

**TEMPLATE**

# KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (PDD)

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VERSION v. **2.0**

RELATED SUPPORT - [Programme of Activity requirements](#)

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This document contains the following Sections

Key Project Information

Section A – Description of project

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

Section C – Duration and crediting period

Section D – Summary of Safeguarding Principles and Gender Sensitive Assessment

Section E– Summary of Local stakeholder consultation

Section F - Eligibility and inclusion criteria for VPAs inclusion

Appendix 1 – Safeguarding Principles Assessment (mandatory)

Appendix 2- Contact information of VPA Implementer

Appendix 3- LUF Additional Information

Appendix 4-Summary of Approved Design Changes

## KEY PROJECT INFORMATION

Type of VPA	<input checked="" type="checkbox"/> Real case VPA <input type="checkbox"/> Regular VPA
Scale of VPA  Note that a VPA can be of one scale. Please select applicable scale accordingly.	<input type="checkbox"/> Microscale <input checked="" type="checkbox"/> Small scale <input type="checkbox"/> Large scale
Title of corresponding real case VPA (if applicable)	GS11598- VPA-2 Emission Reductions due to distributed energy solutions by Bboxx – Rwanda efficient stoves
GS ID of real case VPA (if applicable)	GS11893
GS ID of VPA	GS11893
Title of VPA	GS11598- VPA-2 Emission Reductions due to distributed energy solutions by Bboxx – Rwanda efficient stoves
Time of First Submission Date	25/03/2022
Date of Design Certification	N/A
Version number of the VPA-DD	Version 01
Completion date of version	17/08/2022
Coordinating/managing entity	Bboxx Ltd.
VPA Implementer (s)	Bboxx Ltd.
Project Participants and any communities involved	N/A
Host Country (ies)	Rwanda
GS ID and Title of applicable Design Certified VPA	N/A
GS ID and Title of applicable Performance Certified VPA	N/A
Activity Requirements applied	<input checked="" type="checkbox"/> Community Services Activities <input type="checkbox"/> Renewable Energy Activities

	<input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities <input type="checkbox"/> N/A
Other Requirements applied	N/A
Methodology (ies) applied and version number	"Methodology for metered & measured energy cooking devices" Version 1.0.
Product Requirements applied	<input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration <input type="checkbox"/> Renewable Energy Label <input type="checkbox"/> N/A
VPA Cycle:	<input type="checkbox"/> Regular <input checked="" type="checkbox"/> Retroactive

## Land-use & Forest and Agriculture - Key Project Information

N/A

**Table 1 – Estimated Sustainable Development Contributions**

Sustainable Development Goals Targeted	SDG Impact (defined in B.6)	Estimated Annual Average	Units or Products
13 Climate Action (mandatory)	Amount of GHGs emissions avoided or sequestered (tonCO <sub>2</sub> e/year)	25,055	tCO <sub>2</sub> e/year
7. Affordable clean energy	Number of beneficiaries: users with access to gas stoves	56,473 <sup>1</sup>	Individual beneficiaries
8. Decent work and economic growth	Number of direct and indirect employments generated by the project activity (total)	490 <sup>2</sup>	Employments
	Total number of employees by employment contract (permanent and temporary), by gender	Permanent: 181 <sup>3</sup> Temporary: 309	Employments
	Total number of employees by employment type (full-time and part-time), by gender	Full-time: 490 Part-time: 0	Employments

<sup>1</sup> A utilization rate of 80% and an average household size of 4,3 are assumed.

<sup>2</sup> The first year's employment is taken as a reference for the other five years, which will be monitored to identify actual data.

<sup>3</sup> Jobs by gender will be available in the validation process.

## SECTION A. DESCRIPTION OF PROJECT

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

The project activity consists of the distribution, installation, and use of the Bboxx efficient LPG stoves, aiming to promote the efficient use of innovative technologies for reducing greenhouse gas emissions by replacing inefficient traditional cookstoves by efficient LPG stoves (AC0342, AC0363 and AC03730101 models), for domestic and commercial applications at an affordable price.

Rwanda is a landlocked country in East Africa. It borders Uganda, Burundi, Democratic Republic of the Congo, and Tanzania, is a low-income country, which in the last decade has been achieving the highest growth rates on the continent. Much of the population works in agriculture, mainly subsistence, but there is increasing mineral production and processing of agricultural products. Tourism is currently the country's main source of income. Rwanda has a population of 12.952 million people according to the 2020 census (The World Bank).

Considering the *Rwanda Household Survey 2019/2020*<sup>4</sup> it is possible to know how the population and households are distributed in rural and urban areas, which is important to determine the target population. The following table shows how these are divided and their corresponding percentages:

Table 2. Number of conventional households in Rwanda

Type	Number of conventional households	Share of type of households
Rural	2,184,000	80.65%
Urban	524,000	19.35%

The government of Rwanda asserts that the availability of an efficient and reliable energy supply and clean cooking solutions is a requisite for social prosperity, human development, and economic growth. Its objectives are to transform the country into a

<sup>4</sup> <https://www.statistics.gov.rw/publication/rwanda-household-survey-20192020#:~:text=It%20presents%20stable%20indicators%20from,all%20at%20the%20national%20level>

middle-income economy by improving its markets competitiveness and guaranteeing unity and inclusive growth, without neglecting the care and effort of environmental management. The implementation of the project activity contributes to the advancement of the Sustainable Development Goals (SDG 7, 8 and 13), replacing inefficient stoves based on charcoal and firewood with efficient and modern stoves.

Table 3 present the forecasted sales data of the distributed technology in Rwanda in 2022.

Table 3. Gas stoves distributed by Bboxx<sup>5</sup>, 2022

Technology	Units
AC0342 gas stove	1,000

#### A.1.1. Eligibility of the VPA under approved PoA

The VPA is eligible under the criteria established in the PoA.

Table 4 Eligibility for VPA inclusion as per PoA requirements

No.	Eligibility Criterion	Description/ Required condition	Description of the VPA in relation to the criteria, Means of Verification and Supporting evidence for inclusion
1	Location of the VPA	The geographical boundary of the VPA is within one of the countries included in the PoA	The VPA is located in Rwanda (section A.2), which is within the countries included in the geographical boundary of the PoA
2	No double counting of impacts	A unique numbering or identification system for the SHS and gas stoves in each VPA will be applied in addition to the CME logo. This shall ensure no double counting of SHS, SWP or stoves within the PoA and ensure that the	The project activity devices have been distributed under this VPA have a unique customer number in order to ensure no double counting of devices within the project activity.

