the project activity compared to the baseline scenario (Psafe) is calculated by

$Psafe = Py * (1 - Cj) * (1 - Pb,oil)$

Where:

Psafe = Number of additional persons having access to safe water in the project activity compared to the baseline scenario.

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

Cj =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.

Pb, boil = Percentage of persons boiling water for purification in the baseline scenario.

SDG 5: Gender Equality

As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. The implemented project technology /8/ reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby reducing the burden on women for “unpaid domestic work”. The VPAs reduce time burden of cooking and collecting firewood, which falls disproportionately on women.

The overall reduction in time spent collecting firewood by the project activity is calculated as follows:

TRy = (Tb,y - Tp,y) / Tb,y

Where:

Try = Total reduction time spent collecting firewood and cooking for project activity in year y (%)

Tb,y = Time spent collecting firewood and cooking per household per day prior to project (hours)

Tp,y = Time spent collecting firewood and cooking per household per day in project (hours)

SDG 6: Clean Water and Sanitation

As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. Water quality test reports /18/ have been checked to confirm that the implementation of each VPA provides potable water to the communities. The number of persons using each borehole is determined in the sensitization process during the rehabilitation. The percentage of users who already had access to a safe water source have been determined through the baseline survey /12/.

Additional number of persons having access to safe water in the project activity compared to the baseline scenario (Paccess) is determined by:

$Paccess = Py * (1 - Cj) * Up$,

Where:

Paccess = Number of additional persons having access to safe water in the project activity compared to the baseline scenario.

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

Cj = 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.

Up,y = Usage rate in project scenario p during year y

SDG 13: Climate Action

As confirmed during the remote audit (WhatsApp and Zoom video interviews), and document review /8/, /9/, /11/ the VPAs involve rehabilitation of boreholes to deliver clean, safe water for human consumption. The implemented project technology /8/ reduces the household firewood consumption, by eliminating the need of purification of water through boiling and thereby reducing fuel consumption and CO2 emissions. The

contribution to SDG 13 will be measured through carbon credits issued as per the Gold Standard TPDDTEC v3.1 methodology /6/.

1) Baseline Emissions

$BEb,y = Bb,y * ((fNRB * EFb,fuel, CO2) + EFb,fuel, nonCO2) *NCV b, fuel$

Where:

BEb,y = Emissions for baseline scenario b during the year y in tCO2e

Bb,y = Quantity of fuel consumed in baseline scenario b during year y, in tons, as per bydefault factors (cases with project performance field test only)

fNRB = Fraction of biomass used during year y for the considered scenario that can be established as non-renewable biomass

NCVb,fuel = Net calorific value of the fuel that is substituted or reduced

EFb,fuel,CO2 = CO2 emission factor of the fuel that is substituted or reduced. 112 tCO2/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel

EFb,fuel,nonCO2 = Non-CO2 emission factor of the fuel that is substituted or reduced

- Quantity of fuel consumed in baseline scenario is calculated by:

  $Bb,y = Np,y * Pb,y$

Where:

Np,y Project technology-days in the project database for project scenario p through year y

Pb,y Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day

2) Project Emissions

$PEp,y = Bp,y * ((fNRB * EFp,fuel, CO2) + EFp,fuel, nonCO2) * NCVp, fuel$

Where:

PEp,y = Emissions for project scenario p during year y in tCO2e

Bp,y = Quantity of fuel consumed in project scenario p during year y, in tons

fNRB = Fraction of biomass used during year y that can be established as non-renewable biomass

NCVp,fuel = Net calorific value of the project fuel. This is equal to the baseline fuel NCV in projects which use the same fuel.

3) Emission Reduction Calculation

$ERy = ((\sum BEb,y – \sum PEp,y)* Up,y) – \sum LEp,y)* (1- XBoil)$

Where:

ERy = Emission reduction for total project activity in year y (tCO2e/yr)

BEp,y = Baseline emissions for baseline scenario b in year y (tCO2e/yr)

PEb,y = Project emissions for project scenario p in year y (tCO2e/yr)

LEp,y = Leakage for project scenario p in year y (tCO2e/yr)

Up, y = Culmulative usage rate for technologies in project scenario p in year y, based on culmulative adoption rate and drop off rate evealed by usage surveys (fraction)

XBoil = Percentage of premises that would have used other non-GHG emitting technologies like chlorine treatment techniques, if available, in the absence of the project activity

Findings: The following findings were raised and successfully closed:

1) CAR 03 for VPA 1, VPA 3 and VPA 7
2) CAR 02 for VPA 17 and VPA 32

Refer to Annex-1 for further details.

Opinion:

a) The validation team confirms the proposed PoA will result in contributions to the SDGs 3, 5, 6 & 13.
b) Since the project contributes to more than two SDGs the validation team is in the opinion that the project is eligible under Gold standard as per GS4GG.

4.5.6 Data and parameters fixed ex ante for monitoring contribution to each of the three SDGs

Parameters	Description	Value	Source/Justification
EFb,fuel,CO2	CO2 emission factor arising from use of wood-fuel in baseline scenario (includes production, transport and use)	112 tco2/TJ	IPCC default value for wood-fuel has been applied. Validation team has checked the value from the source /16/ and confirms that it is consistent.
EFb,non co2	Non-CO2 (CH4 and N2O) emission factor arising from use of wood fuel in baseline scenario	9.46 tCO_2/TJ	IPCC default emission factor value for CH4 and N2O has been applied. Validation team has checked the value from the source /16/ and confirms that it is consistent.
EFp,co2	CO2 emission factor arising from use of wood fuel in project scenario	112 tco2/TJ	IPCC default value for CH4 and N2O has been applied. Validation team has checked the value from the source /16/ and confirms that it is consistent.
EFp,non co2	Non-CO2 (CH4 and N2O) emission	9.46 tCO_2/TJ	IPCC default emission factor value for CH4 and N2O has been applied.

<table>
<tr><td></td><td>factor arising from use of wood fuel in project scenario</td><td></td><td>Validation team has checked the value from the source /16/ and confirms that it is consistent.</td></tr>
<tr><td>NCVb</td><td>Net calorific value of the wood fuel used in the baseline</td><td>0.015 TJ/ton</td><td>Default value for NCV of wood-fuel has been applied as per methodology GS TPDDTEC v3.1.

Validation team has checked the value from the source /6/ and confirms that it is consistent.</td></tr>
<tr><td>NCVp</td><td>Net calorific value of the wood fuel used in the project</td><td>0.015 TJ/ton</td><td>Default value for NCV of wood-fuel has been applied as per methodology GS TPDDTEC v3.1.

Validation team has checked the value from the source /6/ and confirms that it is consistent.</td></tr>
<tr><td>$W_{b,y}$</td><td>Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representative of baseline scenario b during project year y.</td><td>VPA 1- 0.0004 T/litre

VPA 3- 0.0004 T/litre

VPA 7- 0.0004 T/litre

VPA 17- 0.0004 T/litre

VPA 32- 0.0004 T/litre</td><td>The value has been taken from the baseline WBT /13/.

In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted as follows:

<table>
<tr><th>VPA (Location)</th><th>No. of WBT</th></tr>
<tr><td>VPA 1 (Western Kenya)</td><td>45</td></tr>
<tr><td>VPA 3 (Central Kenya)</td><td>45</td></tr>
<tr><td>VPA 7 (Northern Uganda)</td><td>40</td></tr>
<tr><td>VPA 17 (Mozambique)</td><td>30</td></tr>
<tr><td>VPA 32 (Zambia)</td><td>65</td></tr>
</table>
CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17 was raised in this regard and successfully closed. Refer to Annex-1 for further details.

The tests revealed information regarding current boiling technologies and fuel and amount of fuel needed to conduct the test; i.e. the difference between the volume of wood fuel at the start of the test and at the end. The values of which are different for each VPA.

Validation team has checked the value of each VPA from the source /13/ and confirms that it is consistent.

The BWBT values have been capped at 0.4 kg for three stone firewood baseline stove scenarios, as specified by GS-TAC due to the ongoing grievance.</td></tr>
</table>

<table>
<tr>
<td>$W_{p,y}$</td>
<td>Quantity of wood fuel or fossil fuel required to boil 1 litre of water using technologies representative of project scenario p during project year y.</td>
<td>VPA 1- 0.004 T/litre

VPA 3- 0.004 T/litre

VPA 7- 0.004 T/litre

VPA 17- 0.004 T/litre

VPA 32- 0.004 T/litre</td>
<td>The value has been taken from the baseline WBT.

In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted as follows:

<table>
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CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17 was raised in this regard and successfully closed. Refer to Annex-1 for further details.

The tests revealed information regarding current boiling technologies and fuel and amount of fuel needed to conduct the test; i.e. the difference between the volume of wood fuel at the start of the test and at the end. The values of which are different for each VPA.

Validation team has checked the value from the source /13/ and confirms that it is consistent.

The BWBT values have been capped at 0.4 kg for three stone firewood baseline stove scenarios, as specified by GS-TAC due to the ongoing grievance.</td>
</tr>
<tr>
<td>Cj</td>
<td>Portion of users of project safe water supply who were already in baseline using a non-boiling safe water supply</td>
<td>VPA 1- 0 %

VPA 3- 2.56%

VPA 7- 1.6 %

VPA 17- 0 %

VPA 32- 2.73 %</td>
<td>The value has been taken through a set of questions (Q 12, & 18-19) in the baseline survey.

Validation team has checked the value from the source /12/ and confirms that it is consistent.</td>
</tr>
<tr>
<td>Xboil Non Suppressed Demand</td>
<td>Percentage of premises that in the absence of the project activity would have used non-GHG emitting technologies like chlorine</td>
<td>VPA 1- 4. 26 %

VPA 3- 4.56%

VPA 7- 15.6%

VPA 17- 3.64%

VPA 32- 0 %</td>
<td>Suppressed demand was determined through a set of questions (Q 18-21) in the Baseline Project Survey /12/ that establish the method that households use to purify their water, if any, and how they would choose to purify if they were not subject to monetary and access barriers.</td>
</tr>
</table>

	treatment techniques (if available) in the project boundary,		Validation team has checked the value from the source /12/ and confirms that it is consistent.
Pb, boil	Percentage of persons boiling water in the baseline (Number)	**VPA 7-** 16.8%	Percentage of persons boiling water in the baseline was determined through a set of questions (Q 18-19) in the Baseline Project Survey /12/ that establish the people that used to boil their water for purification in the baseline scenario. Validation team has checked the value from the source /12/ and confirms that it is consistent.
Tb,y	Time spent collecting firewood and cooking per household per week prior to project in year y	**VPA 1-** 2.01 Hours **VPA 3-** 1.92 Hours **VPA 7-** 149 minutes **VPA 17-** 4.46 hours **VPA 32-** 1.99 hours	The value has been taken from Baseline survey. Validation team has checked the Baseline Survey /12/ and confirms that the value has been sourced from the survey.
Pb,y	Quantity of fuel that is consumed in the baseline scenario b during year y (kg/household-day)	**VPA 1-** 7.013 kg/household/day **VPA 3-** 7.182 kg/household/day **VPA 17-** 0.00280 Kg/pp-day **VPA 32-** 0. 00280 Kg/household	The value has been taken from Baseline Water Boiling Test. Validation team has checked the calculated value from Baseline WBT/13/ and confirms that it is consistent.

Findings: The following findings were raised and successfully closed:

1) CAR 03 for VPA 1, VPA 3 and VPA 7
2) CAR 02 for VPA 17 and VPA 32
3) CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17

Refer to Annex-1 for further details.

Opinion:

a) The validation team confirms the proposed VPA will result in contributions to the SDGs 3, 5, 6 & 13.
b) Since the project contributes to more than three SDGs the validation team is in the opinion that the project is eligible under Gold standard as per GS4GG.

4.6 Additionality

As per the Community Services Activity (CSA) Requirements Version 1.2, paragraph 4.1.9 *"Projects that meet any of the following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification:(a) Positive list (Annex B of this document) (b) Projects located in LDC, SIDS, LLDC4(c) Microscale projects"*

As confirmed during the remote interviews, the project boundary of the VPA 7, VPA 17 and VPA 32 involves host countries, such as Republic of Uganda, Republic of Mozambique and Republic of Republic of Zambia, that come under LDCs and are automatically be deemed additional, in compliance with paragraph 4.1.9 (b) of Community Services Activity Requirements Version 1.2.

For VPA 1 and 5 the project proponent has used the Methodological tool "Tool for the demonstration and assessment of additionality (Version 7)" /6/ to demonstrate the additionality of the project activity. The tool can be appied to demonstration the additionality of the small scale project activity, hence the application of the tool is acceptable to validation team.

Prior consideration of the carbon revenues:

Discussion:

As each VPA is a regular project activity, hence the prior consideration is not applicable for the project activity. There has not been a previous announcement that the project activity would go ahead without the Gold Standard. The project activity is financed upfront for future Gold Standard VERs as the only source of funding and so the project activity could not go ahead without VER revenues.

Findings:

Not applicable.

Demonstration of additionality as per the applied tool:

Steps 0, 1, 3 and 4 of the tool have been applied to demonstrate the additionality of the project activity.