<sup>5</sup> Installation from 1<sup>st</sup> June 2022 to 31 December 2022

		systems can be identified as belonging to the PoA and to a specific customer linked to each serial number and available in the project database.
3	No double counting of VPA	<p>The VPA, and any of its devices is exclusively bound to the PoA and not registered as an individual project/ or as a part of any other PoA under other carbon standards, ensuring that the VPA has the full title over the emission reductions generated by the VPA</p> <p>The CME checked that the project activity is neither registered as an individual project or as part of another PoA in Gold Standard or any other standard.</p>
4	Host Country Requirements	<p>The VPA shall be in compliance with applicable Host Country's legal, environmental, ecological, and social regulations.</p> <p>The VPA follows all legal, environmental, and social guidelines at the project implementation site, in this case Rwanda. It considers all the rules and regulations for the distribution and disposal of the technologies sold in homes and businesses in the locations.</p>
5	Technology	<p>Each VPA will involve the distribution of solar home systems (SHS) including LED lamps, solar water pumps (SWP) and/or gas stoves (both described in section A.3) according to the geographical user's distribution</p> <p>The VPA involves the distribution of the technology established in section A.3 of this VPA- DD, mainly the model AC0342 stove is considered, with 6 kg or 12.5 kg LPG cylinders</p> <p>Other LPGs models could be distributed in Rwanda according to available possibilities during the project implementation</p>
6	Start date	<p>The start date will be specified in each VPA. For retroactive VPAs the start date should be maximum one year before the</p> <p>The start date of the VPA is 21/06/2022<sup>6</sup>. The first submission to Gold Standard was 25/3/2022 as part of Preliminary</p>

<sup>6</sup> The conditions, legal evidence, and transactions of the start date definition is available to the VVB for validation purpose.

		submission date to the Preliminary Review	Review. Therefore, the start date carries out with the VPA inclusion conditions.
7	Applicability of methodologies	Each VPA will comply with the applicability criteria of the applied methodologies (AMS-III.BL, Version 1.0 and methodology for metered & measured energy cooking devices, Version 1.0)	The VPA is in accordance with the applied methodology as shown in section B.2 of this VPA-DD
8	Additionality	All VPAs to be included under the PoA will be in compliance with the additionality criteria presented in section C of this PoA	The additionality is demonstrated following the applicable methodologies' conditions for LPG stoves. See section B.5 of this document
9	Non-diversion of ODA	The VPAs will not receive ODA	A declaration confirming that there is no diversion of ODA is attached with the VPA-DD. The corresponding statement is made in section A.5 of this VPA-DD
10	Target group	Each VPA will involve the distribution of the specified energy systems to residential and non-residential (commercial, industrial, etc.) end-users, located in rural and urban areas within the geographical boundary currently using fossil fuels or other non-renewable and unreliable energy methods for lighting and/or cooking and not connected to the electricity grid.	<p>The target group of the VPA correspond to households and commercial users that are located in the rural and urban areas of Rwanda that previously used inefficient cooking stoves practices.</p> <p>According to the Rwanda Household Survey 2019/2020 the target population is</p> <ul style="list-style-type: none"> <li>• 2,184,000 rural households</li> <li>• 524,000 urban households</li> </ul>
11	Sampling	Sampling should be in line with the applied methodologies according to the standard of sampling of surveys for program activities	The sampling of the VPA will be in line with the applied methodologies and specified in section B.7.2. of this VPA-DD in case that it would be necessary
12	VPA scale	The project activity can be categorized as small-scale activity or micro-scale	According to the level of project implementation in Rwanda, the VPA has the



		activity per the CDM methodology requirements and in accordance with the GS4GG. Emission reductions achieved by each one of the activities considered under the PoA are limited to a maximum of 60,000 tonnes of CO <sub>2</sub> e in case of being small scale and 10,000 tonnes of CO <sub>2</sub> e in case of being micro scale, in any year of their crediting period	category of small scale, for clean cook technologies.
13	SDG assessment	It is expected to have positive outcomes for at least 3 SDGs, which will be assessed using the Gold Standard SDG tool	The outcomes for SDG assessment for this VPA are described in section B.6 of this VPA-DD. The records for SDG 7, 8 & 13 are provided.
14	Voluntary activity	Each project activity corresponds to a voluntary action; therefore, it is not required by law	Activities developed under this VPA are totally voluntary and not required by law.

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

Bboxx Ltd. has fully ownership of the GS VERs that are generated under the Gold Standard certification. Bboxx will notify all the beneficiaries (end users) confirming the transfer of all legal rights of the emission reductions<sup>7</sup>.

Before the purchase of the technology, it will inform to the user, that any rights to emission reductions will be transferred to the CME, avoiding in this way a double counting of emission reductions. A User Notification will be implemented to ensure transparency on the emission reduction transference, indicating the obligations of both

<sup>7</sup> The evidence of notification to the end-users are available for VVB

parties and provisions regarding the transference of emission reductions ownership and benefits

## A.2. Location of VPA

**Country:** Rwanda

**State:** All states

**Districts:** All districts

The geographic coordinates of the project are:

1°56'25" S 29°52.433' E

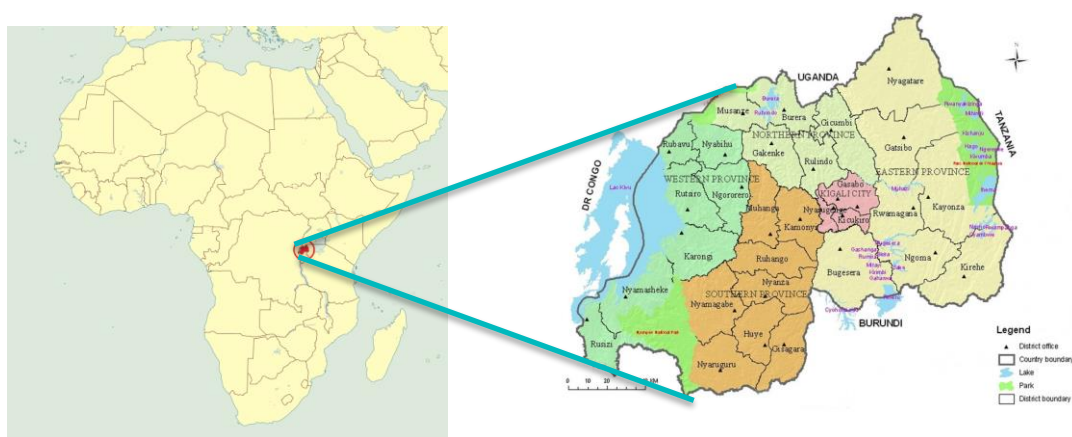


Figure 1. Location of the project

## A.3. Technologies and/or measures

The VPA involves the distribution of efficient gas stoves in the rural and urban areas of Rwanda.

The technical characteristics of the distributed technologies are presents as follows.

### **AC0342 Gas Stove (as example)**



Figure 2. AC0432 Gas stove

Stainless steel gas stove, with a push-on type gas inlet connection and two burners. It has a total heat input of 6kW and a total gas consumption of 437 g/h. Its brass whirlwind

burners enable an efficiency of 59%, reducing heat transfer to other parts of the stove and saving time for customers.

Designed for rural and peri-urban areas where firewood or charcoal was previously used for cooking.

Table 5. AC0342 Gas Stove specifications

Technical specifications AC0342 Gas Stove	
<b>Gas type</b>	LPG
<b>Total heat input</b>	6.0 kW
<b>Total gas consumption</b>	437g/h
<b>Heat efficiency</b>	59%
<b>Cylinders capacity</b>	12.5 kg and 6 kg
<b>Number of distributed units in 2022</b>	1,000

#### - AC0363 Gas Stove (as example)

Stainless steel gas stove, with a push-on type gas inlet connection and two burners. It has a total heat input of 6kW and a total gas consumption of 436 g/h, which results in a heat efficiency of 52%.