Step selection for the additionality tool and justification	**Outcome**	**VVB review**
Step 0: First of its kind project activities. Is the proposed project activity the first-of-its-kind?	No, the project activity is not the first-of-its-kind.	The justification provided by PP is acceptable.
Step 1: Identification of alternatives to the project activity consistent with current laws and regulations.		-
Sub-step 1a: define alternatives to the project activity:	Three realistic and credible alternatives to the project activity have been identified.	The validation team confirms that all the alternatives considered by the PP are realistic and credible alternatives, as without registering each VPA as a Gold Standard VER project, the project would still continue

	Alternative 1: Boreholes are rehabilitated without registering as a Gold Standard VER project. Under this alternative scenario, the project would proceed as laid out in this document. This would provide the same displacement of thermal energy, result in the biomass savings, improved livelihoods and other contributions to sustainable development identified. Alternative 2: The distribution of chlorine tablets for the treatment of unsafe water. Under this alternative scenario, the project would not occur as described in this document and instead, chlorine tablets would be distributed for the treatment of water collected from unsafe sources. This would provide the same displacement of thermal energy and result in the biomass savings for the beneficiaries. Alternative 3: Continuation of the current situation – use of boiling to purify water on traditional 3-stone fireplaces. Without the intervention of the project and use of carbon finance it is unlikely that the status quo will change.	to provide benefits to the Local communities. Under the alternative 1 and 2, the implementation of the project would provide safe water access to the users, thereby reducing the need to boil water for purification. This will also lead to reduction in use of fuel wood and result is reduction of emissions due to use of fuel wood. However, alternative 1 and 2 would not be financially feasible as both requires additional cost for maintenance/rehabilitation of boreholes, as well as providing chlorine tablets. Alternative 3 would be continuation of the current situation i.e use of boiling to purify water on traditional 3-stone fireplaces, which will not provide any benefit to the community or the environment.
Sub-step 1b: Consistency with mandatory laws and regulatory	Three realistic and credible alternative scenarios to the project activity that are in compliance with mandatory legislation and regulations, taking into account the enforcement in the region and national and/or sectoral policies and regulations.	The entire three alternatives to the project activity are consistent with mandatory laws and regulations and hence acceptable to the validation team. Validation team has confirmed the same by the local expert and during the remote interviews.
Step 3: Barrier Analysis		
Sub-step 3a: Identify barriers that would prevent the implementation of the proposed GS VER project activity:	Barriers have been identified that may prevent one or more alternative scenarios to occur. a. Investment barrier For most rural countries across Africa, hand pumps provide the main source of safe water. Over past decades, hundreds of thousands of boreholes have been installed across the continent, however without	Investment and technological barrier have been identified by the PP. the demonstration given by the PP seems reasonable. **Investment Barrier**: The justification given by the PP is acceptable as significant investments are required for repair and maintenance of boreholes, which is the reason that many government and communities have let the pumps fall into disrepair. The same has also been confirmed from documented sources /19/.

	proper maintenance the working life of a hand pump can be as little as 5 years. The level of investment to keep this number of hand pumps operational is significant and consequently many government and communities have let the pumps fall into disrepair. Across the continent, hand pump failure rates are around 30% and this has shown little improvement since the beginning of the century. b. Technological barrier The distance between rural communities coupled with the harsh climatic conditions has made it unfeasible to install a water treatment and distribution system. This has meant that rural communities are reliant on groundwater and hand pumps for access to safe water. The failure of hand pumps across sub-Saharan Africa has been well documented and the low rate of access to improved drinking water facilities in Kenya is evidence that the situation is similar. Many reasons have been identified for this including lack of appropriate management and maintenance. This presents a significant barrier to implementation without the anticipated VER carbon credits.	**Technological Barrier**: The justification given by the PP is acceptable as the project technology parts are not available within the country and most of the spare parts are imported from India as checked during the interview of the technicians, Local Expert and also from the web- research. Hence, the technological barrier presented by PP is acceptable.
Sub-step 3b: Show that the identified barriers would not prevent the implementation of at least one of the alternatives (except the proposed project activity):	Both sub-steps 3a – 3b are satisfied. Due to the investment needed to provide chlorination tablets in the 'Alternative 2' scenario identified in sub-step 1a, this scenario would also be prevented from occurring by the barriers identified in sub-step 3a and has been eliminated from consideration. 'Alternative 3' is not affected by any of the barriers identified in sub-step 3a.	The alternative 3 "Continuation of the current situation – use of boiling to purify water on traditional 3-stone fireplaces." would not be prevented by any of the identified barriers and hence the criterion for this step is met.
Step 4: Common practice analysis		
Sub-step 4b: The proposed project	Project is considered additional.	There are currently no other similar project activities being implemented or currently

activity(ies) does not apply any of the measures that are listed in the definitions section [in the CDM Tool for the demonstration and assessment of additionality]:	Although there are similar projects in Kenya currently, there are not any borehole projects intended or happening close to the areas covered by this project as confirmed by local field staff. In addition, it is unlikely local government funding prioritises the repair of hand pumps to keep up with the lack of maintenance of boreholes to meet people's needs for clean and safe water.	underway in project boundary of VPA 1 and VPA 3. Project is considered additional. The same has been verified from the review of GS website.

Findings:

CAR 02 for VPA 1, VPA 3 and VPA 7 was raised and successfully closed. Refer to Annex-1 for further details.

Opinion:

Based on the local and sectoral expertise, the assessment team confirms that the VPA's are automatically additional and all the sources used and calculation done are correct to demonstrate that size of each unit is no larger than 5% of the small-scale CDM thresholds. Hence, VPAs are additional.

4.6.1 First of Its Kind:

Not applicable.

4.6.2 Common practice analysis

Not applicable.

4.7 Application of Monitoring Methodology and Monitoring Plan

Discussion:

As confirmed during the remote interview, the Project implementer has the overall operational and management responsibility for the implementation and monitoring of the VPA. The responsibilities of PP involve identification and rehabilitation of safe water treatment technologies (i.e boreholes currently), VPA Project Area/Household Identification and Sensitisation, data Collection and monitoring.

Project implementer is involved with relevant stakeholders to help identify project areas suitable for borehole rehabilitation and also responsible for collecting monitoring data in line with section 3.A of the Methodology /6/.

The monitoring data collected by PP consists of the following:

1) **Project Database:**

The project database is derived from the Installation/rehabilitation Record, with project technologies differentiated by different project scenarios (if required). Validation team has checked the project database /9/ and confirmed that the data of rehabilitation is being recorded in compliance with the methodology /6/. The same has also been cross-verified during the remote interviews with the monitoring team.

2) **Carbon Transfer Form:**

PP has clearly communicated to the stakeholders of each VPA about the claiming of ownership rights though Carbon right transfer form /11/, during the Local stakeholder consultation, as confirmed during remote

interviews. The users are fully aware that the carbon ownership rights will be transferred to the project implementer (CME) as indicated in carbon right transfer form /11/.

The carbon right form is signed by the village administrator member on behalf and as a representative of the whole community and commits to explaining to all individuals that their use of the borehole is an agreement to transfer any rights to the carbon emissions reductions over to CO2balance UK Ltd.. The process of the signing of the carbon right transfer form has been confirmed during the remote audit interviews with the stakeholders and found appropriate.

The carbon transfer forms, i.e. repair confirmation forms /11/, have been checked by the validation team to confirm that the carbon rights of the VPA lies with the PP (CO2balance).

3) Ongoing Monitoring Studies:

As confirmed during the remote interviews, the monitored data collected by the monitoring team of PP, will be recorded on a hard copy and will be transferred into digital format for analysis.

The data is monitored as follows:

- **Project Survey**-

As confirmed during the remote interviews, Project survey will be conducted annually, starting within 1 year after project registration. The survey will include end users of the project technologies to analyse changes in project scenario over time.

- **Water Consumption field test (WCFT)-**

As confirmed during the remote interviews, Project survey will be conducted biennially, to determine three parameters viz Q,p,y – the quantity of water supplied in the project scenario using the clean water supply technology; Q p,rawboil,y – the raw or unsafe water that is still boiled after installation of the water supply technology and Qp, cleanboil,y – quantity of safe water boiled in the project scenario after installation of the water supply technology. The WCFT will be carried out by staff trained by CO2balance UK Ltd to meet the specific requirements of the methodology /06/. All data presented in excel will be subjected to checking and cross referencing of a sample of the raw data by CO2balance UK Ltd.

- **Usage Survey**-

As confirmed during the remote interviews, Usage Survey will be conducted annually, and in line with the Requirements and Guidelines for carrying out usage surveys for projects implementing improved cooking devices. The usage survey provides a single usage parameter Up,y that is weighted based on drop off rates that are representative of the age distribution for project technologies in the installation record. The annual usage survey will be conducted on a minimum sample size of 100 households.

- **Quality of treated water-**

As confirmed during the remote interviews, quality of the treated water will be assessed quarterly, the first within 6 months of repair and in time for 1st verification to ensure that it is fit for human consumption. It will be assessed in accordance with the host country requirements /5/. The parameters used to assess the water quality will be in line with Water Standards for potable water and all parameters will be shown to be within levels considered acceptable for domestic human consumption. The water quality test reports /18/ provided by the PP have been checked by the validation team to confirm the same.

- **Leakage Assessment-**

As confirmed during the remote interviews, Leakage assessment will be conducted biennially to investigate the potential sources of leakage. If the assessment quantifies an increase in fuel consumption by the non-project households attributable to the project activity, then calculations will be adjusted to account for this.

- **Np,y Project Technology Days-**

The number of project technology days is a measure of the number of persons consuming water supplied by project scenario p through year y. As confirmed during the remote interviews, the total number of project technology days will be calculated by sum of the total number of people using each borehole in the project multiplied by the number of days crediting each borehole earns in this monitoring period. The total number of households using each borehole will be determined through information supplied by the PP. Using this method, the total number of people using each borehole will be known and hence a figure for person days can be calculated.

- **Hygiene Campaign-**

As confirmed during the remote interviews, hygiene campaign will be conducted annually in the format of Water, Sanitation and Hygiene (WASH) training at the community level for each VPA. The trainings act to promote the practice of well-functioning Water Resource Committees at each borehole to ensure good hygienic tendencies are adopted by the communities. WASH practices are also monitored annually as a series of questions in the Project Survey to determine the effectiveness of the trainings and to monitor the health status of the villages with regards to avoiding the spread of water borne diseases. WASH training documents /17/ provided by the PP have been checked by the validation team to confirm the same.

The monitoring plan for the project activity is provided in Section B.7 of each VPA-DD, based on the applied approved monitoring methodology /6/. The monitoring plan has been correctly applied by the project activity and is in compliance with the requirements of the applied methodology.

The parameters that will be monitored (ex-post) are as follows:

Parameter	**Description**	**Unit**	**Monitoring**
Np,y	Number of persons consuming water supplied by project scenario p through year y	**VPA 1-** 14,892,000 Project Technology Days **VPA 3-** 15,330,000 Project Technology Days **VPA 7-** 17,848,500 Project Technology Days **VPA 17-** **1**5,603,750 Project Technology Days **VPA 32-** 16,331,925 Project Technology Days	The value as given for each VPA has been applied for the ex-ante calculation of emission reductions. Actual value is to be provided in time for each verification. The value shall be used in the calculation of emission reductions based on the technologies credited in the project scenario in year y. The data shall be sourced from the Borehole project database, which is recorded continuously. For the monitoring purpose, the data to be recorded includes date of rehabilitation, geographic area, model/type of project technology, name and telephone number, and address of users and unique borehole ID. As confirmed during the remote interviews, the total number of project technology days will be calculated by sum of the total number of people using each borehole in the project multiplied by the number of days crediting each borehole earns in this monitoring period.

Up,y	Usage rate in project scenario p through year y	**VPA 1-** 90 % **VPA 3-** 90 % **VPA 7-** 90 % **VPA 17-** 90 % **VPA 32-** 90 %	The value as given for each VPA has been applied for the ex-ante calculation of emission reductions. Actual value is to be provided in time for each verification. The data shall be sourced from annual usage survey. For the monitoring purpose, households are randomly selected from the borehole user database. The monitoring shall be on annual basis, in all cases on time for any request for issuance.
Qp,y	Quantity of safe water supplied in the project scenario p during the year y using the zero or low emissions clean water supply technology	**VPA 1-** 7 Litres per person per day **VPA 3-** 7 Litres per person per day **VPA 7-** 7 Litres per person per day **VPA 17-** 7 Litres per person per day **VPA 32-** 7 Litres per person per day	The value as given for each VPA has been applied for the ex-ante calculation of emission reductions. Actual value is to be provided in time for each verification. The data shall be sourced from Water Consumption Field Test (WCFT), in which the volume of water consumed in each household is averaged over 3 days.. For the monitoring purpose, households are randomly selected from the borehole user database. The WCFT will be carried out by staff trained by CO2balance UK Ltd to meet the specific requirements of the methodology /06/. The monitoring shall be on biennial basis, in all cases on time for any request for issuance.
Qp,cleanboil,y	Quantity of safe water boiled in the project scenario p during the year y using the zero or low emissions clean water supply technology	**VPA 1-** 0 Litres per person per day **VPA 3-** 0 Litres per person per day **VPA 7-** 0 Litres per person per day **VPA 17-** 0 Litres per person per day **VPA 32-** 0 Litres per person per day	The value as given for each VPA has been applied for the ex-ante calculation of emission reductions. Actual value is to be provided in time for each verification. The data shall be sourced from Water Consumption Field Test (WCFT), in which the volume of water consumed in each household is averaged over 3 days. For the monitoring purpose, households are randomly selected from the borehole user database. The WCFT will be carried out by staff trained by CO2balance UK Ltd to meet the specific requirements of the methodology /06/. The monitoring shall be on biennial basis, in all cases on time for any request for issuance.
Qp,rawboil, y	The raw of unsafe water that is still boiled after	**VPA 1-** 0 Litres per person per day	The value as given for each VPA has been applied for the ex-ante calculation of emission reductions.

	installation of the water treatment technology	**VPA 3-** 0 Litres per person per day **VPA 7-** 0 Litres per person per day **VPA 17-** 0 Litres per person per day **VPA 32-** 0 Litres per person per day	Actual value is to be provided in time for each verification. The data shall be sourced from Water Consumption Field Test (WCFT), in which the volume of water consumed in each household is averaged over 3 days. For the monitoring purpose, households are randomly selected from the borehole user database. The WCFT will be carried out by staff trained by CO2balance UK Ltd to meet the specific requirements of the methodology /06/. The monitoring shall be on biennial basis, in all cases on time for any request for issuance.
Quality of Treated Water	Performance of the treatment technology	Parameters as per national standards	As confirmed during the remote interviews, quality of the treated water will be assessed quarterly, the first within 6 months of repair and in time for 1st verification to ensure that it is fit for human consumption. It will be assessed in accordance with the host country requirements /5/. A sample of boreholes (randomly selected from the borehole user database) will be tested each quarter according to 90/10 confidence requirements. At least one test each year will be conducted by an accredited laboratory. The monitoring shall be on quarterly basis, in all cases on time for any request for issuance.
LEp,y	Leakage in project scenario p during year y	**VPA 1-** 0 tCO2e per year **VPA 3-**0 tCO2e per year **VPA 7-** 0 tCO2e per year **VPA 17-** 0 tCO2e per year **VPA 32-** 0 tCO2e per year	The value of as given for each VPA been applied for the ex-ante calculation of emission reductions. Actual value to be provided in time for each verification. The data shall be sourced from baseline and monitoring survey. A monitoring survey shall be conducted every 2 years.
fNRB,i,y	Non-renewability status of woody biomass fuel in scenario i during year y	**VPA 1-** 0.92 **VPA 3-** 0.92 **VPA 7-** 0.89 **VPA 17-** 0.86	The value as given for VPA 1, 3 and 32, has been applied for the ex-ante calculation of emission reductions. Actual value is to be provided in time for each verification.