Table 6. AC0363 Gas Stove specifications

Technical specifications AC0363 Gas Stove	
<b>Gas type</b>	LPG
<b>Total heat input</b>	6.0 kW
<b>Total gas consumption</b>	436 g/h
<b>Heat efficiency</b>	52%

The LPG required by the gas stove is provided by two LPG cylinder options of 12.5 kg and 6 kg capacity respectively.



Figure 3. 12.5 and 6 kg LPG cylinder

- **AC03730101 burner with steel grid (as example)**



2.6kW heat input burner with steel grid to be installed upon a 6kg LPG cylinder. It consumes 186g/h of fuel, resulting in a heat efficiency of 55%.

Ideal for small households in rural areas.

Table 7. AC03730101 Gas Stove specifications

Technical specifications AC03730101	
Gas type	LPG
Total heat input	6.0 kW
Total gas consumption	186 g/h
Heat efficiency	55%

Although the project activity for the first crediting period (2022 to 2023) focuses on the distribution of the ACO342 stove model, there are alternatives to the other stove models for commercial distribution during project implementation. Consequently, the reference to other stoves technologies has been provided in the VPA as part of the project activity implementation<sup>8</sup>.

#### A.4. Scale of the VPA

The VPA is considered as small scale since the total emission reductions exceed the microscale threshold of 20,000 tonnes CO<sub>2</sub>/year. However, each of the individual units can be considered as microscale unit according to numeral 6 of the Application of microscale thresholds at unit level of CPAs of TOOL 19 "Demonstration of additionality of microscale project activities Version 9".

#### A.5. Funding sources of VPA

There is no diversion of public or ODA funding for this project activity.

Bboxx has not received economic support or subsidies for LPG stoves.

<sup>8</sup> All ER calculations and units' distributions estimation have been done based on LPG ACO342 stove model considering that there are no reliable data to make reliable forecasting of the other optional technologies. Any technology inclusion will be reported during the verification process

In case any subsidy or financial support is added, an exclusion mechanism will be implemented to exclude subsidized devices from the project activity, depending upon the conditions of the subsidy.

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

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

For efficient LPG stoves the small-scale “Methodology for metered & measured energy cooking devices” Version 1.0, from Gold Standard is used.

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

The utilization of the efficient stoves will reduce the amount of traditional fossil fuel stoves needs, which leads to a reduction in greenhouse gas emissions. The table below presents the applicability justification for the distribution of LPG gas stoves:

Table 8 . Applicability of Methodology for metered & measured energy cooking devices

Applicability condition	Justification
This methodology is applicable to project activities that introduce technologies that reduce or avoid greenhouse gas (GHG) emissions and quantify emission reductions from cooking devices through direct measurement of energy or fuel consumed, in households, communities, and/or institutions such as schools, prisons or hospitals (hereinafter referred as end-users).	The purpose of the VPA is to replace less thermal efficient stoves (e.g., charcoal, firewood, kerosene, among others) with efficient LPG stoves or less polluting fuels in households in Rwanda.
This methodology may be applied by project developers promoting the installation of improved cooking devices, where the actual amount of energy or fuel used in the project scenario is measured	Metered LPG cookstove where fuel used is measured for each device within project boundaries. If these displace different types of traditional and inefficient stoves, the corresponding factor will be considered. The fuel consumption will be

directly in real-time for every device or otherwise monitored via measurement.	monitored and registered through an internal Bboxx commercial platform.
Project shall choose a technology design that has predictable performance in that it is proven to be efficient and durable under field conditions; for cookstoves, the rated thermal efficiency shall be at least 40%.	<p>The AC0342 LPG project activity stove has a heat efficiency of 59%, according to manufacturer specifications.</p> <p>In case of inclusion of AC0363 and AC03730101 stoves models in the project activity the heat efficiency is 52% and 55% respectively.</p>
The technology shall have continuous useful energy output of less than 150kW per unit, refer to the Definition "continuous useful energy output" section.	<p>The continuous useful energy output for AC0342 gas stove from Bboxx is 3.54 kW per unit (considering that the total input is 6 kW, and the efficiency is 59%), much less than the maximum cap provided by the methodology.</p> <p>In case other stoves devices (AC0363 and AC03730101), the useful energy output will not be higher than 150 KW per unit.</p>
The project activity is implemented by a project developer and can include additional project participants listed in Appendix 2 of the PDD template. The individual households and institutions may be represented collectively by community organizations, etc., but do not individually act as project participants.	The project developer is Bboxx: a company dedicated to transforming lives and unlocking potential by providing a wide range of modern utilities to the under-served population, in this case it is to provide clean energy to reduce the impact of greenhouse gases in Rwanda. The individual households and institutions are represented by community organizations.
The project developer must design incentive mechanism(s), which should be effective as fast as possible, for the elimination of inefficient baseline stoves that are replaced by the project cooking devices and describe the incentive	Consumers spend a large proportion of their income on cook fuels and these efficient cookstoves help them decrease this expenditure. So, there is a built-in incentive for users to stop using and eliminate inefficient baseline stoves (e.g.,

mechanism(s) in the PDD/VPA-DD at the time of validation.	<p>charcoal stoves, firewood, LPG, kerosene, among others).</p> <p>Additionality, Bboxx enables financing over long-term PAYG (pay as you go) plans, allowing customers to pay a daily rate which makes products accessible. The mode of payment was one of the key factors that motivated costumers to purchase a Bboxx system.</p>
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### B.3. VPA boundary

The VPA boundary will cover distributed standalone systems and the physical sites of the consumer served by the project activity will be within the Rwanda National boundary.

Table 9 . Project boundary

Source		GHGs	Included?	Justification/E xplanation
Baseline scenario	Baseline fuels for cooking	CO <sub>2</sub>	Yes	Main source of emissions
		CH <sub>4</sub>	Yes	Minor source of emissions
		N <sub>2</sub> O	Yes	Minor source of emissions
Project scenario	LPG used in gas stoves	CO <sub>2</sub>	Yes	Main source of emissions
		CH <sub>4</sub>	Yes	Minor source of emissions
		N <sub>2</sub> O	Yes	Minor source of emissions
	Transport of LPG	CO <sub>2</sub>	Yes	Main source of emissions
		CH <sub>4</sub>	No	Minor source of emissions
		N <sub>2</sub> O	No	Minor source of emissions



Each customer who acquired the cookstoves will directly utilize the energy from the LPG devices for energy efficiency purposes. The physical delineation of the project boundary of the baseline and project scenarios of the VPA are presented in the following illustrations:

- Baseline scenario

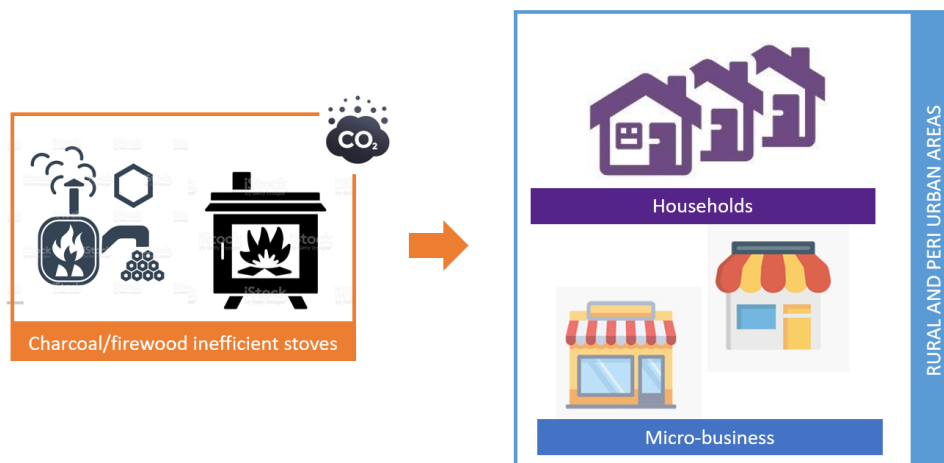


Figure 4. Baseline scenario

- Project scenario

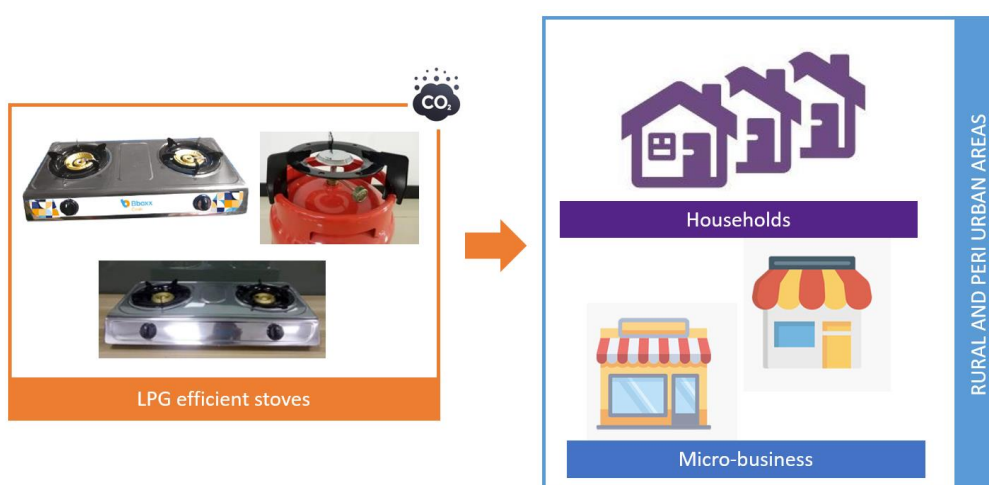


Figure 5. Project scenario

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

The baseline scenario has been established in line with the applied methodology.

In such way, the baseline scenario is the use of multiple fuels/device combinations for meeting similar thermal energy needs by the representative end users, specifically



considering the efficiency of the baseline cooking device and applying the emission factor of the project fossil fuel.

### **Background for Efficient Cookstoves in Rwanda**

The cooking landscape in Rwanda is dominated by traditional cooking fuels, such as firewood and charcoal, and traditional cooking technologies, such as three-stone or self-built stoves. Firewood accounts for 93% of the cooking fuel used in rural areas, while charcoal is predominant in urban areas as presented in Table 10.

Table 10 . Main type of cooking fuel in Rwanda (%)

	Firewood	Charcoal	Crop waste	Gas or biogas	Other
<b>All Rwanda<sup>9</sup></b>	<b>77.7</b>	<b>17.5</b>	<b>0.5</b>	<b>4.2</b>	<b>0.1</b>
<b>Urban<sup>10</sup></b>	26.3	65.1	0.1	5	3.4
<b>Rural</b>	92.7	6	0.8	0.2	0.3

With firewood and charcoal as the prevalent cooking fuels, the use of traditional cooking technologies is common in Rwanda.

Traditional three-stove stoves are the most used stoves with 53% of the total use, followed by charcoal stoves with 16%. The distribution of the cooking technologies is presented in Table 11.

Table 11 . Main types of cooking stoves in Rwanda (%)

	Three-stone	Self-built stove	Manufactured stove	Charcoal/fire stove	Efficient cookstove	Other
<b>All Rwanda</b>	53.2	14.8	1.3	16.2	13.5	1
<b>Urban</b>	18	3.5	5.5	56.1	14	3
<b>Rural</b>	61.6	17.5	0.3	6.7	13.4	0.5

<sup>9</sup> Rwanda Household Survey 2019/2020

<sup>10</sup> Integrated Household Living Conditions Survey, EICV5 (2016/17)

Considering the previously described cooking landscape, indoor house air pollution is a leading factor for mortality in Rwanda, estimated to cause over 7,800 premature deaths annually<sup>11</sup>.

Moreover, seventy-six per cent of households spend at least 7 hours per week<sup>12</sup> acquiring fuel on average, either by collecting or purchasing it and preparing the fuel for their stoves, with a disproportionate burden on households using firewood.

As for the amount of fuel that is used, the average consumption of firewood and charcoal per individual per day is 1.45kg and 0.48kg respectively.

B.5.           **Demonstration of additionality**

In the case of gas stoves, deemed additionality is considered.

Specify the methodology, activity requirement or product requirement that establishes deemed additionality for the proposed project (including the version number and the specific paragraph, if applicable).	VPA complies with the additionality criteria: <b>Efficient LPG Cookstoves in Rwanda:</b> Positive list Annex B Annex Improved Cook Stove with less of 20% of adoption Community Services Activity Requirements, Version 1.2
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Describe how the proposed VPA meets the criteria for deemed additionality.	See below description
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The demonstration of additionality is conducted as indicated in each of the methodologies.

**Methodology for metered & measured energy cooking devices” Version 1.0.**

According to the paragraph 4.1.9 of the GS Community Services Activity requirements (Version 1.2), 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

<sup>11</sup> Energy 4 Impact, Policy, and market review for modern energy cooking in Rwanda,2021  
<sup>12</sup> Policy and market review for modern energy cooking in Rwanda, working paper, June 2021 by MECS

(b) Projects located in LDC, SIDS, LLDC

(c) Microscale projects

This VPA developed in Rwanda meets the criteria mentioned above. In concordance with the item 1.1.5 of Annex B- Positive list (Community Services Activity Requirements, Version 1.2), project activities that include the introduction of improved fossil fuels cookstoves like project activity (ACO342 / AC0363 and AC03730101 Bboxx stoves) to provide thermal energy to users that have less than 20% adoption rate among the target users, are considered as deemed additional. Additionally, Rwanda is a LDC country<sup>13</sup>.

Table 12. CDM microscale conditions

<b>Does it meet one of the below conditions defined under Tool 19</b>	
i) Is it implemented in an LDC/SIDS or a SUZ?	Yes, Rwanda is an LDC
ii) Does it involve technologies/measures included under para 13 (b) and end users are Households/communities/SMEs?	Yes, the project involves efficient cook stoves and end users are domestic and commercial households
iii) Does it comprise of specific grid connected renewable energy technologies recommended by the host country and approved by the Board?	Not applicable
iv) Is it implemented in an off-grid area (= <12 hrs/day grid availability) supplying to households/communities?	Not applicable

#### B.5.1. Prior Consideration

The start date was 21/06/2022, and submission of the initial project documentation to GS was on 25/03/2022 as date of first submission of the PoA Master Document (GS11598). Therefore, the project meets the prior consideration requirements<sup>14</sup>.