		VPA 32- 0.81	The ex-ante value has been sourced from the Default values of fraction of non-renewable biomass as outlined by the UNFCCC CDM[3]. Although the default value has expired, the existing value could be used in the absence of a revised figure. The values shall be calculated and updated before the verification of the VPA 1, 3 and 32. In case of VPA 7 and 17, the submitted fNRB calculation sheet /10/ has been checked to confirm that the calculations have been carried out using the NRB Assessment similar to approach of CDM methodology AMS-II. G, which is in line with the Annex 1 of the applied methodology TPDDTEC v. 03 /6/. The fraction of woody biomass that can be established as non-renewable (fNRB) has been calculated using equation 10: $$fNRB = \frac{NRB}{NRB + DRB}$$ Wherein, DRB= Woody biomass or its derivatives (such as charcoal) that is deemed renewable as per criteria laid out on page 39 TPDDTEC v. 03 /6/. Based on the defined criteria, DRB has been calculated as equivalent to the total annual biomass growth in protected areas (i.e. DRB = PA*GR). NRB= Non-Renewable Biomass is the quantity of wood fuel used in the absence of the project activity minus the quantity designated as DRB (i.e. NRB = R – DRB). R= The quantity of biomass (including wood fuel) used in absence of project activity has been

[3] The value has been taken from default values of fraction of non-renewable biomass as outlined by the UNFCCC CDM in EB 67, Annex 22 and confirmed by DNA. https://cdm.unfccc.int/Reference/Notes/meth/meth_note12.pdf .

			calculated as the sum of Mean annual increment of biomass growth and the annual change in living forest biomass (i.e. R = ΔF + MAI) As confirmed by the validation team, recent data from various sources (/22/ for VPA 7 and /23/ for VPA 17) is used and the calculations as demonstrated in the calculation sheet/10/ have been assessed to be correct. Hence, the value of fNRB (0.89) for VPA 7 and (0.86) for VPA 17 is acceptable to the validation team.
TP,y	Time spent collecting firewood and cooking per household per week in the project in year y	**VPA 1-** 1.51 Hours **VPA 3-** 1.42 Hours **VPA 7-** 60 minutes (1 hr) **VPA 17-** 3.96 Hours **VPA 32-** 1.49 Hours	The value as given for each VPA has been applied for the estimation of outcome of SDG 5. Actual value to be provided in time for each verification. The data shall be sourced from Project Survey. A monitoring survey shall be conducted every 2 years.
P,y	Number of persons having access to safe water in the project activity	**VPA 1-** 40,800 Number of people **VPA 3-** 42,000 Number of people **VPA 7-** 48,900 Number of people **VPA 17-** 45,000 Number of people **VPA 32-** 47,100 Number of people	The value as given for each VPA has been applied for the estimation of outcome of SDG 6. Actual value will be provided in time for each verification. The data shall be sourced from Project Survey and baseline survey. A monitoring survey shall be conducted annually.
Pp,y	Quantity of fuel that is consumed in the project scenario p during year y (kg/household-day)	**VPA 1-** 0 Kg/household **VPA 3-** 0 Kg/household **VPA 17-** 0 Kg/household **VPA 32-** 0 Kg/household	The value of as given for each VPA has been applied for the ex-ante calculation of emission reductions. Actual value is to be provided in time for each verification. The value shall be sourced from the project WBT. For the monitoring purpose, WBT protocol /10/ as per Annex of TPDDTEC will be followed.

			Individual participants will be randomly selected from the Borehole user database to be monitored, during each verification period. The parameter shall be updated annually.
Hygiene campaigns/Education Programme	Hygiene campaigns carried out among project technology users	**VPA 1-** No. of participants attending WASH trainings **VPA 3-** No. of participants attending WASH trainings **VPA 7-** No. of participants attending WASH trainings **VPA 17-** No. of participants attending WASH trainings **VPA 32-** No. of participants attending WASH trainings	The values shall be provided based on annual hygiene campaign results, which will document the number of participants attending WASH trainings. Cross checking of the values will be carried out through the review of participant lists, WASH report and meeting pictures. The monitoring shall be on annual basis, in accordance with the applied methodology /06/.
Failure Days,y	Number of days a particular borehole was non-functioning during year y (Number)	**Only for VPA 7-** To be measured	The value shall be sourced from Borehole site visits and communication from Water Resource Communities. Therefore, will undergo continuous monitoring. Re-functionality of boreholes will be checked by signed RCF.

It can be concluded that the monitoring plan has provisions for the real measurement of the parameter to reach the achieved emission reductions.

Sampling Plan:

The PoA includes various VPAs covering either of the two technologies (i.e ICS or Safe water technologies) specified in section A.4 of the PoA-DD/14/. During the remote interviews, it was confirmed that the VPAs which are homogenous, i.e. those VPA that follow the criteria of homogeneity[4] set out in the PoA-DD, will apply cross sampling of devices across during the monitoring period. Number of districts under VPA area, to be sampled for a 90/30 confidence/precision will be determined. From the determined number of provinces, a commune from each district will be randomly selected and random sampling of project households will be undertaken, complying with the minimum sample size for the particular survey/test.

Individual participants will be randomly selected from the borehole user database /9/ to be monitored, during each verification period. This sample group will be altered during every verification period, according to the

[4] Those VPAs that share common baseline, common project technology, shared project area, common demographics, and common beneficiaries.

random selection process carried out in line with the confidence/precision and sample size requirements in the Methodology /6/. Monitoring will be carried out in line with Section 3 of the Methodology/6/.

The cross-sampling approach will include the following monitoring survey/test:

- **Usage survey and Project survey**- The frequency of both the surveys will be annual, as confirmed during the remote interviews, which is also in line with the methodology /6/.
- **Water consumption field Test (WCFT)**- The frequency of WCFT is biennial as confirmed during the remote interviews, which is also in line with the methodology /6/.

After an intensive document review of the VPA-DDs /2/, PoA-DD /14/ and remote assessment by interviews with Project representatives about the monitoring procedures and structure, the validation team confirms that verification of SDG outcomes would be feasible. Also, quality assurance and quality control procedures identified in the VPA-DDs will lead to accuracy and lesser uncertainty.

Findings:

The following findings were raised and successfully closed:

1) CL 01, CL 03 and CAR 03 for VPA 1
2) CL 01, CL 03, CAR 1 and CAR 03 for VPA 3
3) CL 01, CL 03, and CAR 03 for VPA 7
4) CL 01, CL 03, CL 04 and CAR 02 for VPA 17 and VPA 32

Refer to Annex-1 for further details.

Opinion:

The assessment team confirms that the monitoring plan:

a) Is in compliance with the requirements stated in the applied approved monitoring methodology/6/
b) Is feasible and can be implemented in the case of the VPA
c) Can be implemented by the PP.

4.8 Environmental Impacts

Discussion:

The purpose of the technology implemented through the VPA, is to reduce greenhouse gas (GHG) emissions from the burning of non-renewable biomass for boiling of water by rehabilitating of to deliver clean, safe water for human consumption. Therefore, the VPA has no adverse environmental impact. The same has been confirmed during the remote interviews with the stakeholders as well as from the review of Stakeholder consultation report /15/.

Findings:

No findings were raised.

Opinion:

The assessment team confirms that the project activity complies with the local environmental regulations of the host countries /5/.

4.9 Local Stakeholder Consultation

Discussion:

Local Stakeholder consultation meeting of each VPA took place as follows:

1. The meeting for VPA 1 was conducted at Arom Hotel, along Kisian Bondo Highway next to Kombewa Market, Kisumu County on 16th September 2019, which was attended by a total of 45 stakeholders.
2. The meeting for VPA 3 was conducted at Five in Hotel at Marimanti Shopping Centre, Tharaka-Nithi County on 19th September 2019, which was attended by a total of 52 stakeholders.

3. The meeting for VPA 7 was conducted at New gulu Sunset Hotel, Plot 12 Lagara Road, Gulu, Northern Uganda on 13th December 2019, which was attended by a total of 21 stakeholders.
4. The meeting for VPA 17 was conducted at centro de formacao de Saude de Nhamatanda, central mozambique on 12th November 2019, which was attended by a total of 70 stakeholders.
5. The meeting for VPA 32 was conducted at St. Peter Parish Catholic Church Hall, Manyama Village, Chibombo District, Central province, Zambia on 6th November 2019, which was attended by a total of 45 stakeholders and 5 Local Policy makers.

The wide range of different groups of stakeholders for each VPA, as verified from the list of attendees /15/ were invited comprising of Project developer, government officials, participants from NGO's and CSO's, and community members. During remote interviews, the validation team has further confirmed the same by interviewing the stakeholders which attended the LSC meeting.

Project Participant of each VPA has submitted the Stakeholder Consultation Report /15/, where detailed information about the agenda, participants is provided on the stakeholder consultation conducted for each project activity. Validation team has checked the Stakeholder Consultation Report /15/ and found that no comments regarding the project design, its negative impact and monitoring activities were received for and of the VPAs.

Findings:

CAR-04 for VPA 7 was raised and successfully closed. Refer to Annex-1 for further details.

Opinion:

Each project activity is a regular cycle project. During the remote audit, interviews with the beneficiaries and local government officials were undertaken and it can be confirmed that the project proponent takes into account the feedback of local people through various ways.

5. Stakeholder Feedback Round

Discussion:

The VPAs under the PoA (GS 7591) are regular projects, therefore PP was required to conduct a physical meeting (for Local stakeholder consultation /15/) and feedback of all the stakeholders, including those present at the physical meeting, during Stakeholder Feedback Round (SFR) covering the issues highlighted in the pre-feasibility assessment. For the concerned VPAs, Stakeholder Feedback Round (SFR) was conducted as follows:

VPA 1: Stakeholder Feedback Round for Kenya (Western) began on 24/01/2020 for a period of 60 days. International stakeholders were invited to give feedback on the PDD and Key project via email /20/.

VPA 3: Stakeholder Feedback Round for Kenya (Central) began on 24/01/2020 for a period of 60 days. International stakeholders were invited to give feedback on the PDD and Key project via email /20/.

VPA 7: Stakeholder Feedback Round began for 10 Borehole rehabilitation projects of Northern Uganda was conducted from 26/02/2020 to 27/04/2020, during which comments/feedback from International stakeholders were invited via email /20/.

VPA 17: Stakeholder Feedback Round began in April 2020 for a period of 60 days. International stakeholders were invited to give feedback on the SCR report and Project Summary via email on the 03/04/2020 /20/. Along

with that, country stakeholders were invited by the field staff to leave feedback on the documents which were distributed at a community level the 13/04/2020.

VPA 32: Stakeholder Feedback Round began in April 2020 for a period of 60 days. International stakeholders were invited to give feedback on the SCR report and Project Summary via email on the 03/04/2020 /20/. Along with that, country stakeholders were invited by the field staff to leave feedback on the documents which were distributed at a community level the 09/04/2020.

There were no negative comments received from the stakeholder feedback round, as confirmed from the PP of respective VPAs during the remote audit. The validation team confirms that the SFR process was undertaken as per the procedures defined in the stakeholder Consultation and Engagement Requirements /21/, which is valid and adequate.

Findings:

CL 04 for VPA 1, VPA 3, VPA 7, VPA 32 and CL 05 for VPA 17 was raised in this regard and successfully closed. Refer to Annex-1 for further details.

Opinion:

Validation team has checked the evidence /20/ for the SFR conducted and confirms that the project activity meets the Gold Standard requirements for stakeholder feedback round.

6. Safeguarding principles

Discussion:

CME has done the safeguarding principles assessment analysis and presented the assessment in the VPA-DD /2/. The assessment has been performed in accordance to requirements prescribed in the Section 4.1.9 of GS4GG Principles & Requirements and section 3 Safeguarding Principles & Requirements /4/.

Validation team has carried out the remote audit interviews to cross check the safeguarding principle assessment conducted by the PP. VVB has also reviewed the initial GS local stakeholder consultation report and GS4GG PoA-DD /14/ and found that CME has assessed all the required critical safeguarding principles in project activity. It has been found that the project activity fulfils all the principles like Human Rights, Labour standards, environment protection, and anti-corruption.

The validation approach didn't reveal any situation that could lead to the violation of safeguarding principles and VVB has confirmed that the project activity fulfils all the safeguarding principles in compliance with Safeguarding Principles & Requirements by GS4GG /4/.

Findings:

No findings were raised.

Opinion:

The validation team confirms that the project activity meets the Gold Standard for Global Goals requirements /4/. The safeguarding principles have been appropriately identified & discussed and the identified mitigation measure will be monitored.

7. SDG Outcome Assessment

Discussion:

PP has submitted the ex- ante calculation in the excel sheet for each VPA. The baseline and project calculations in the excel sheet have been checked to confirm that the calculation is which is in compliance with the methodology /6/ and hence, acceptable to the validation team.

Based on the ex-ante calculations, the net benefit for each SDG outcome has been summarized as follows:

SDG 3:

Kenya (VPA 1):

Year	Baseline estimate	Project estimate	Net benefit
Year A	90% exposure to Household Air Pollution due to boiling water	0% exposure to Household Air Pollution due to boiling water	90% reduction in exposure to Household Air Pollution due to boiling water
Year B	90%	0%	90% decrease
Year C	90%	0%	90% decrease
Year D	90%	0%	90% decrease
Year E	90%	0%	90% decrease
Total over the crediting period (5 years)	90%	0%	90% decrease
Annual average over the crediting period	90%	0%	90% decrease

Kenya (VPA 3):

Year	Baseline estimate	Project estimate	Net benefit
Year A	90% exposure to Household Air Pollution due to boiling water	0% exposure to Household Air Pollution due to boiling water	90% reduction in exposure to Household Air Pollution due to boiling water
Year B	90%	0%	90% decrease
Year C	90%	0%	90% decrease
Year D	90%	0%	90% decrease
Year E	90%	0%	90% decrease
Total over the crediting period (5 years)	90%	0%	90% decrease
Annual average over the crediting period	90%	0%	90% decrease

Uganda (VPA 7):

Year	Baseline estimate	Project estimate	Net benefit
Year A	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water
Year B	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water
Year C	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water

Year D	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water
Year E	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water
Total over the crediting period (5 years)	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water
Annual average over the crediting period	8,866 people consuming safe or boiled water	48,900 people consuming safe water	Additional 40,034 people consuming safe water

Mozambique (VPA 17):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	100%	10%	90% decrease in household smoke
Year B	100%	10%	90% decrease in household smoke
Year C	100%	10%	90% decrease in household smoke
Year D	100%	10%	90% decrease in household smoke
Year E	100%	10%	90% decrease in household smoke
Total over the crediting period (5 years)	100%	10%	90% decrease in household smoke
Annual average over the crediting period	100%	10%	90% decrease in household smoke

Zambia (VPA 32):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke
Year B	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke
Year C	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke
Year D	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke
Year E	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke
Total over the crediting period (5 years)	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke

Annual average over the crediting period	100% household smoke from water purification	10% household smoke from water purification	90% decrease in household smoke

SDG 5:

Kenya (VPA 1):

Year	Baseline estimate	Project estimate	Net benefit
Year A	2.01 hours collecting firewood	1.51 hours collecting firewood	0.5 hours saved
Year B	2.01 hours	1.51 hours	0.5 hours
Year C	2.01 hours	1.51 hours	0.5 hours
Year D	2.01 hours	1.51 hours	0.5 hours
Year E	2.01 hours	1.51 hours	0.5 hours
Total over the crediting period (5 years)	2.01 hours	1.51 hours	0.5 hours
Annual average over the crediting period	2.01 hours collecting firewood	1.51 hours collecting firewood	0.5 hours saved

Kenya (VPA 3):

Year	Baseline estimate	Project estimate	Net benefit
Year A	1.92 hours collecting firewood	1.42 hours collecting firewood	0.5 hours saved
Year B	1.92 hours	1.42 hours	0.5 hours
Year C	1.92 hours	1.42 hours	0.5 hours
Year D	1.92 hours	1.42 hours	0.5 hours
Year E	1.92 hours	1.42 hours	0.5 hours
Total over the crediting period (5 years)	1.92 hours	1.42 hours	0.5 hours
Annual average over the crediting period	1.92 hours collecting firewood	1.42 hours collecting firewood	0.5 hours saved

Uganda (VPA 7):

Year	Baseline estimate	Project estimate	Net benefit
Year A	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water
Year B	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water
Year C	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water
Year D	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water
Year E	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water
Total over the crediting period (5 years)	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water

Annual average over the crediting period	149 minutes collecting water	60 minutes collecting water	60% reduction in time spent collecting water

Mozambique (VPA 17):

Year	Baseline estimate	Project estimate	Net benefit
Year A	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood
Year B	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood
Year C	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood
Year D	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood
Year E	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood
Total over the crediting period (5 years)	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood
Annual average over the crediting period	4.46 hours collecting water and firewood	3.96 hours collecting water and firewood	0.5 hours saved collecting firewood

Zambia (VPA 32):

Year	Baseline estimate	Project estimate	Net benefit
Year A	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)
Year B	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)
Year C	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)
Year D	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)
Year E	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)
Total over the crediting period (5 years)	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)

Annual average over the crediting period	1.99 hours collecting water and firewood	1.49 hours collecting water and firewood	0.5 hours saved collecting water and firewood (equivalent to 25% reduction time)

SDG 6:

Kenya (VPA 1):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	0 people with access to safe water	36,720 people with access to safe water	36,720 additional people with access to safe water
Year B	0 people	36,720 people	36,720 people
Year C	0 people	36,720 people	36,720 people
Year D	0 people	36,720 people	36,720 people
Year E	0 people	36,720 people	36,720 people
Total over the crediting period (5 years)	0 people	36,720 people	36,720 people
Annual average over the crediting period	0 people	36,720 people	36,720 people

Kenya (VPA 3):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	5,168 people with access to safe water	42,000 people with access to safe water	36,832 additional people with access to safe water (assuming 80% usage rate, ex ante)
Year B	5,168 people	42,000 people	36,832 people
Year C	5,168 people	42,000 people	36,832 people
Year D	5,168 people	42,000 people	36,832 people
Year E	5,168 people	42,000 people	36,832 people
Total over the crediting period (5 years)	5,168 people	42,000 people	36,832 people
Annual average over the crediting period	5,168 people	42,000 people	36,832 people

Uganda (VPA 7):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water
Year B	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water
Year C	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water

Year D	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water
Year E	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water
Total over the crediting period (5 years)	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water
Annual average over the crediting period	5,594 people with access to safe water	48,900 people with access to safe water	Additional 43,306 persons with access to safe water

Mozambique (VPA 17):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water
Year B	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water
Year C	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water
Year D	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water
Year E	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water
Total over the crediting period (5 years)	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water
Annual average over the crediting period	4,500 people with access to safe water	45,000 people with access to safe water	40,500 additional people with access to safe water

Zambia (VPA 32):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water
Year B	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water
Year C	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water
Year D	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water

Year E	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water
Total over the crediting period (5 years)	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water
Annual average over the crediting period	5,866 people with access to safe water	47,100 people with access to safe water	41,234 additional people with access to safe water

SDG 13:

Kenya (VPA 1):

Year	Baseline estimate (t CO2e)	Project estimate (t CO2e)	Leakage (t CO2e)	Net benefit (t CO2e)
2020	67,369	0	0	60,000
2021	67,369	0	0	60,000
2022	67,369	0	0	60,000
2023	67,369	0	0	60,000
2024	67,369	0	0	60,000
Total over the crediting period (5 years)	336,843	0	0	300,000
Annual average over the crediting period	67,369	0	0	60,000

Kenya (VPA 3):

Year	Baseline estimate (t CO2e)	Project estimate (t CO2e)	Leakage (t CO2e)	Net benefit (t CO2e)
2020	67,360	0	0	60,000
2021	67,360	0	0	60,000
2022	67,360	0	0	60,000
2024	67,360	0	0	60,000
2025	67,360	0	0	60,000
Total over the crediting period (5 years)	336,799	0	0	300,000
Annual average over the crediting period	67,360	0	0	60,000

Uganda (VPA 7):

Year	Baseline estimate	Project estimate	Net benefit
Year A	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e
Year B	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e

Year C	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e
Year D	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e
Year E	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e
Total over the crediting period (5 years)	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e
Annual average over the crediting period	60,000 tCO2e emitted	0 tCO2e emitted	Emissions reduced by 60,000 tCO2e

Mozambique (VPA 17):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year B	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year C	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year D	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year E	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Total over the crediting period (5 years)	300,000 tCO2e	0 tCO2e	300,000 tCO2e
Annual average over the crediting period	60,000 tCO2e	0 tCO2e	60,000 tCO2e

Zambia (VPA 32):

Year	**Baseline estimate**	**Project estimate**	**Net benefit**
Year A	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year B	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year C	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year D	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Year E	60,000 tCO2e	0 tCO2e	60,000 tCO2e
Total over the crediting period (5 years)	300,000 tCO2e	0 tCO2e	300,000 tCO2e
Annual average over the crediting period	60,000 tCO2e	0 tCO2e	60,000 tCO2e

Findings:

No findings were raised.

Opinion:

The assessment team confirms that the estimation of SDG outcomes has been conducted as follows:

a) Appropriate methods and formulae for calculating baseline emission, project emissions and leakage have been followed;

b) Any assumptions used in emission or removal calculations have been justified.

c) Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct.

d) The ER calculation sheet /3/ provided is clear, transparent and the calculations provided in the sheet are reproducible.

e) Hence, the baseline emission in the monitoring report for the monitoring period is verified to be correct.

f) The claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance.

8. References

S. No.	Name of document
/1/	/1.1/ VPA 1 Initial VPA-DD Version 01 dated 30/04/2020 /1.2/ VPA 3 Initial VPA-DD Version 01 dated 30/04/2020 /1.3/ VPA 7 Initial VPA-DD Version 03 dated 30/04/2020 /1.4/ VPA 17 Initial VPA-DD Version 01 dated 27/04/2020 /1.5/ VPA 32 Initial VPA-DD Version 01 dated 29/04/2020
/2/	/1.1/ VPA 1 Final VPA-DD Version 07 dated 10/03/2021 /1.2/ VPA 3 Final VPA-DD Version 06 dated 10/03/2021 /1.3/ VPA 7 Final VPA-DD Version 08 dated 10/03/2021 /1.4/ VPA 17 Final VPA-DD Version 05 dated 10/02/2021 /1.5/ VPA 32 Final VPA-DD Version 05 dated 10/02/2021
/3/	/3.1/ ER spreadsheets corresponding to initial PDDs /3.2/ ER spreadsheets corresponding to final PDDs
/4/	• GS4GG Principles & Requirements, Version 1.2 dated October 2019 https://globalgoals.goldstandard.org/100-principles-and-requirements/ • GS4GG-Stakeholder Consultation and engagement Requirements Guidelines, v1.2' https://globalgoals.goldstandard.org/102-par-stakeholder-consultation-requirements/ • GS4GG 'Community Services Activity-Requirements', v1.2 https://globalgoals.goldstandard.org/standards/201_V1.2_AR_Community-Services-Activity-Requirements.pdf • Safeguarding Principles & Requirements, v1.2 https://globalgoals.goldstandard.org/103-par-safeguarding-principles-requirements/ • COVID 19 Interim measures
/5/	Host country criteria (Rules & regulations) **Kenya:** 1. WQT standards by Kenya Bureau of Standards https://www.kebs.org/ 2. Kenya's Energy Act, 2019 – available at: http://kenyalaw.org:8181/exist/kenyalex/actview.xql?actid=No.%201%20of%202019 3. Kenya's Environmental Management and Co-ordination Act, 1999 – available at: http://kenyalaw.org:8181/exist/kenyalex/actview.xql?actid=No.%208%20of%201999 **Mozambique:**

	1. WQT Regulations for Mozambique 180_400 (Diploma Ministerial n.2 18012004) http://www.mafalala.uem.mz/images/pdf_files/Qualidade.pdf 2. Environmental Law (Lei nº 20/97: Lei do Ambiente) https://www.ecolex.org/details/legislation/act-no-2097-approving-the-environment-act-lex-faoc015370/ 3. National Action Plan on Women Peace and Security (2018-2022) https://www.peacewomen.org/sites/default/files/Mozambique%20NAP%20(2018-2022).pdf 4. Environmental and Social Management Framework (ESMF) http://documents1.worldbank.org/curated/pt/376611553167167397/pdf/Environmental-and-Social-ManagementFramework-ESMF-P161777.pdf **Uganda:** 1. Republic of Uganda (1995) Articles XIV, XXI and XXVII, https://ulii.org/ug/legislation/consolidated-act/0 2. The National Water Policy (1999) http://extwprlegs1.fao.org/docs/pdf/uga158331.pdf 3. The National Gender Policy (2007) http://extwprlegs1.fao.org/docs/pdf/uga163564.pdf **Zambia:** 1. Drinking Water Quality-Specifications (http://www.inmetro.gov.br/barreirastecnicas/pontofocal/..%5Cpontofocal%5Ctextos%5Cregulamentos%5CZMB_48.pdf) 2. National Gender Policy (http://extwprlegs1.fao.org/docs/pdf /zam152916.pdf) 3. Water Resources Management Act 2011 (http://www.parliament.gov.zm/node/6544) 4. Environmental Management Act 2011 (http://www.parliament.gov.zm/node/7348)
/6/	1) Gold Standard Methdology: “Technologies and Practices to displace decentralized thermal energy consumption” methodology”. Version 03.1 https://globalgoals.goldstandard.org/407-ee-ics-technologies-and-practices-to-displace-decentrilized-thermal-energy-tpddtec-consumption/ 2) “Tool for the demonstration and assessment of additionality (Version 7)” https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf
/7/	Declaration confirming that there is no diversion of ODA **Kenya:** 1. VPA 1(Western Kenya) “GS7557 ODA-Declaration” dated 13/01/2020. 2. VPA 3(Cestern Kenya) ““501-ER-T-ODA-Declaration_Central” dated 13/01/2020. **Mozambique:** VPA 17 **“**501-ER-T-ODA-Decalaration_GS7636-7651“ dated 09/01/2020 **Uganda:** VPA 7 **“**ODA-Declaration_GS7592 – 7601“ dated 02/03/2020 **Zambia:** VPA 32 “GS7687-91 ODA-Declaration Zambia“ dated 20/01/2020
/8/	Technical specification manual 1. https://www.engineeringforchange.org/solutions/product/afridev-hand-pump/#:~:text=Maximum%20Stroke%3A%20225%20mm,served%20per%20unit%3A%20~%20300%20people 2. https://www.rural-water-supply.net/en/implementation/public-domain-handpumps/afridev 3. https://www.rural-water-supply.net/en/implementation/handpump-overview/139-india-mark-ii

	4. U3 modified Handpump specification https://www.rural-water-supply.net/en/resources/details/343
/9/	Project database **Kenya:** 1. VPA 1 "Western Borehole database" providing the details of 36 Rehabilitated Boreholes. 2. VPA 3 "Central Borehole database" providing the details of 70 Rehabilitated Boreholes. **Mozambique:** VPA 17: "BH_Database" providing the details of 274 Rehabilitated Boreholes. **Uganda:** VPA 7: **"**Northern Uganda BH Database 280720" providing the details of 97 Rehabilitated Boreholes. **Zambia:** VPA 32: "BH Database_28072020" providing the details of 68 Rehabilitated Boreholes.
/10/	1. **Procedure of Baseline Water Boiling Test (BWBT) :** Annex IV_WBT guide 2. fNRB calculation sheet of VPA 7 and 17 3. Ministry of Environment and Forestry in Kenya - National Climate Change Action Plan 2018-2022(Vol 1), see page 40. http://www.kenyamarkets.org/wp-content/uploads/2019/02/NCCAP-2018-2022-Online-.pdf
/11/	Carbon transfer form(CTF) or Repair confirmation forms **Kenya:** 1. VPA 1: Western Kenya CTFs dated 05/12/2019, 06/12/2019, and 07/12/2019 2. VPA 3: Central Kenya CTFs dated 20/01/2020, 21/01/2020, 22/01/2020, 23/01/2020, 24/01/2020, 25/01/2020, 27/01/2020, and 28/01/2020. **Mozambique:** VPA 17: CTFs dated 04/02/2020 and 05/02/2020 **Uganda:** VPA 7: CTF dated 26/02/2020 (Kidere), CTF dated 27/02/2020 for the borehole rehabilitated (in Akwii Central) on 24/02/2020 as confirmed from the submitted Rehabilitation form. **Zambia:** VPA 32: CTFs dated 20/03/2020, 16/04/2020, 18/04/2020, 19/04/2020, 20/04/2020
/12/	Baseline Survey **Kenya:** 1. VPA 1 "Western Kenya Baseline survey_Final_04.2020" excel sheet 2. VPA 1 "Western Kenya Baseline Survey Sample Scans" dated 12/06/2019, 13/06/2019, 15/06/2019, 17/06/2019, 18/06/2019, 19/06/2019, 20/06/2019, 24/09/2019, 01/10/2019, 5/10, 10/10/2019. 3. VPA 3 "Central Kenya Baseline survey_Final_04.2020" excel sheet 4. VPA 3 Central Kenya Baseline Survey Sample Scans dated 14/04/2019, 15/04/2019, 18/04/2019, 24/09/2019, 25/09/2019, and 09/10/2019. **Mozambique:** 1. VPA 17: "Baseline Survey Mozambique SS_2020" excel sheet 2. VPA 17: "Mozambique Baseline Survey Sample Scans" dated 23/01/2020. **Uganda:** **1.** VPA 7: **"**Baseline scans" dated 10/10/2019, 11/10/2019, 13/10/2019, 09/03/2020, 10/03/2020, 11/03/2020, 26/03/2020 **2.** VPA 7: "Combined baseline KAOD-Northern v3" excel sheet

	Zambia: VPA 32: “Baseline Survey Zambia SS_2020” excel sheet
/13/	**Baseline Water Boiling Test (BWBT) results:** **Kenya:** 1. VPA 1: “Western Kenya Baseline WBT Final_03.20” excel sheet 2. VPA 3: “Central Kenya Baseline WBT Final_03.20” excel sheet **Mozambique:** VPA 17: “Baseline WBT Mozambique_SS_2020” excel sheet **Uganda:** VPA 7: “BWBT Mukono v2” excel sheet, “Baseline WBT Report Uganda_Strata”, Baseline WBT scans dated August 2012. **Zambia:** VPA 32: “Baseline WBT Zambia _SS_2020” excel sheet
/14/	Final PoA-DD Version 05 dated 10/03/2021
/15/	Local Stakeholder Consultation **Kenya:** 1. VPA 1: SS-SCR document dated 11/11/2019, LSC conducted on 16/09/2019, in English and Swahili at Arom Hotel, along Kisian Bondo Highway next to Kombewa Market, Kisumu County. 2. VPA 3: SS-SCR document dated 11/11/2019, LSC conducted on 19/09/2019, in English and Swahili at Five in Hotel at Marimanti Shopping Centre, Tharaka-Nithi County. **Mozambique:** VPA 17: SS-SCR document dated 05.03.2020, community level meeting 13/11/2019, in English and portugese at Nhamatanda District, Sofala Province. **Uganda:** VPA 7: SS-SCR document dated 02.03.2020, for meeting dated 13/12/2019 in English & Acholi. **Zambia:** VPA 32: SS-SCR document dated 06/03/2020 for meeting conducted on 06/11/2019 in English at Chibombo district cental province, Zambia.
/16/	2006 IPCC Guidelines for National Greenhouse Gas Inventories volume 2, chapter 1 https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf IPCC Default emissions factor: Non-CO2 Emissions from Stationary Combustion. Annex 1, Table 2 and Table 3. https://www.ipccnggip.iges.or.jp/public/gp/bgp/2_2_Non- CO2_Stationary_Combustion.pdf Global Warming Potential: https://www.ghgprotocol.org/sites/default/files/ghgp/Global-WarmingPotential-Values%20%28Feb%2016%202016%29_1.pdf
/17/	WASH related documents **Kenya:** VPA 1 Western Kenya Borehole WASH agreement 2020 dated 12/05/2020, 13/05/2020, 14/05/2020, 15/05/2020, 16/05/2020, 18/05/2020, and 19/05/2020. **Mozambique:** 1. VPA 17: Training dated 24/02/2020 attended by 45 people 2. VPA 17: Training dated 25/02/2020 attended by 24 people **Uganda:** VPA 7: Has not been conducted (Due to COVID-19 Pandemic) **Zambia**: 1. VPA 32: Training dated 30/04/2020 attended by 25 people 2. VPA 32 Training dated 22/06/2020 (Chiwala village) attended by 25 people 3. VPA 32 Training dated 22/06/2020 (Mashewa village) attended by 17 people.