#### B.5.2. Ongoing Financial Need

N/A. OFN is required only at the time of renewal of crediting period.

<sup>13</sup> <https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information>

<sup>14</sup> All evidence about the prior consideration is available for the VVB for its validation

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

Relevant Target/Indicator for each of the three SDGs

Sustainable Development Goals Targeted	Most relevant SDG Target	SDG Impact Indicator (Proposed or SDG Indicator)
7. Affordable clean energy	7.1 By 2030, ensure universal access to affordable, reliable, and modern energy services	Number of beneficiaries: users with access gas stoves
8. Decent work and economic growth	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	Number of direct and indirect employments generated by the project activity, disaggregated by gender, age, and disability
13. Climate Action (mandatory)	13.2 Integrate climate change measures into national policies, strategies, and planning	Amount of GHGs emissions avoided (tonCO <sub>2</sub> e/year)

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

- SDG 13 (Climate action)**

Impact on climate action is calculated by applying the Gold Standard methodology for metered & measured energy cooking devices, Version 1.0.

### Project boundary

All the geographical boundaries will be described in section A.2 and the project boundary is defined in section B.3. The project boundary includes the project stoves and the physical, geographical sites where of the project products sold and used.

### Baseline

The baseline scenario for the project activity is the continued use of inefficient stoves at rural and urban levels, combusting fuels like kerosene, firewood, charcoal, among others.

The baseline emissions are calculated multiplying the useful energy delivered by the project devices with the baseline emission factor.

$$BE_y = EG_{p,useful,y} \times EF_b$$

Where:

$BE_y$  = Baseline emissions (tCO<sub>2</sub>e) in the year y

$EG_{p,useful,y}$  = The amount of useful energy applied in the project in year y (TJ)

$EF_b$  = Baseline emissions factor (tCO<sub>2</sub>e per TJ of useful energy)

The baseline emissions factor is determined applying the equation below:

$$EF_b = \sum_k \left( \sum_{i,j} P_{b,i,j} \times EF_{b,i} \times fNRB_{i,y} \right) k \div \sum_k \left( \sum_{i,j} P_{b,i,j} \times NCV_{b,i} \times \eta_{b,i,j} \right) k$$

Where:

$EF_b$  = Baseline emissions factor (tCO<sub>2</sub>e per TJ of useful energy)

$P_{b,i,j}$  = Amount of baseline fuel i used in device j in the baseline (tonnes)

$EF_{b,i}$  = Emission factor of the baseline fuel i (tCO<sub>2</sub>e/tonne)

$fNRB_{i,y}$  = Non-renewability status of woody biomass fuel i during year y<sup>15</sup>

$NCV_{b,i}$  = The net calorific value of the baseline fuel type i (TJ/tonne)

$\eta_{b,i,j}$  = Efficiency of baseline device j with fuel i (fraction)

Where the project device uses fuel (e.g., bioethanol, LPG), the useful project energy is calculated as shown below:

$$EG_{p,useful,y} = \sum_d P_{p,d,y} \times NCV_{p,i} \times \eta_{p,d,y}$$

Where:

$P_{p,d,y}$  = The amount of fossil fuel used in the project by device d in year y, considering cap (mass or volume unit)

$NCV_{p,i}$  = The net calorific value of the fuel i used in the project scenario in year y

$\eta_{p,d,y}$  = Energy efficiency of the project device, d in year y (fraction)

## **Project**

The project stoves provided the same or similar useful energy service, that would have been delivered by the baseline fuels and devices. The total amount of baseline fuel displaced is greater than the amount used in the project. The project emissions in the year are calculated using the following equation:

$$PE_y = \sum_d P_{p,d,y} \times NCV_{p,i} \times EF_{p,i}$$

<sup>15</sup> The parameter  $fNRB_{i,y}$  is excluded from equation when the observed baseline fuel is fossil fuel.

Where:

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

$EF_{p,i}$  = The emissions factor of the project fuel i (tCO<sub>2</sub>e per TJ)

Moreover, project emissions from transportation of fuel shall be accounted if the transportation distance (including both long-distance and home delivery transport) is more than 200 km.

LPG is imported from gulf countries such Arabia and shipped by boat to Dar Es Salam port and bulk stored there. Then, it is purchased and trucked it from Dar Es Salam to Kigali, where it is finally distributed from the refilling station to shops and from shops to customer homes using motorbikes.

Taking into account the above, the transportation emissions are divided in three types

- Water transportation

$$PE_{t1,y} = T_{t1,y} \times AD_{t1} \times EF_{t1} \times 10^{-6}$$

Where:

$PE_{t1,y}$  = Project emissions for type 1 transport in year y (tCO<sub>2</sub>)

$T_{t1,y}$  = Amount of cargo transported by the water transportation in year y (tonne)

$AD_{t1}$  = Distance of the trip route (km)

$EF_{t1}$  = Emission factor for the transportation of cargo (gCO<sub>2</sub>/tonne.km)

- Road transportation of freight

$$PE_{t2,y} = T_{t2,y} \times AD_{t2} \times EF_{t2} \times 10^{-6}$$

$PE_{t2,y}$  = Project emissions for type 2 transport in year y (tCO<sub>2</sub>)

$T_{t2,y}$  = Amount of cargo transported by the freight transportation in year y (tonne)

$AD_{t2}$  = Distance of the trip route (km)

$EF_{t2}$  = Emission factor for the freight transportation (gCO<sub>2</sub>/tonne.km)

- Road transportation - motorbike

$$PE_{t3,y} = F_y \times AD_{t3} \times EF_f \times NCV_f \times \rho_f \times 10^{-9}$$

$PE_{t3,y}$  = Project emissions for type 2 transport in year y (tCO<sub>2</sub>)

$F_y$  = Fuel consumption of the motorbike (l/km)

$AD_{t3}$  = Distance of the trip route(s) considering the number of cylinders transported (km)

$EF_f$  = Emission factor of the fuel (kgCO<sub>2</sub>/TJ)

$NCV_f$  = Net calorific value of the fuel (TJ/Gg)

$\rho_f$  = Density of the fuel, gasoline density: 720 (g/l)

## **Leakage**

For the calculation of the leakage emissions, a default adjustment factor of 0.95 is applied, according to the Gold Standard methodology: Reduced Emissions from Cooking and Heating: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC).

## **Emission reduction**

The emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

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

### **• SDG 7 (Affordable clean energy)**

## **Baseline**

Before the project activity, in the baseline scenario, customers used fuel-based inefficient cooking technologies, which were expensive and polluting.

## **Project**

The VPA involves the distribution and implementation of efficient gas stoves.

The methodology for monitoring these results will be by estimating the number of beneficiaries in active customer households.

## **Benefit**

The benefit is related to the proportion of population with primary reliance on clean fuels and technology and is measured in number of beneficiaries, meaning the number of individuals with access to gas stoves.

## **Indicator description**

The number of gas stoves is taken from the sales and installation records and multiplied by the usage rate, giving the number of active customers

$$N_{a,y} = N_{t,y} * U_y * S_y$$

Where:

$N_{a,y}$  = Number of beneficiaries in year y

$N_{t,y}$  = Project gas stoves distributed in year y

$U_y$  = Usage rate

$S_y$  = Household size

- **SDG 8 (Decent work and economic growth)**

### **Baseline**

It is assumed that before the start of the project, in the baseline scenario, a specific number of people was unemployed, or dedicate to other activities different from the project activity.