/18/	Water Quality Test (WQT) Reports **Kenya:** 1. VPA 1: WQT Reports for KUB 013 (dated 05/05/2020), 015(dated 31/03/2020), and 029 (dated 07/05/2020). 2. VPA 3: PP is still obtaining WQT results from the lab currently. PP will upload WQTs in time for first Verification ensuring 1st test is done within 6 months of Borehole repair and quarterly thereafter as per GS TPDDTEC v3.1 guidelines. **Mozambique:** VPA 17: WQT Reports dated 01/05/2020, 14/05/2020, 15/05/2020, and 26/06/2020. **Uganda:** VPA 7: 50 WQT Reports dated 05/06/2020. **Zambia:** VPA 32: WQTs are currently ongoing and PP is awaiting results and certificates from the field team. WQTs will be carried out on all boreholes within 6 months of rehabilitation, and results will be verified by the Zambia Bureau of Standards.
/19/	1. Truslove et al. (2019). 'Understanding the Functionality and Burden on Decentralised Rural Water Supply: Influence of Millennium Development Goal 7c Coverage Targets'. Water, 11(3), 494. https://www.mdpi.com/2073-4441/11/3/494 4 Fischer et al. (2015). 2. 'Understanding handpump sustainability: Determinants of rural water source functionality in the Greater Afram Plains region of Ghana', Water Resources Research, 51, 8431–8449. 3. http://onlinelibrary.wiley.com/doi/10.1002/2014WR016770/pdf 5 https://washdata.org/data
/20/	Screen shots of Email Evidence for Stakeholder Feedback Round (SFR) **Kenya:** 1. VPA 1: Screenshot dated 24/01/2020 with the invitation to provide feedback by 24/03/2020. 2. VPA 3: Screenshot dated 24/01/2020 with the invitation to provide feedback by 24/03/2020. **Mozambique:** VPA 17: Screenshot dated 03/04/2020 with the invitation to provide feedback by 05/06/2020. **Uganda:** VPA 7: Screenshots dated 26/02/2020 with the invitation to provide feedback by 27/04/2020. **Zambia:** VPA 32: Screenshot dated 03/04/2020 with the invitation to provide feedback by 05/06/2020.
/21/	Stakeholder Consultation and Engagement Requirements, Version 1.2 dated 23/10/2019
/22/	Sources used for calculation of fNRB for VPA 7: 1. http://www.fao.org/3/cb0084en/cb0084en.pdf 1c 2. http://www.fao.org/3/Y1997E/y1997e21.htm#bm73 3. https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf 4. http://www.fao.org/3/cb0084en/cb0084en.pdf 1b 5. http://www.fao.org/3/cb0084en/cb0084en.pdf 2a
/23/	Sources used for calculation of fNRB for VPA 17: 1. http://www.fao.org/forest-resources-assessment/fra-2020/country-reports/en/ 2. http://www.fao.org/3/Y1997E/y1997e21.htm#bm73 3. https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_04_Ch4_Forest_Land.pdf

	4. http://www.fao.org/forest-resources-assessment/past-assessments/fra-2015/country-reports/en/ 5. http://www.fao.org/forest-resources-assessment/fra-2020/country-reports/en/

Annex 1: Detailed Findings

Summary of findings	CAR	CL	FAR
	03 (VPA 1) **03 (VPA 3)** **04 (VPA 7)** **02 (VPA 17)** **03 (VPA 32)**	**04 (VPA 1)** **04 (VPA 3)** **04 (VPA 7)** **05 (VPA 17)** **04 (VPA 32)**	**02 (all VPAs)**

Table 1. CL from this validation

Kenya (VPA 1):

CL ID	01	**Section no.**	4.7	**Date:** 20/06/2020
Description of CL				
For the parameter "Qp,y" in the submitted VPA-DD, it has been mentioned that the "*Measured water consumption is limited to drinking, cooking and basic personal hygiene*", but during the remote audit it was found that the consumption also included other purposes like irrigation of land, and for animals etc). Please clarify on the differences observed.				
Project participant response				**Date:** 01/07/2020
PP does not include water consumption from other purposes, as mentioned above, in parameter Qp,y. Measured water consumption is limited to drinking, cooking and basic personal hygiene as these are three areas where boiling of water for purification is required in the baseline scenario as per the methodology.				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 18/07/2020
The justification provided by PP is acceptable to the validation team. However, during the verification of the project activity it needs to be checked if the borehole water is being used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene).* Hence, CL 01 is closed. **FAR#1**: Corresponding to the parameter ("Qp,y") in the VPA-DD, the purpose of the water consumption from the Borehole shall be confirmed at the time of 1st verification.				

CL ID	02	**Section no.**	4.4	**Date:** 20/06/2020
Description of CL				

1. According to section A.2 of the VPA-DD, "*the projects involve the installation/rehabilitation of safe water sources*". PP is requested to clarify whether any boreholes have been installed in addition to the rehabilitation.
2. According to section A.2 of the VPA-DD, VPA is in compliance with Host Country requirements. PP needs to specify what Host Country requirements have been followed for the VPA.
3. On what basis is the lifetime of the rehabilitated boreholes considered as 5 years. Please clarify.

Project participant response	**Date:** 02/07/2020

1. No boreholes have been installed as part of the project or will be in future. Only existing broken boreholes have been rehabilitated.
2. PP has provided additional information on the Host Country requirements that have been followed in Section A.2 of the VPA-DD.
3. In accordance with GS4GG principles and requirements, the projects crediting period can be a maximum of 5 years (twice renewable). Therefore, PP expects at a minimum to monitor and maintain rehabilitated boreholes for 5 years. The average lifetime of an Afridev handpump which is maintained well is around 15 years (https://www.engineeringforchange.org/solutions/product/afridev-hand-pump/#:~:text=Maximum%20Stroke%3A%20225%20mm,served%20per%20unit%3A%20~%20300%20people) thus PP expects the technologies to endure the lifetime of the project.

Documentation provided by project participant

"GS7557 VPA 1 Western Kenya SS-PDD v2_TRACK"

"GS7557 VPA 1 Western Kenya SS-PDD v2_CLEAN"

VVB assessment	**Date:** 18/07/2020

1. PP has confirmed that no boreholes have been installed as a part of project and all the boreholes included till date are rehabilitated ones, which was also observed during the remote audit, hence this is acceptable to the validation team.

2. The revised section A.2 of the VPA-DD has been checked and the validation team confirms that the VPA is in compliance with the Energy Act and Environmental Management and Co-ordination Act of the host country (Kenya).

3. The average lifecycle of the borehole technology has been checked based on which, the justification provided by PP is acceptable to the validation team.

Hence, CL 02 is closed.

CL ID	03	**Section no.**	4.7	**Date:** 20/06/2020

Description of CL

According to the applied methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" Version 03.1, "The water in its improved form should be available within 1 km walking / pedalling distance from the households". PP needs to clarify how this has been ensured for the project.

Project participant response	**Date:** 01/07/2020

PP collects household information (sales record) for each borehole user. Contained within this information is the distance each household is from the centralised borehole. PP does not obtain or claim emissions reductions for those households who travel further than 1km, they are not recorded in the household information, but they can still access the boreholes if they so choose.
Documentation provided by project participant
-
VVB assessment **Date:** 18/07/2020
The justification provided by the PP is acceptable to the validation team. However, during the verification, sales record needs to be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology. Hence, CL 03 is closed. **FAR#2:** During the 1st verification, the sales record shall be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology

Kenya (VPA 3):

CL ID	01	**Section no.**	4.7	**Date:** 13/07/2020
Description of CL				
For the parameter "Qp,y" in the submitted VPA-DD, it has been mentioned that the "*Measured water consumption is limited to drinking, cooking and basic personal hygiene*". The PD shall clarify if there are any other uses of the water apart from the mentioned areas of uses of water consumption.				
Project participant response				**Date:** 24/07/2020
PP does not include water consumption from other purposes, as mentioned above, in parameter Qp,y. Measured water consumption is limited to drinking, cooking and basic personal hygiene as these are three areas where boiling of water for purification is required in the baseline scenario as per the methodology. PP will measure water consumption for the mentioned 3 areas in the project monitoring: usage survey and WCFT.				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 28/07/2020
The justification provided by PP is acceptable to the validation team. However, during the verification of the project activity it needs to be checked if the borehole water is being used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene).* Hence, CL 01 is closed. **FAR#1**: Corresponding to the parameter ("Qp,y") in the VPA-DD, the purpose of the water consumption from the Borehole shall be confirmed at the time of 1st verification.				

CL ID	02	Section no.	4.4	Date: 13/07/2020

Description of CL

4. According to section A.2 of the VPA-DD, "*the projects involve the installation/rehabilitation of safe water sources*". PP is requested to clarify whether any boreholes have been installed in addition to the rehabilitation.
5. According to section A.2 of the VPA-DD, VPA is in compliance with Host Country requirements. PP needs to specify what Host Country requirements have been followed for the VPA.
6. On what basis is the lifetime of the rehabilitated boreholes considered as 5 years. Please clarify.

Project participant response — **Date:** 24/07/2020

4. No boreholes have been installed as part of the project or will be in future. Only existing broken boreholes have been rehabilitated.
5. PP has provided additional information on the Host Country requirements that have been followed in Section A.2 of the VPA-DD.
6. In accordance with GS4GG principles and requirements, the projects crediting period can be a maximum of 5 years (twice renewable). Therefore, PP expects at a minimum to monitor and maintain rehabilitated boreholes for 5 years. The average lifetime of an Afridev handpump which is maintained well is around 15 years (https://www.engineeringforchange.org/solutions/product/afridev-hand-pump/#:~:text=Maximum%20Stroke%3A%20225%20mm,served%20per%20unit%3A%20~%20300%20people) thus PP expects the technologies to endure the lifetime of the project.

Documentation provided by project participant

"GS7559 VPA 3 Central Kenya SS-PDD v2_TRACK"

"GS7559 VPA 3 Central Kenya SS-PDD v2_CLEAN"

VVB assessment — **Date:** 28/07/2020

4. PP has confirmed that no boreholes have been installed as a part of project and all the boreholes included till date are rehabilitated ones, which was also observed during the remote audit, hence this is acceptable to the validation team.

5. The revised section A.2 of the VPA-DD has been checked and the validation team confirms that the VPA is in compliance with the Energy Act and Environmental Management and Co-ordination Act of the host country (Kenya).

6. The average lifecycle of the borehole technology has been checked based on which, the justification provided by PP is acceptable to the validation team.

Hence, CL 02 is closed.

CL ID	03	Section no.	4.7	Date: 13/07/2020

Description of CL

According to the applied methodology "*Technologies and Practices to Displace Decentralized Thermal Energy Consumption*" Version 03.1, "The water in its improved form should be available within 1 km walking / pedalling distance from the households". PP needs to clarify how this has been ensured for the project.

Project participant response — **Date:** 24/07/2020

PP collects household information (sales record) for each borehole user. Contained within this information is the distance each household is from the centralised borehole. PP does not obtain or claim emissions reductions for those households who travel further than 1km, they are not recorded in the household information, but they can still access the boreholes if they so choose.
Documentation provided by project participant
-
VVB assessment **Date:** 28/07/2020
The justification provided by the PP is acceptable to the validation team. However, during the verification, sales record needs to be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology. Hence, CL 03 is closed. **FAR#2:** During the 1st verification, the sales record shall be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology

Uganda (VPA 7):

CL ID	01	**Section no.**	4.7	**Date:** 13/07/2020
Description of CL				
For the parameter "Qp,y" in the submitted VPA-DD, it has been mentioned that the "*Measured water consumption is limited to drinking, food preparation and basic personal hygiene*". The PD shall clarify if there are any other uses of the water apart from the mentioned areas of uses of water consumption.				
Project participant response				**Date:** 17/07/2020
Only water used for the 3 purposes of drinking, food preparation and basic personal hygiene are measured as part of the project and included in the emission reduction calculations. It is likely that project beneficiaries use water from the project water source for other purposes, such as washing, but this is not eligible under the methodology.				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 20/08/2020
The justification provided by PP is acceptable to the validation team. However, during the verification it needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*. Hence, CL 01 is closed. **FAR#1**: Corresponding to the parameter ("Qp,y") in the VPA-DD, the purpose of the water consumption from the Borehole shall be confirmed at the time of 1st verification. During the verification it also needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*.				

CL ID	02	Section no.	4.4	Date: 13/07/2020

Description of CL

7. According to section A.2 of the VPA-DD, "*the projects involve the installation/rehabilitation of safe water sources*". PP is requested to clarify whether any boreholes have been installed in addition to the rehabilitation.
8. According to section A.2 of the VPA-DD, VPA is in compliance with Host Country requirements. PP needs to specify what Host Country requirements have been followed for the VPA.
9. The lifetime of the rehabilitated boreholes shall be clarified and relevant evidences shall be submitted.

Project participant response — **Date:** 17/07/2020

1. At this time, no new water sources have been installed. It is likely that all water sources included in the project will be rehabilitated non-functioning sources.
2. The statement means that the project activity is not contrary to any of the host country's "legal, environmental, ecological and social regulations".
3. Theoretically, the project technology does not have a "lifetime" as a household unit may have. The borehole and hand pump is well maintained and repaired if broken down. Based on this the lifetime is as long as good user practice, maintenance and repairs continues. However, the lifetime of the carbon project is 5 years twice renewable.

Documentation provided by project participant

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VVB assessment — **Date:** 17/09/2020

7. PP has confirmed that no boreholes have been installed as a part of project (till now) and all the boreholes included till date are rehabilitated ones, hence this is acceptable to the validation team.

8. The revised section A.2 of the VPA-DD has been checked, however and the host country rules and regulations related to the project activity are added appropriately and the VPA is found to be in compliance with these rules and regulations /5/.

9. The average lifecycle of the borehole technology from the specification document provided has been checked, based on which, the justification provided by PP is acceptable to the validation team.

Hence, CL 02 is closed.

CL ID	03	Section no.	4.4, 4.7	Date: 13/07/2020

Description of CL

According to the applied methodology "*Technologies and Practices to Displace Decentralized Thermal Energy Consumption*" Version 03.1, "The water in its improved form should be available within 1 km walking / pedalling distance from the households". PP needs to clarify how this has been ensured for the project.

Project participant response — **Date:** 17/07/2020

PP will not claim ERs for users over 1km walking/pedalling distance from the water source after the 2-year grace period. PP collects a user list from each water source, and the household states how far away they live from the water source. After the 2-year grace period, these users can still USE the source, but ERs will not be claimed for this use.

Documentation provided by project participant	
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VVB assessment	**Date:** 20/08/2020
The justification provided by the PP is acceptable to the validation team. However, during the verification, sales record needs to be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology. Hence, CL 03 is closed. **FAR#2:** During the 1st verification, the sales record shall be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology.	

Mozambique (VPA 17):

CL ID	01	**Section no.**	4.7	**Date:** 29/06/2020
Description of CL				
For the parameter "Qp,y" in the submitted VPA-DD, it has been mentioned that the "*Measured water consumption is limited to drinking, cooking and basic personal hygiene*", but during the remote audit it was found that the consumption also included other purposes like irrigation of land, and for animals etc). Please clarify on the differences observed.				
Project participant response				**Date:** 02/07/2020
The parameter "Qp,y" is determined by the Water Consumption Field Test (WCFT), which is a test carried out over a period of 3 days. The test measures the water consumption for drinking, cooking and basic personal hygiene only as these are the three purposes where boiling of water for purification is required (as per the methodology). Thus, while water from the borehole may be used for other purposes such as irrigation of land, and for animals; for the parameter "Qp,y" PP does not include water consumption from other purposes than those mentioned above.				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 20/07/2020
The justification provided by PP is acceptable to the validation team. However, during the verification it needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*. Hence, CL 01 is closed. **FAR#1**: Corresponding to the parameter ("Qp,y") in the VPA-DD, the purpose of the water consumption from the Borehole shall be confirmed at the time of 1st verification. During the verification it also needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*.				

CL ID	02	Section no.	4.4	Date: 29/06/2020

Description of CL

10. According to section A.2 of the VPA-DD, "*the projects involve the installation/rehabilitation of safe water sources*". PP is requested to clarify whether any boreholes have also been installed in addition to the rehabilitation.
11. According to section A.2 of the VPA-DD, VPA is in compliance with Host Country requirements. PP needs to specify what Host Country requirements have been followed for the VPA.
12. On what basis is the lifetime of the rehabilitated boreholes considered as 5 years. Please clarify.

Project participant response — **Date:** 07/07/2020

1. The project currently only includes the rehabilitation of existing non-functional boreholes, no boreholes have been installed, but this does not exclude that in the future new boreholes will be installed.
2. PP has provided additional information on the Host Country requirements that have been followed in Section A.2 of the VPA-DD.
3. As per Principle and Requirements, Gold Standard for the Global Goals Project Certification is based on a five-year certification cycle, twice renewable.
   Further, In a study conducted in Kenya projected the lifespan in common handpumps in Africa shows that AFRIDEV (one of the most common pump technologies in Mozambique) has a working lifespan of 18-25 years and an economic lifespan of 9-12 years (p.16,Sustainable Handpump Projects in Africa, A Literature review by S. Parry-Jones, R. Reed and B. H. Skinner - 2001). The relatively shorter economic life is related to the maintenance costs of the pump: where rural communities don't have the proper knowledge and training to maintain the pump (Sustainable Handpump Projects in Africa, A Literature review by S. Parry-Jones, R. Reed and B. H. Skinner - 2001). This project in Mozambique intends to implement a comprehensive maintenance programme for the boreholes installed/rehabilitated by the project; and provide the communities with:
   - training and capacity building
   - information, education and communication
   - supply chains

   This comprehensive approach will ensure that the handpumps meet their working lifespan and remain functional and maintained for at least 15 years.

Documentation provided by project participant

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VVB assessment	**Date:** 20/07/2020

10. PP has confirmed that no boreholes have been installed as a part of project (till now) and all the boreholes included till date are rehabilitated ones, which was also observed during the remote audit, hence this is acceptable to the validation team.

11. The revised section A.2 of the VPA-DD has been checked and the validation team confirms that the VPA is in compliance with the WQT Regulations for Mozambique 180_400 (Diploma Ministerial n.2 18012004), , Environmental Law (Lei nº 20/97: Lei do Ambiente),.National Action Plan on Women Peace and Security (2018-2022)1, Environmental and Social Management Framework (ESMF).

12. The average lifecycle of the borehole technology has been checked based on which, the justification provided by PP is acceptable to the validation team.

Hence, CL 02 is closed.

CL ID	03	**Section no.**	4.7	**Date:** 29/06/2020

Description of CL
According to the applied methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" Version 03.1, "The water in its improved form should be available within 1 km walking / pedalling distance from the households". PP needs to clarify how this requirement has been ensured for the project (VPA).

Project participant response	**Date:** 14/07/2020
PP collects information regarding the borehole users including the distance the household members have to travel to fetch water from the borehole. PP does not claim the emission reductions for households with a distance from the borehole above 1 km so those households are discounted in the final user list.	

Documentation provided by project participant
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VVB assessment	**Date:** 20/07/2020
The justification provided by the PP is acceptable to the validation team. However, during the verification, sales record needs to be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology. Hence, CL 03 is closed. **FAR#2:** During the 1st verification, the sales record shall be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology.	

CL ID	04	**Section no.**	4.4, 4.7	**Date:** 29/06/2020

Description of CL
According to parameter "Quality of Treated Water" for SDG 6.1.1 in section B.7.1, it has been mentioned in the QA/QC procedures that the "first test will be within 6 months of the rehabilitation". PP needs to clarify, if this has been followed for the boreholes that have been rehabilitated for more than 6 months.

Project participant response	**Date:** 17/07/2020
Soon after a borehole is rehabilitated, a WQT test is carried out to ensure that the water produced by the borehole is safe to drink. Please refer to "BH_Database" columns "WQT date" and "Days from repair to WQT)	
Documentation provided by project participant	
"BH_Database"	
VVB assessment	**Date:** 20/07/2020
The BH_Database has been checked and it can be confirmed that the WQT tests have been conducted within 6 months of the date of rehabilitation. Hence, CL 04 is closed.	

Zambia (VPA 32):

CL ID	01	**Section no.**	4.7	**Date:** 13/07/2020
Description of CL				
For the parameter "Qp,y" in the submitted VPA-DD, it has been mentioned that the "*Measured water consumption is limited to drinking, cooking and basic personal hygiene*". The PD shall clarify if there are any other uses of the water apart from the mentioned areas of uses of water consumption.				
Project participant response				**Date: 15/07/2020**
The parameter "Qp,y" is determined by the Water Consumption Field Test (WCFT), which is a test carried out over a period of 3 days. The test measures the water consumption for drinking, cooking and basic personal hygiene only as these are the three purposes where boiling of water for purification is required in the baseline scenario (as per the methodology). Thus, while water from the borehole may be used for other purposes such as irrigation of land, and for animals; for the parameter "Qp,y" PP does not include water consumption from other purposes than those mentioned above.				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 05/08/2020
The justification provided by PP is acceptable to the validation team. However, during the verification it needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*. Hence, CL 01 is closed. **FAR#1**: Corresponding to the parameter ("Qp,y") in the VPA-DD, the purpose of the water consumption from the Borehole shall be confirmed at the time of 1st verification. During the verification it also needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*.				

CL ID	02	Section no.	4.4	Date: 13/07/2020

Description of CL

13. According to section A.2 of the VPA-DD, "*the projects involve the installation/rehabilitation of safe water sources*". PP is requested to clarify whether any boreholes have been installed in addition to the rehabilitation.
14. According to section A.2 of the VPA-DD, VPA is in compliance with Host Country requirements. PP needs to specify what Host Country requirements have been followed for the VPA.
15. The lifetime of the rehabilitated boreholes shall be clarified and relevant evidences shall be submitted.

Project participant response **Date:** 15/07/2020

1. The project currently only includes the rehabilitation of existing non-functional boreholes, no boreholes have been installed, but this does not exclude that in the future new boreholes will be installed.

2. PP has provided additional information on the Host Country requirements that have been followed in Section A.2 of the VPA-DD.

3. The majority of pumps rehabilitated in this project are India Mark II. If well used and maintained, the pump has a lifespan of around 12 years (https://www.engineeringforchange.org/solutions/product/india-mark-ii-handpump/#:~:text=The%20individual%20parts%20of%20the,least%201%20year%20without%20maintenance). It's important to implement a comprehensive maintenance programme for the boreholes to maximize the lifespan of the pump and for this reason the in-country team is carrying out regular follow-ups and checks.

Documentation provided by project participant

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VVB assessment **Date:** 05/08/2020

13. PP has confirmed that no boreholes have been installed as a part of project (till now) and all the boreholes included till date are rehabilitated ones, which was also observed during the remote audit, hence this is acceptable to the validation team.

14. The revised section A.2 of the VPA-DD has been checked and the validation team confirms that the VPA is in compliance with Host Country requirements such as Drinking Water Quality-Specifications, National Gender Policy, Water Resources Management Act 2011, and Environmental Management Act 2011.

15. The average lifecycle of the borehole technology has been checked based on which, the justification provided by PP is acceptable to the validation team.

Hence, CL 02 is closed.

CL ID	03	Section no.	4.7	Date: 13/07/2020

Description of CL

According to the applied methodology "*Technologies and Practices to Displace Decentralized Thermal Energy Consumption*" Version 03.1, "The water in its improved form should be available within 1 km walking / pedalling distance from the households". PP needs to clarify how this has been ensured for the project.
Project participant response **Date:** 15/07/2020
PP collects information regarding the borehole users including the distance the household members have to travel to fetch water from the borehole. PP does not claim the emission reductions for households with a distance from the borehole above 1 km so those households are discounted in the final user list.
Documentation provided by project participant
-
VVB assessment **Date:** 05/08/2020
The justification provided by the PP is acceptable to the validation team. However, during the verification, sales record needs to be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology. Hence, CL 03 is closed. **FAR#2:** During the 1st verification, the sales record shall be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology.

CL Raised during Technical Review for All the VPA's:

CL ID	CL 04 (for VPA 1, VPA 3, VPA 7, VPA 32) and CL 05 (for VPA 17)	**Section no.**	4.5.4, 4.5.6	**Date:** 26/08/2020
Description of CL				
1. The CME shall clarify as how the CME complied with sampling requirements of TPDDTEC for baseline survey/KPT and WBT. 2. The CME shall clarify whether the provisions of WBT will be followed for ex-post monitoring with regard to attached GS rule update. Clarify. 3. It shall be clarified as by when the Stakeholder feedback round is expected to be completed for the VPAs. 4. The CME shall clarify whether the provisions of the monitoring requirements of the usage rate in ex-post scenario with regard to GS rule update (Refer page-2 of "Rule Update: Requirements and Guidelines for carrying out usage surveys for projects implementing improved cooking devices) shall be followed, may be clarified.				
Project participant response				**Date:** 07/09/2020

1. Projects complied with the sampling requirements of TPDDTEC v3.1 for the baseline survey and WBT as follows:

- Kenya - Western: PP surveyed 8 boreholes/communities according to 90/30 confidence/precision on a population of 51 boreholes for initial repairs in Kisumu County. On average, 14 households from each community were surveyed in the baseline survey totaling 112 responses. In order to cover the whole project area, PP further surveyed counties Siaya (34 HH), Vihiga (35 HH), Homa Bay (33 HH) making 214 survey entries in total for the baseline survey. This surpasses the methodology minimum sample size of 100.
  For the WBT, PP surveyed 45 HH inside and representative of the project area meeting sample size in methodology 'Group size <300'.
  PP has added the above information to section B.4 of the PDD
- Kenya – Central: PP surveyed 6 boreholes/communities according to 90/30 confidence/precision on a population of 17 boreholes for initial repairs in Tharaka-Nithi County. On average, 19 households from each community were surveyed in the baseline survey totaling 116 responses. In order to cover the whole project area, PP further surveyed counties Nyeri (35 HH), Laikipia (35 HH), Embu (35 HH), Meru (35 HH) making 256 survey entries in total for the baseline survey. This surpasses the methodology minimum sample size of 100.
  For the WBT, PP surveyed 45 HH inside and representative of the project area meeting sample size in methodology 'Group size <300'.
  PP has added the above information to section B.4 of the PDD
- Mozambique: PP surveyed 6 communities according to 90/30 confidence/precision on a population of 13 Postos within the Project Districts. On average, 18 households from each community were surveyed in the baseline survey totaling 110 responses. This surpasses the methodology minimum sample size of 100.
  For the WBT, PP surveyed 30 HH within the project area meeting the sample size in the methodology 'Group size <300'
  PP has added the above information to section B.4 of the PDD
- Zambia: PP surveyed 8 communities according to 90/30 confidence/precision on a population of 159 villages within the Project Districts. On average, 14 households from each community were surveyed in the baseline survey totaling 110 responses. This surpasses the methodology minimum sample size of 100.
  For the WBT, PP surveyed 40 HH within the project area meeting the sample size in the methodology 'Group size <300'
  PP has added the above information to section B.4 of the PDD
- Uganda: PP surveyed HHs across 8 out of 30 Districts in the Northern Region. This exceeds the 90/30 requirement of 7 Districts. A total of 321 baseline surveys were conducted. This surpasses the methodology minimum sample size of 100.
  For the WBT, PP surveyed 65 HHs. This satisfies the sample size in the methodology 'Group size <300'.

2. This rule update does not apply to safe water projects.

3. Details of Stakeholder Feedback Round for each VPA can be found in section E.1 of the relevant PDD. Dates are as follows:

- Mozambique: International Stakeholders: 03/04/2020 – 05/06/2020; Local Stakeholders: 13/04/2020 – 15/06/2020
- Zambia: International Stakeholders: 03/04/2020 – 05/06/2020; Local Stakeholders: 09/04/2020 – 11/06/2020
- Kenya: Central & Western: All Stakeholders 24/01/2020 – 24/03/2020 (60 days)

- Uganda: The Stakeholder Feedback Round closed on 27/04/2020.

4. This rule update does not apply to safe water projects.

Documentation provided by project participant

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VVB assessment	**Date:** 18/09/2020

1. **Kenya VPA 1:** As per the baseline studies section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of more than 1000 should have a minimum sample size of 100. This requirement has been met by PP as the baseline survey was conducted for 214 households (14 households of 8 boreholes/communities based on 90/30 confidence precision on a population of 51 boreholes + 102 households from other counties), which has been confirmed with the submitted baseline survey forms. The representativeness of the sample has also been ensured by targeting baseline users across the project area, which were chosen based on the 90/30 confidence precision. It has also been checked from the submitted forms that the data collected is in accordance with the data requirement specified by the methodology (Page 13) i.e. user follow up, End user characteristics and the baseline technology and fuels used.