### **Project**

Bboxx provides full, decent, and productive employment to women, men, and young people. Direct and indirect jobs created by Bboxx are given to the local population aiming to improve the economic situation and therefore contribute to the economic growth.

### **Benefit**

The benefit is measures as the number of new direct and indirect employments generated by the project activity, disaggregated by gender, age and disability.

### **Indicator description**

The indicator will be registered and monitored in every monitoring period, as the number of local direct and indirect employments on record by the Bboxx regional partner organization and other local entities involved in project implementation and compared to the number of jobs of the baseline scenario.

The employments will be disaggregated as follows:

- $E_T$  = Number of direct and indirect employments generated by the project activity (total)
- $E_{ec}$  = Total number of employees by employment contract (permanent and temporary), by gender
- $E_{et}$  = Total number of employees by employment type (full-time and part-time), by gender

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

### **SDG13**

Data/parameter	$P_{b,i,j}$
Unit	Tonne/year-device, Tonne/trial-device, Tonne/day-device
Description	Amount of baseline fuel i used in device j in the baseline
Source of data	Estimated



Value(s) applied	1.02
Choice of data or Measurement methods and procedures	Data estimated with sold units, technical specifications, and fuel properties
Purpose of data	Calculation of baseline emissions
Additional comment	<p>The baseline fuel use value for the project cooking device type and end user type in the country may be applied for a period of three years after its approval, after which it must be updated</p> <p>The amount of the fuel baseline has been calculated as equivalent in LPG fuel according to requirement of Section 3.5.2.d) Meth MMECD v.1.0 "Where project devices use fossil fuel, determine and apply the emission factor of the project fuel, to account only emission reductions from efficiency improvement"</p>

Data/parameter	NVCb,i
Unit	TJ/tonne
Description	The net calorific value of the baseline fuel type i
Source of data	IPCC default data
Value(s) applied	LPG 0.047
Choice of data or Measurement methods and procedures	Data standardized by IPCC
Purpose of data	The parameter is used to calculate baseline emissions factor
Additional comment	Fixed for the entire crediting period

Data/parameter	EFb,i
Unit	tCO2e/tonne
Description	The emission factor of baseline fuel i

Source of data	IPCC default value converted by applying $NCV_{b,i}$
Value(s) applied	LPG: 2.99
Choice of data or Measurement methods and procedures	It is calculated with values found in the IPCC and gas properties
Purpose of data	The parameter is used to calculate baseline emissions factor
Additional comment	LPG is the baseline fuel according to requirement of Section 3.5.2.d) Meth MMECD v.1.0

Data/parameter	$\eta_{b,i,j}$								
Unit	Fraction								
Description	Energy efficiency of baseline device j with fuel i								
Source of data	Determined from - Studies by academia, NGOs, or multilateral institutions,								
Value(s) applied	<table> <tr> <td>Three stone stove</td><td>13%</td></tr> <tr> <td>Self-built stove</td><td>20%</td></tr> <tr> <td>Charcoal/fire stove</td><td>15%</td></tr> <tr> <td>Efficient stove</td><td>32%</td></tr> </table>	Three stone stove	13%	Self-built stove	20%	Charcoal/fire stove	15%	Efficient stove	32%
Three stone stove	13%								
Self-built stove	20%								
Charcoal/fire stove	15%								
Efficient stove	32%								
Choice of data or Measurement methods and procedures	Average value of the thermal efficiency of different baseline technologies								
Purpose of data	This parameter is used to determine the baseline emission factor								
Additional comment	NA								

### Water transportation

Data/parameter	$EF_{t1}$
Unit	gCO <sub>2</sub> /tonne.km
Description	Emission factor for the transportation of cargo

Source of data	Approved baseline and monitoring methodology AM0090: "Modal shift in transportation of cargo from road transportation to water or rail transportation"
Value(s) applied	76
Choice of data or Measurement methods and procedures	Default emission factors for road transportation depending on the type of cargo transported, Solid mineral fuels and petroleum products
Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

Data/parameter	$AD_{t1}$
Unit	km
Description	Distance of the trip route
Source of data	Sea ports: Sea route & distance Calculate the distance of both ports
Value(s) applied	4,911.5
Choice of data or Measurement methods and procedures	Distance from Jeddah Islamic Port to destination port, Port of Dar Es Salaam
Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

### Road transportation – freight

Data/parameter	$EF_{t2}$
Unit	gCO <sub>2</sub> /tonne.km
Description	Emission factor for the freight transportation
Source of data	CDM Tool 12: Project and Leakage emissions from transportation of freight
Value(s) applied	245

Choice of data or Measurement methods and procedures	The emission factor for light vehicles is considered. The default emission factors have been obtained from empirical data from European vehicles.
Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

Data/parameter	$AD_{t2}$
Unit	km
Description	Distance of the trip route
Source of data	Bboxx
Value(s) applied	1,400
Choice of data or Measurement methods and procedures	LPG is shipped by boat to Dar Es Salam port and bulk stored there. A partner purchase LPG and truck it from Dar Es Salam to Kigali and the distance is measured.
Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

## Road transportation – Motorbike

Data/parameter	$F_y$
Unit	l/100km
Description	Fuel consumption of the motorbike
Source of data	TOOL 18: Baseline emissions for modal shift measures in urban passenger transport
Value(s) applied	2
Choice of data or Measurement methods and procedures	Specific fuel consumption of vehicle category (for motorcycle)

Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

Data/parameter	$EF_f$
Unit	kgCO <sub>2</sub> /TJ
Description	Emission factor of the fuel
Source of data	IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 3 Mobile Combustion
Value(s) applied	69,300
Choice of data or Measurement methods and procedures	Road transport default CO <sub>2</sub> emission factors and uncertainty ranges with Gas/Diesel Oil
Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

Data/parameter	$NCV_f$
Unit	TJ/Gg
Description	Net calorific value of the fuel
Source of data	IPCC Guidelines for National Greenhouse Gas Inventories, Chapter 1 Introduction
Value(s) applied	44.3
Choice of data or Measurement methods and procedures	Default net calorific values (NCVs) and lower and upper limits of the 95% confidence intervals
Purpose of data	This parameter is used to determine the project emissions
Additional comment	NA