   In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted for 45 households, as confirmed through the WBT results.

   Kenya VPA 3: As per the baseline studies section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of more than 1000 should have a minimum sample size of 100. This requirement has been met by PP as the baseline survey was conducted for 256 households (19 households of 6 boreholes/communities based on 90/30 confidence precision on a population of 17 boreholes + 140 households from other counties), which has been confirmed with the submitted baseline survey forms. The representativeness of the sample has also been ensured by targeting baseline users across the project area, which were chosen based on the 90/30 confidence precision. It has also been checked from the submitted forms that the data collected is in accordance with the data requirement specified by the methodology (Page 13) i.e. user follow up, End user characteristics and the baseline technology and fuels used.

   In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted for 45 households, as confirmed through the WBT results.

   Mozambique VPA 17: As per the baseline studies section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of more than 1000 should have a minimum sample size of 100. This requirement has been met by PP as the baseline survey was conducted for 110 households (18 households each of 6 boreholes/communities based on 90/30 confidence precision on a population of 13 Postos), which has been confirmed with the submitted baseline survey forms. The representativeness of the sample has also been ensured by targeting baseline users across the project area, which were chosen based on the 90/30 confidence precision. It has also been checked from the submitted forms that the data collected is in accordance with the data requirement specified by the methodology (Page 13) i.e. user follow up, End user characteristics and the baseline technology and fuels used.

   In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted for 30 households, as confirmed through the WBT results.

Zambia VPA 32: As per the baseline studies section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of more than 1000 should have a minimum sample size of 100. This requirement has been met by PP as the baseline survey was conducted for 110 households (14 households each of 8 boreholes/communities based on 90/30 confidence precision), which has been confirmed with the submitted baseline survey forms. The representativeness of the sample has also been ensured by targeting baseline users across the project area, which were chosen based on the 90/30 confidence precision. It has also been checked from the submitted forms that the data collected is in accordance with the data requirement specified by the methodology (Page 13) i.e. user follow up, End user characteristics and the baseline technology and fuels used.

In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted for 40 households, as confirmed through the WBT results.

Uganda VPA 7: As per the baseline studies section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of more than 1000 should have a minimum sample size of 100. This requirement has been met by PP as the baseline survey was conducted for 321 households (14 households each of 8 districts based on 90/30 confidence precision of 30 districts), which has been confirmed with the submitted baseline survey forms. The representativeness of the sample has also been ensured by targeting baseline users across the project area, which were chosen based on the 90/30 confidence precision. It has also been checked from the submitted forms that the data collected is in accordance with the data requirement specified by the methodology (Page 13) i.e. user follow up, End user characteristics and the baseline technology and fuels used.

In case of WBT, section 4 requirement of TPDDTEC version 3.1, the baseline survey for a group size of less than 300 should have a minimum sample size of 30. This requirement has been met by PP as the baseline WBT was conducted for 65 households, as confirmed through the WBT results.

2. Validation team has confirmed that the rule update is applicable only for projects implementing improved cooking devices. Thus, the issue is closed.

3. The details of stakeholder feedback round has been checked from section E.1 and has been confirmed from the supportive provided by the CME. Thus, the issue is closed.

4. Validation team has confirmed that the rule update is applicable only for projects implementing improved cooking devices. Thus, the issue is closed.

Hence, the CL is closed.

Table 2. CAR from this validation

Kenya (VPA 1):

CAR ID	01	**Section no.**	4.4	**Date:** 20/06/2020
Description of CAR				

1. On the cover page of the VPA-DD & section C.1.1, the expected implementation date of the VPA 1 has been mentioned as 05/12/2019. However, the date has already elapsed. Please confirm the actual implementation/start date of the project activity.
2. On the cover page of the VPA-DD, PP needs to mention the project participants and any communities involved at VPA level, like NGOs, Community groups or community-based organisations (CBOs) etc.
3. Consistency should be maintained in the name of PP (CO2balance UK Ltd.) throughout the VPA-DD.

Project participant response	**Date:** 02/07/2020

1. Project start date is determined by the date of the first repair under the project. Signed Carbon Transfer Forms, which are completed on the day of repair, show the earliest repair date as 05/12/2019. PP has uploaded the first 5 CTF's from the project(s) to demonstrate the start date.

2. The projects are managed in country by CO2balance Kenya registered company – Carbon Zero Kenya, a subsidiary of CO2balance UK Ltd. PP is not partnering with any NGOs, Community groups or community-based organisations (CBOs) to implement the project.

3. PP has edited the VPA-DD so that CO2balance UK Ltd is consistently mentioned throughout.

Documentation provided by project participant

"Western Kenya CTFs 1-5"

"GS7557 VPA 1 Western Kenya SS-PDD v2_TRACK"

"GS7557 VPA 1 Western Kenya SS-PDD v2_CLEAN"

VVB assessment	**Date:** 18/07/2020

1. The CTF 1-5 forms provided by the PP have been checked and it can be confirmed that 05/12/2019 is the start date of the VPA. The issue is closed.

2. The CME has now clarified on the project participants/communities, however the same does not get reflected through the VPA-DD.
   The issue remains open.
3. The revised VPA-DD has been checked and validation team confirms that the name of the PP is consistent throughout. The issue is closed.

Project participant response	**Date:** 27/07/2020

2. To reiterate, the projects are managed in country by CO2balance Kenya registered company – Carbon Zero Kenya, a subsidiary of CO2balance UK Ltd. PP is not partnering with any NGOs, Community groups or community-based organisations (CBOs) to implement the project although all borehole communities involved in the project can give feedback on the project at any time and are encouraged to do so. PP has removed the statement from the cover page in the MR.

Documentation provided by project participant

"GS7557 VPA 1 Western Kenya SS-PDD v3_TRACK"

"GS7557 VPA 1 Western Kenya SS-PDD v3_CLEAN"

VVB assessment	**Date:** 28/07/2020

The justification provided by the PP is acceptable to the validation team, as it was also observed during the remote audit interviews, that CO2balance UK Ltd is the sole entity responsible for the project implementation. Hence, CAR 01 is closed.

CAR ID	02	**Section no.**	4.6	**Date:** 20/06/2020
Description of CAR				
Under section B.5, PP needs to revise the following- 1. The reference link 1 provided under investment barrier is not functional. 2. The section reference to the Community Services Activity Requirements under sub step 3- b was found to be inconsistent.				
Project participant response				**Date:** 01/07/2020
1. PP has revised the statement with a more recent source and provided full citation. 2. PP has corrected the reference to the Community Services Activity Requirements – the correct reference is Section 4.1.9.				
Documentation provided by project participant				
"GS7557 VPA 1 Western Kenya SS-PDD v2_TRACK" *"GS7557 VPA 1 Western Kenya SS-PDD v2_CLEAN"*				
VVB assessment				**Date:** 18/07/2020
1. The revised reference link has been checked and it can be confirmed that improper maintenance of boreholes reduces its working life time. 2. The correct section reference has been provided now. Hence, CAR 02 is closed.				

CAR ID	03	**Section no.**	4.5.5, 4.5.6, 4.7	**Date:** 20/06/2020
Description of CAR				
1. Under section B.6.1, PP needs to provide the relevant indicator for SDG 13- Climate action. 2. Under section B.6.3, for the ex-ante parameter "fNRB,y" the mention of the report has been provided. PP shall also provide the Volume number of the report and the reference link for the Report for clarity purpose. 3. Under section B.6.3, for the ex-ante parameter "Wp,y" the latest version of the *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* shall be applied.				
Project participant response				**Date:** 01/07/2020

1. PP has added the relevant indicator SDG 13.B.1
2. PP has provided the volume number of the report and a link to the document as a footnote.
3. PP has updated to the latest version – Version 03; EB69 Annex 4

Documentation provided by project participant
"GS7557 VPA 1 Western Kenya SS-PDD v2_TRACK" *"GS7557 VPA 1 Western Kenya SS-PDD v2_CLEAN"*

VVB assessment	**Date:** 18/07/2020

1. The revised VPA-DD has been checked to confirm that the relevant indicator SDG 13.B.1 has been added by the PP.
2. Validation team confirms that the reference link and volume no. of the report has been added for "fNRB,y" in section B.6.3 of the revised VPA-DD.
3. The latest version of the Sampling Standard available on the UNFCCC website is version 08. It is not clear as why the version 03 has been applied in the case of VPA. Please clarify. The issue remains open.

Project participant response	**Date:** 24/07/2020

3. PP has updated to Version 08; EB50 Annex 30

Documentation provided by project participant
"GS7557 VPA 1 Western Kenya SS-PDD v3_TRACK" *"GS7557 VPA 1 Western Kenya SS-PDD v3_CLEAN"*

VVB assessment	**Date:** 28/07/2020

The validation team confirms that the latest version 8.0 of the Sampling Standard has been used now in section B.6.3. Therefore, the issue is closed.

Hence, CAR 02 is closed.

Kenya (VPA 3):

CAR ID	01	**Section no.**	4.4, 4.7	**Date:** 13/07/2020
Description of CAR				

4. On the cover page of the VPA-DD & section C.1.1, the expected implementation date of the VPA 3 has been mentioned as 20/01/2020. However, the date has already elapsed. Please confirm the actual implementation/start date of the project activity.
5. On the cover page of the VPA-DD, PP needs to mention the project participants and any communities involved at VPA level, like NGOs, Community groups or community-based organisations (CBOs) etc.
6. Consistency should be maintained in the name of PP (CO2balance UK Ltd.) throughout the VPA-DD.
7. The estimated amount for SDG6 on the cover page is "*16,600 additional people gain access to safe water*", which does not matches with the details as available in Section B.6.5 of the VPA-DD. Consistent information shall be provided in the VPA-DD.

Project participant response	**Date:** 24/07/2020

4. Project start date is determined by the date of the first repair under the project. Signed Carbon Transfer Forms, which are completed on the day of repair, show the earliest repair date as 20/01/2020. PP has uploaded a sample of the first 14 CTF's from the project(s) to demonstrate the start date.

5. The projects are managed in country by CO2balance Kenya registered company – Carbon Zero Kenya, a subsidiary of CO2balance UK Ltd. PP is not partnering with any NGOs, Community groups or community-based organisations (CBOs) to implement the project although all borehole communities involved in the project can give feedback on the project at any time and are encouraged to do so. PP has put N/A on the cover page for "Project Participants and any communities involved".

6. PP has edited the VPA-DD so that CO2balance UK Ltd is consistently mentioned throughout.

7. PP has updated Section B.6.5. of the VPA-DD. The net benefit is in fact 16,600 people as shown in Section B.6.4, page 35. The project estimate is all the people who now have safe access discounting those who did in the baseline (Cj). This value is 20,750 people. Assuming an 80% usage rate results in a net benefit of 16,600 people (20,750*0.8).

Documentation provided by project participant

"Central CTFs 1-14"

"GS7559 VPA 3 Central Kenya SS-PDD v2_TRACK"

"GS7559 VPA 3 Central Kenya SS-PDD v2_CLEAN"

VVB assessment	**Date:** 28/07/2020

4. The CTF 1-14 forms provided by the PP have been checked and it can be confirmed that 20/01/2020 is the start date of the VPA. The issue is closed.

5. The justification provided by the PP confirms that the CO2balance UK Ltd is the sole entity responsible for the project implementation, which is acceptable to the validation team.

6. The revised VPA-DD has been checked and validation team confirms that the name of the PP is consistent throughout. The issue is closed.
7. The updated section B.6.5. of the VPA-DD has been checked, which is now consistent with the cover page as well as section B.6.4. Therefore, it can be confirmed that 16,600 people out of 20,750 people (Usage rate 80%), have safe access to water in the project activity compared to the baseline scenario.

Hence, CAR 01 is closed.

CAR ID	02	**Section no.**	4.6	**Date:** 13/07/2020
Description of CAR				
Under section B.5, PP needs to revise the following- 3. The reference link/footnote 1 provided under investment barrier is not functional. 4. The section reference to the Community Services Activity Requirements in page-23 was found to be inconsistent.				
Project participant response				**Date:** 24/07/2020
1. PP has revised the statement with a more recent source and provided full citation. 2. PP has corrected the reference to the Community Services Activity Requirements – the correct reference is Section 4.1.9.				
Documentation provided by project participant				
"GS7559 VPA 3 Central Kenya SS-PDD v2_TRACK" *"GS7559 VPA 3 Central Kenya SS-PDD v2_CLEAN"*				
VVB assessment				**Date:** 28/07/2020
3. The revised reference link has been checked and it can be confirmed that improper maintenance of boreholes reduces its working life time. 4. The correct section reference has been provided now. Hence, CAR 02 is closed.				

CAR ID	03	**Section no.**	4.5.5, 4.5.6, 4.7	**Date:** 13/07/2020
Description of CAR				

4. Under section B.6.1, PP needs to provide the relevant indicator for SDG 13- Climate action.
5. Under section B.6.3, for the ex-ante parameter "fNRB,y" the mention of the report has been provided. PP shall also provide the Volume number of the report and the reference link for the Report for clarity purpose.
6. Under section B.6.3, for the ex-ante parameter "Wp,y" the latest version of the *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* shall be applied.

Project participant response	**Date:** 24/07/2020

4. PP has added the relevant indicator SDG 13.B.1
5. PP has provided the volume number of the report and a link to the document as a footnote.
6. PP has updated to the latest standard version; Version 08; EB50 Annex 30

Documentation provided by project participant

"GS7559 VPA 3 Central Kenya SS-PDD v2_TRACK"

"GS7559 VPA 3 Central Kenya SS-PDD v2_CLEAN"

VVB assessment	**Date:** 28/07/2020

4. The revised VPA-DD has been checked to confirm that the relevant indicator SDG 13.B.1 has been added by the PP.
5. Validation team confirms that the reference link and volume no. of the report has been added for "fNRB,y" in section B.6.3 of the revised VPA-DD.
6. The validation team confirms that the latest version 8.0 of the Sampling Standard has been used now in section B.6.3. Therefore, the issue is closed.

Hence, CAR 02 is closed.

Uganda (VPA 7):

CAR ID	01	**Section no.**	4.4	**Date:** 13/07/2020

Description of CAR

8. On the cover page of the VPA-DD & section C.1.1, the expected implementation date of the VPA 7 has been mentioned as 24/02/2020. However, the date has already elapsed and Section C.1.1 mentions the same as "this is an estimate". Please confirm the actual implementation/start date of the project activity.
9. On the cover page of the VPA-DD, PP needs to mention the project participants and any communities involved at VPA level, like NGOs, Community groups or community based organisations (CBOs) etc.
10. Consistency should be maintained in the name of PP (CO2balance UK Ltd.) throughout the VPA-DD.

Project participant response	**Date:** 17/07/2020

1. 24/02/2020 was the date on which the first rehabilitation took place. PP can confirm that this is the start date of VPA7. The start date of other VPAs will be confirmed once all rehabilitations have been complete.

2. At VPA level the project activity is implemented by PP's in-country team. The in-country team work with various CBOs and the local district water officers to implement the project. However, these are not classed as project participants.

3. PP has referred to CO2balance UK Ltd in section A.1, the company's registered name, followed by (CO2balance), its trading name. After the first mention of the registered name in A.1, PP will be referred to as "CO2balance".

Documentation provided by project participant

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VVB assessment	**Date:** 17/09/2020

1. The first borehole to be rehabilitated was Akwii Central on 24/02/2020, which is the start date of the project. However, the CTF was not signed until 27/02/2020, therefore delaying the start of the crediting period. The second borehole to be rehabilitated was Kidere, which was rehabilitated and CTF signed on 26/02/2020. The crediting period begins on the day the CTF was signed + 1. Therefore, the crediting period begins on 27/02/2020. The issue is closed.

2. The justification provided by the PP is acceptable to the validation team, based on which it can be confirmed, that CO2balance UK Ltd is the sole entity responsible for the project implementation. The issue is closed.

3. The revised VPA-DD has been checked and validation team confirms that the name of the PP is consistent throughout. The issue is closed.

Hence, CAR 01 is closed.

CAR ID	02	**Section no.**	4.6	**Date:** 13/07/2020

Description of CAR

Under section B.5, PP needs to revise the following-

It has been mentioned in Section A.3 that "*A Carbon Transfer Form is signed by the Community Water Resources Management Committee at the point of rehabilitation/installation on behalf of the whole community for each borehole in exchange for the rehabilitation and mainatance of the borehole*".

However no information has been provided how the transfer of carbon rights has been considered corresponding to the protected Springs water points.

Project participant response	**Date:** 17/07/2020

1. PP has changed the wording from "borehole" to "water source".

Documentation provided by project participant

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VVB assessment	**Date:** 20/08/2020
The revised information has been checked, along with the submitted project database /9/ and it can be confirmed that the VPA only includes the rehabilitation of the boreholes. Hence, CAR 02 is closed.	

CAR ID	03	**Section no.**	4.5.5, 4.5.6, 4.7	**Date:** 13/07/2020
Description of CAR				
7. Under section B.6.1, PP needs to provide the relevant indicator for SDG 13- Climate action. 8. Under section B.6.3, for the ex-ante parameter "fNRB,y" the mention of the report has been provided. PP shall also provide the Volume number of the report and the reference link for the Report for clarity purpose. 9. Under section B.6.3, for the ex-ante parameter "Wp,y" the latest version of the *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* shall be applied.				
Project participant response				**Date:** 17/07/2020
1. PP has provided the relevant indicator. 2. PP has provided the link to the CDM default value 3. PP has amended this.				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 20/08/2020
7. The revised VPA-DD has been checked to confirm that the relevant indicator SDG 13.B.1 has been added by the PP. 8. Validation team confirms that the reference link and volume no. of the report has been added for "fNRB,y" in section B.6.3 of the revised VPA-DD. 9. The validation team confirms that the latest version 8.0 of the Sampling Standard has been used now in section B.6.3. Therefore, the issue is closed. Hence, CAR 03 is closed.				

CAR ID	04	**Section no.**	4.9	**Date:** 13/07/2020
Description of CAR				
1. The details on the stakeholder consultation meeting shall be provided in Section E (E.1, E.2 and E.3) of the VPA-DD. The relevant evidences shall be provided. 2. The details on the Stakeholder feedback round shall also be provided in the VPA-DD.				

Project participant response	**Date:** 17/07/2020
1. PP has included details of the meeting in the VPA-DD 2. PP has added this to Section E2.	
Documentation provided by project participant	
-	
VVB assessment	**Date:** 20/08/2020
Validation team has checked the revised sections E.1, E.2 and E.3 and confirms that the details of the stakeholder consultation meeting have been added and are consistent with the LSC document /15/ provided. Hence, CAR 04 is closed.	

Mozambique (VPA 17):

CAR ID	01	**Section no.**	4.4	**Date:** 29/06/2020
Description of CAR				
11. On the cover page of the VPA-DD, the expected implementation date of the VPA has been mentioned as 04/02/2020. However, the date has already elapsed. Please confirm the actual implementation/start date of the project activity. 12. On the cover page of the VPA-DD, PP needs to mention the project participants and any communities involved according to the stakeholders mentioned in section E.1 of the VPA-DD.				
Project participant response				**Date:** 03/07/2020
1. Project start date is defined as the date of first borehole rehabilitation. When a borehole is rehabilitated a Carbon Transfer Form is signed by the Water Committee Representant. PP has uploaded the first 5 boreholes CTFs to demonstrate the project start date of 04/02/2020 (please refer to “Mozambique_CTFs_Sample”). 2. PP has updated the cover page of the VPA-DD section “Project Participants and any communities involved” mentioning WATSAN Mozambique as the local NGO partner for the project and all the borehole communities.				
Documentation provided by project participant				
“Mozambique_CTFs_Sample”				
VVB assessment				**Date:** 20/07/2020
1. The CTF forms provided by the PP have been checked and it can be confirmed that 04/02/2020 is the start date of the VPA. 2. The revised cover page has been checked and it can be confirmed that all the project participants and communities involved have been added and are consistent with section E.1 of the VPA-DD. Hence, CAR 01 is closed.				

CAR ID	02	Section no.	4.5.5, 4.5.6, 4.7	Date: 29/06/2020

Description of CAR

10. Under section B.6.1, PP needs to provide the relevant indicator for SDG 13- Climate action.
11. Under section B.6.3, for the ex-ante parameter "fNRB,y" the default value mentioned in the VPA-DD for fNRB has expired on 6 december 2017 as can be confirmed from https://cdm.unfccc.int/DNA/fNRB/index.html . PP needs to clarify as how the same has been found to be appropriate/applicable for the project activity.
12. Under section B.6.3, for the ex-ante parameters "Wb,y" and "Wp,y", the latest version of the *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* shall be applied.

Project participant response — **Date:** 07/07/2020

1. PP has updated section B.6.1 with SDG 13.B.1 indicator.

2. PP asserts that it is appropriate to use the existing value in the absence of an updated one. The approach approved by GS for PP's existing projects has been to include the fNRB as a monitored parameter and use the existing value in the absence of a revised figure by the UNFCCC. PP asserts that this maintains a conservative approach given that recent sources indicate deforestation in Mozambique is increasing, from 2001 to 2019, Mozambique lost 3.29Mha of tree cover, equivalent to a 11% decrease in tree cover since 2000.

   (https://www.globalforestwatch.org/dashboards/country/MOZ)
   Further, the population growth is also increasing steadily, putting further strain on depleting forest resources
   (https://data.worldbank.org/indicator/SP.POP.TOTL?end=2018&locations=MZ&start=2002)
   PP has moved the parameter into Section B.7.1 to monitor throughout the project. Should an updated value be published by the UNFCCC this will be applied by PP.
3. PP has updated section B.6.3 to the latest version "Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities (Version 03); EB69 Annex 4".

Documentation provided by project participant

Revised VPA-DDs

VVB assessment — **Date:** 20/07/2020

1. PP has updated the Section B.6.1 with the relevant target for the SDG 13- Climate action. The issue is closed.

2. The justification provided by PP is acceptable to the validation team and it can be confirmed from section B.7.1, that "fNRB,y" is now a monitored parameter instead of an ex-ante parameter.

3. The latest version of the Sampling Standard available on the UNFCCC website is version 08. It is not clear as why the version 03 has been applied in the case of VPA. Please clarify. The issue remains open.

Project participant response — **Date:** 23/07/2020

3. PP has updated section B.6.3 to the latest version "Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities CDM-EB50-A30-STAN Version 08.0".

VVB assessment	**Date:** 28/07/2020
The validation team confirms that the latest version 8.0 of the Sampling Standard has been used now in section B.6.3. Therefore, the issue is closed. Hence, CAR 02 is closed.	

Zambia (VPA 32):

CAR ID	01	**Section no.**	4.4	**Date:** 13/07/2020
Description of CAR				
13. On the cover page of the VPA-DD & section C.1.1, the expected implementation date of the VPA 32 has been mentioned as 24/04/2020. The relevant evidence shall be submitted for the same. 14. The estimated amount corresponding to the SDG 5 has been mentioned as 25% on the cover page, while the same is in "hours" and "percentage" as per the Section B.6.5 of the VPA-DD. More details shall be provided on the cover page of the VPA-DD. 15. On the cover page of the VPA-DD, PP needs to mention the project participants and any communities involved at VPA level, like NGOs, Community groups or community based organisations (CBOs) etc. 16. Consistency should be maintained in the name of PP (CO2balance UK Ltd.) throughout the VPA-DD.				
Project participant response				**Date:** 07/07/2020
1. Project start date is defined as the date of first borehole rehabilitation, which has been clarified with the local partner to be 19/03/2020. When a borehole is rehabilitated a Carbon Transfer Form is signed by the Water Committee Representant. PP has uploaded the first 5 boreholes CTFs to demonstrate the project start date (please refer to "Zambia_CTFs_Sample"). 2. PP has updated the cover page of the VPA-DD section "Estimated amount of SDG Impact Certified" adding the equivalent in hours for SDG 5. 3. PP has updated the cover page of the VPA-DD section "Project Participants and any communities involved" mentioning ECHO as the local NGO partner for the project and all the borehole communities. 4. PP has updated the project developer reference in the cover page of the VPA-DD: CO2balance UK Ltd is the project developer and throughout the VPA-DD is cited also as CO2balance.				
Documentation provided by project participant				
Zambia_CTFs_Sample				
VVB assessment				**Date:** 05/08/2020

3. The CTF forms provided by the PP have been checked and it can be confirmed that 19/03/2020 is the start date of the VPA.

4. The updated cover page has been checked and found consistent with Section B.6.5 of the VPA-DD.

5. The revised cover page has been checked and it can be confirmed that all the project participants and communities involved have been added and are consistent with section E.1 of the VPA-DD.

6. The revised VPA-DD has been checked and the consistency in the name of PP (CO2balance UK Ltd.) is confirmed.

Hence, CAR 01 is closed.

CAR ID	02	**Section no.**	4.5.5, 4.5.6, 4.7	**Date:** 13/07/2020

Description of CAR

13. Under section B.6.1, PP needs to provide the relevant indicator for SDG 13- Climate action.
14. Under section B.6.3, for the parameter "fNRB,y" the CDM Default value has been referred. PP shall clarify as how the same is applicable since the CDM Default value has already expired. Clarify.
15. Under section B.6.3, for the ex-ante parameter "Wp,y" the latest version of the *Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities* shall be applied.
16. For the SDG5 in Section B.6.5, the net benefit has been presented in terms of 'hours', while the same is in terms of 'percentage' in the ERs sheet. Clarify on the difference observed.

Project participant response **Date:** 15/07/2020

1. PP has updated section B.6.1 with SDG 13.B.1 indicator.

2. The value was approved in 2012 https://iopscience.iop.org/1748-9326/12/11/115002/media/ERL_12_11_115002_suppdata.pdf. PP has updated the Link in section B.7.1 to include this.

   In the absence of an updated value, the previously applied value shall be used. This will be updated once a revised figure is put forward for the CDM default value. PP shall include fNRB as a monitored parameter in section B.7.1, and monitor the publication of an updated value by the UNFCCC.
   PP asserts that this maintains a conservative approach given that recent sources indicate deforestation in Zambia is increasing, with tree cover loss with 125 kha in 2019 alone.
   https://www.globalforestwatch.org/dashboards/country/ZMB
   Further, the population growth is also increasing steadily, putting further strain on depleting forest resources.
   https://data.worldbank.org/indicator/SP.POP.TOTL?end=2018&locations=ZM
3. PP has updated section B.6.3 to the latest version "Standard For Sampling And Surveys For CDM Project Activities and Programme of Activities CDM-EB50-A30-STAN Version 08.0".

4. Both hours and percentage represent the same extent of time saved in collecting water and firewood. PP has updated the net benefit table in section B.6.5 adding the percentage of time save in collecting water and firewood as per ERs sheet.

Documentation provided by project participant

VVB assessment	**Date:** 05/08/2020

1. Update in section B.6.1 is now consistent as relevant indicator **13.b.1 has been added** for SDG 13-Climate action**.**

2. The justification provided by PP is acceptable to the validation team and it can be confirmed from section B.7.1, that "fNRB,y" is now a monitored parameter instead of an ex-ante parameter.

3. The validation team confirms that the latest version 8.0 of the Sampling Standard has been used now in section B.6.3. Therefore, the issue is closed.

Hence, CAR 02 is closed.

CAR ID	03	**Section no.**	-	**Date:** 13/07/2020
Description of CAR				
The Appendix 2 has been left blank and hence appropriate information shall be included.				
Project participant response				**Date:** 15/07/2020
PP has updated Appendix 2 with N/A				
Documentation provided by project participant				
-				
VVB assessment				**Date:** 05/08/2020
The update has been checked and is acceptable to the validation team. Hence, CAR 03 is closed.				

Table 3. FAR from this validation

FAR ID	01	**Section no.**		**Date:** 24/08/2020
Description of FAR				
Corresponding to the parameter ("Qp,y") in the VPA-DD, the purpose of the water consumption from the Borehole shall be confirmed at the time of 1st verification (for all VPAs). During the verification it also needs to be checked that the emission reductions are not claimed for the case when the borehole water is used for any other purpose than the above stated consumption (*limited to drinking, cooking and basic personal hygiene)*.				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				

VVB assessment	Date: DD/MM/YYYY

FAR ID	02	Section no.		Date: 24/08/2020
Description of FAR				
During the 1st verification (for all VPAs), the sales record shall be scrutinized to ensure that the emissions are not claimed for households beyond the specified (1 km walking / pedalling distance from the households) distance as per the methodology.				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
VVB assessment				**Date:** DD/MM/YYYY

Annex 2: Certificate of Competence

Personnel Name:	**Rohit Badaya**		
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
Energy distribution	TA 2.1: Energy distribution		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Solid waste and wastewater TA 13.2 Manure		
Approved By	Manager Competency & Training		
Approval date:	29/12/2018		

Personnel Name:	**Ms. Shikha Sharma**		
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Waste Handling and Disposal	TA 13.1 Solid waste and wastewater		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	14/01/2021		

Personnel Name:	**Sanjay Kandari**

Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Akhilesh Joshi		
Approval date:	11/12/2015		

History of the document

Version	Date	Nature of revision	Reviewed by	Approved by
6.0	20/02/2015	Revised For VVS 7.0	Manager CDM Quality 21/02/2015	Managing Director 24/02/2015
5.0	08/10/2014	Section 4.8.4 and 4.8.5 are revised based on the corrective actions proposed during the performance assessment.	Manager CDM Quality 13/10/2014	Managing Director 14/10/2013
4.0	29/07/2013	Revised for VVS 3.0 and 4.6 section added	Manager CDM Quality 04/08/2012	Managing Director 08/08/2013
3.0	05/09/2012	Revised for VVS track	Manager CDM Quality 07/09/2012	Managing Director 10/09/2012
2.0	31/12/2011	Comprehensively revised	Manager CDM Quality 31/12/2011	Managing Director 31/12/2011