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

#### SDG 13

#### Er,y Efficient stoves

Table 13. Data used to calculate emission reduction for Efficient stoves in 2022

Parameter	Description	Values
Pb,i,j	Amount of baseline fuel (LPG). LPG eq three stone stoves (tonne/y)	0.60
	LPG eq in self-built stoves (tonne/y)	0.17
	LPG in charcoal stoves (tonne/y)	0.14
	LPG in efficient stoves (tonne/y)	0.12
EFb,i	Emission factor of the baseline fuel LPG (tCO2e/tonne)	2.99
NCVb,i	The net calorific value of the baseline fuel type LPG (TJ/tonne)	0.047
fNRBi	Fraction of non-renewable biomass	0.8973
ηb,i,j	Efficiency of baseline device j with fuel i (fraction)	0.13 (Firewood in three stone) 0.2 (Firewood in self-built stove) 0.15 (Charcoal in charcoal/fire stove) 0.32 (Charcoal in efficient stove)
$EFb = \sum (\sum_{i,j} Pb_{i,j} \times EFb_{i,j} \times fNRBi_{i,j}) \div \sum (\sum_{i,j} Pb_{i,j} \times NCVb_{i,j} \times \eta_{b,i,j})$		
EFb	Baseline emissions factor (tCO2e per TJ of useful energy)	342.12
Pp,d,y	The amount of fuel used in the project in by device d in year y, considering cap (mass or volume unit) (LPG)	0.17
NCVp,i	The net calorific value of the fuel i used in the project scenario in year y (LPG) (TJ/tonne)	0.047
ηp,d,y	Energy efficiency of the project device, d in year y (fraction)	59%
$EGp,useful,y = \sum d Pp_{d,y} \times NCVp_{i,y} \times \eta_{p,d,y}$		
EGp,useful,y	The amount of useful energy applied in the project in year y (TJ)	0.01
$BEy = EGp,useful,y \times EFb$		
BEy	Baseline emissions (tCO2e) in the year y per stove	1.61
	Baseline emissions (tCO2e) in the year y	1,610.52

Pp,d,y	The amount of fuel used in the project in by device d in year y, considering cap (tonne) (LPG)	0.17
EFp,i	Emission factor of the project fuel I (tCO <sub>2</sub> e/tonne) (LPG)	2.99
$PEy = \sum Pp,d,y \times NCVp,i \times EFp,i$		
<b>PEy</b>	Project emissions (tCO <sub>2</sub> ) in year y per stove	0.50
	Project emissions (tCO <sub>2</sub> ) in year y	503.89
Tt1,y	Amount of cargo transported by the water transportation in year y (tonne)	168.68
ADt1	Distance of the trip route (km)	4,911.5
eFt1	Emission factor for the transportation of cargo (gCO <sub>2</sub> /tonne.km)	76
$PEt1y = Tt1,y \times ADt1 \times EFt1 \times 10E-06$		
<b>PET1y</b>	Project emissions for type 1 transport in year y (tCO <sub>2</sub> )	62.96
Tt2,y	Amount of cargo transported by the freight transportation in year y (tonne)	168.68
ADt2	Distance of the trip route (km)	1400
Eft2	Emission factor for the freight transportation (gCO <sub>2</sub> /tonne.km)	245
$PEt2y = Tt2,y \times ADt2 \times EFt2 \times 10E-06$		
<b>PET2y</b>	Project emissions for type 2 transport in year y (tCO <sub>2</sub> )	57.86
<b>Fy</b>	Fuel consumption of the motorbike (l/km)	0.02
ADt3	Distance of the trip route(s) considering the number of cylinders transported (km)	93,712.2
eFf	Emission factor of the fuel (kgCO <sub>2</sub> /TJ)	69,300
NCVf	Net calorific value of the fuel (TJ/Gg)	44.3
ρf	Density of the fuel (g/l)	720
$PEt3y = Fy \times ADt3 \times EFf \times NCVf \times \rho f \times 10E-09$		
<b>PET3y</b>	Project emissions for type 3 transport in year y (tCO <sub>2</sub> )	4.14
$PETy = PEy + PET1y + PET2y + PET3y$		
<b>PETy</b>	Total Project emissions (tCO <sub>2</sub> ) in year y	628.85

<b>LE<sub>y</sub></b>	Leakage for project scenario p in year y (tCO <sub>2</sub> e/yr)	55.33 <sup>16</sup>
<b>ER<sub>y</sub> = (BE<sub>y</sub> - PE<sub>y</sub>) x LE<sub>y</sub></b>		
<b>ER<sub>y</sub></b>	Emission reductions in year y (tCO <sub>2</sub> e)	<b>926.34</b>

Table 14. Emission reductions for the project in 2022

Climate action	Baseline emissions	Project emissions	Leakage	Emission reductions
<b>ER<sub>y</sub> 2022</b>	1,611	629	55	926.34
<b>ER<sub>y</sub> 2023-2027 (Average)</b>	51,951	20,285	1,785	29,881

## SDG 7

Table 15. Estimated Annual Average for SDG 7 for 2022

Affordable and clean energy	Description	Values
$N_{t,y}$	Project gas stoves distributed	1,000
$U_y$	Usage rate	80%
$S_y$	Household size	4.3 <sup>17</sup>
<b><math>N_{a,y} = N_{t,y} * U_y * S_y</math></b>		
$N_{a,y}$	Project gas stoves active	<b>3,440</b>

<sup>16</sup> Discount value of 0.95 to the emission reductions

<sup>17</sup> <https://www.dhsprogram.com/pubs/pdf/SR229/SR229.pdf>



## SDG 8

Table 16. Estimated Annual Average for SDG 8

Decent work and economic growth	Description	Values
$E_T$	Number of direct and indirect employments generated by the project activity (total)	490
$E_{ec}$	Total number of employees by employment contract (permanent and temporary), by gender	Permanent: 181 Temporary (agent+fixed term employee): 309
$E_{et}$	Total number of employees by employment type (full-time and part-time, by gender)	Full-time: 490 Part-time: 0

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

## SDG 13

Table 17 Summary of ex ante estimates (tCO2)

Year	Baseline estimate	Project estimate	Leakage estimate	Net benefit
Year 1 (21/06/2022-31/12/2022)	1,611	629	55	926
Year 2 (2023)	14,620	5,709	502	8,409
Year 3 (2024)	29,240	11,417	1,005	16,818
Year 4 (2025)	46,296	18,077	1,591	26,629
Year 5 /2026)	65,789	25,689	2,260	37,841
Year 6 (01/01/2027-20/06/2027)	103,808	40,533	3,566	59,708
<b>Total</b>	<b>261,363</b>	<b>102,053</b>	<b>8,979</b>	<b>90,622</b>
<b>Total number of crediting years</b>	<b>5</b>			
<b>Annual average over the crediting period</b>	<b>43,561</b>	<b>17,009</b>	<b>1,497</b>	<b>25,055</b>

## SDG 7

Table 18 Summary of ex ante estimates (Number Beneficiaries)

Year	Baseline estimate	Project estimate	Net benefit
Year 1 (21/06/2022-31/12/2022)	0	3,440	3,440
Year 2 (2023)	0	20,640	20,640
Year 3 (2024)	0	41,280	41,280
Year 4 (2025)	0	65,360	65,360
Year 5 /2026)	0	92,880	92,880
Year 6 (01/01/2027-20/06/2027)	0	115,240	115,240
<b>Total</b>	<b>0</b>	<b>338,840</b>	<b>338,840</b>
<b>Total number of crediting years</b>	<b>5</b>		
<b>Annual average over the crediting period</b>	0	56,473	56,473

## SDG 8

Table 19 Summary of ex ante estimates

Year	Baseline estimate	Project estimate	Net benefit
Year 1 (21/06/2022-31/12/2022)	0	490	490
Year 2 (2023)	0	490*	490
Year 3 (2024)	0	490*	490
Year 4 (2025)	0	490*	490
Year 5 /2026)	0	490*	490
<b>Year 6 (01/01/2027-20/06/2027)</b>	0	490*	490
<b>Total number of crediting years</b>	<b>5</b>		
<b>Annual average over the crediting period</b>	0	490	490

\*For these years, the information provided for year 1 (2022) of the total direct and indirect jobs created by the project activity is included; this is a parameter that will be monitored for each year to provide real data for each one.

## B.7. Monitoring plan

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

Data / Parameter	$\eta_{p,d,y}$
Unit	Fraction
Description	Thermal efficiency of the project device
Source of data	Manufacturer specifications
Value(s) applied	59% (AC0342 model) 52% (AC0363 model) 55% (AC03730101 model)
Measurement methods and procedures	This factor is in the technical specifications given by the manufacturer. It is verified that thermal efficiency in the project stoves is greater than baseline stoves.
Monitoring frequency	Annual, or a default schedule of linear decrease in efficiency down to thermal efficiency (efficiency at end of technical life), which must be demonstrated to be 40% or higher, may be applied through the technical life span of the project device.
QA/QC procedures	The efficiency will be corroborated by the stove manufacturers in their technical specifications provided to the project.
Purpose of data	This parameter is used in the determination of useful energy
Additional comment	Manufacturer specification

Data / Parameter	$P_{p,d,y}$
Unit	Mass or volume unit
Description	The amount of fuel used in the project in by device d in year y
Source of data	Direct measurement by sales of fuel cylinders, either on a device basis or cluster-of-devices basis.
Value(s) applied	0.32 (AC0342 model) 0.32 (AC0363 model)

	0.14 (AC03730101 model)
Measurement methods and procedures	Sales register of number and size of fuel cylinders sold to customers with the Bboxx efficient LPG stove
Monitoring frequency	Continuous
QA/QC procedures	<p>Cross check against an estimate of fuel consumption assuming a cooking time (h/day) and stove fuel consumption from Bboxx product specifications</p> <p>Measurement of fuel loaded in cylinders using credible and calibrated equipment. Measuring device shall be in conformity with industry standard and calibrated according to relevant national requirements.</p>
Purpose of data	Emissions reductions calculation
Additional comment	In case direct metering is not applied, then the fuel purchases, which are summarized monthly, are automatically captured on a continuous basis.

## Transport emissions

Data / Parameter	$AD_{t3}$
Unit	km
Description	Distance of the trip route(s) considering the number of cylinders transported
Source of data	Bboxx data base
Value(s) applied	93,712
Measurement methods and procedures	<p>Transport between refilling station to shops and shops to customer home cannot exceed 10km.</p> <p>The number of cylinders per stove sold is considered, and it is determined that for each trip two cylinders will be carried on the motorcycle to determine the total trips per year.</p>
Monitoring frequency	Annual
QA/QC procedures	The total number of stoves sold should be monitored (parameter at the top) and consider the maximum distance the motorcycles travel to deliver the LPG cylinders to the end user.

Purpose of data	Project emissions
Additional comment	Period from June 2022 to December 2022

Data / Parameter	LEy
Unit	tCO2e/year
Description	Leakage in project scenario in year y
Source of data	REDUCED EMISSIONS FROM COOKING AND HEATING: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)
Value(s) applied	0.95
Measurement methods and procedures	Follow requirements of methodology: Option 1 is selected, apply a discount value of 0.95 to the emission reductions to approximate leakage emissions
Monitoring frequency	Annual
QA/QC procedures	NA
Purpose of data	Emissions reductions calculation
Additional comment	NA

## SDG 7

Data / Parameter	$N_{t,y}$
Unit	Number of project devices
Description	Number of project gas stoves distributed
Source of data	Data base
Value(s) applied	Stoves: 1,000
Measurement methods and procedures	The Sales Record of the Project will be updated at least annually.
Monitoring frequency	Annual
QA/QC procedures	Supporting evidence of sales record from VPA Implementer, Bboxx
Purpose of data	Calculation of SDG 7 indicator
Additional comment	Period from June 2022 to December 2022

Data / Parameter	$U_y$
Unit	Percentage
Description	Usage rate - Active end-users' proportion that use the project devices
Source of data	Bboxx Pulse
Value(s) applied	80%
Measurement methods and procedures	Real time measurement of device usage
Monitoring frequency	Annual
QA/QC procedures	Crosscheck with the database of active users
Purpose of data	Calculation of SDG 7
Additional comment	NA

## SDG 8

Data / Parameter	$E_T, E_{ec}, E_{et}$
Unit	Employments
Description	<p>Number of direct and indirect employments generated by the project activity desagregated by:</p> <ul style="list-style-type: none"> <li>• Total number</li> <li>• Employees by employment contract, by gender</li> <li>• Employees by employment type, by gender</li> </ul>
Source of data	Bbbox Human Resources database
Value(s) applied	$E_T = 490$  $E_{ec}$ = Permanent: 181, Temporary (agent + fixed term): 309  $E_{et}$ = Full-time: 490, Part-time: 0
Measurement methods and procedures	The database should be updated annually
Monitoring frequency	Annual
QA/QC procedures	NA
Purpose of data	Calculation of SDG 8
Additional comment	This value is for 2022. Jobs by gender will be available in the validation process

### B.7.2. Sampling plan

Considering that there are enough published data for the specific baseline of fuel/device combination, and reliable data to estimate consumers belonging to each group or type, the baseline survey will not be required.

According to the “Methodology for metered & measured energy cooking devices”, when sampling or surveys are utilized to define parameters, the sampling and surveys must be undertaken with reference values from other relevant data sources in mind, and project-specific survey and sampling results are expected to correlate with results from other relevant data sources.

In this way, a project survey could be useful to monitor the usage rate, especially for cook stoves in case the Pulse platform does not provide this information.

Since the population under study is homogenous, considering that all project activity end-users or customers have the same or similar conditions, a simple random sampling method will be employed across the VPA when drawing up a sample.

The number of users in Rwanda that will need to be sampled for a 90/10 confidence/precision will be determined, according to the “Sampling and surveys for CDM project activities and programmes of activities”. The random sample group is reselected for every monitoring period to ensure the selection remains random.

### B.7.3. Other elements of monitoring plan

#### **Sales Records and Project Database**

The Sales and Installation Record will be stored electronically and any paper records, where applicable, will be filled out by the shop technician.

The following data will be collected:

- The date of installation
- The location of the energy solutions beneficiaries
- Unique stove identification

- The total number of stoves installed
- Address and telephone number of all users
- Whether the stove will be used for commercial or domestic purposes

The Project Database is derived from the Installation Record. It is divided by different project scenarios if these were to occur because of the monitoring surveys. Technologies aged beyond their useful lifetime are removed from the Project Database and no longer credited.

### **Sustainable Development Goal (SDGs)**

Some quantitative and qualitative information of end-users shall be collected to disclosure the contribution of the project activity to Sustainable Development Goals. Information about the amount of fuel consumption and fuel sources, or air quality condition and public services conditions before the installation should be collected during the project implementation.



## SECTION C. DURATION AND CREDITING PERIOD

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

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

The start date of the project is 21/06/2022 defined as the date when the CME sold the first units in Rwanda under this Real Case VPA. The definition of the project start date follows section 4.1.40 of the GS4GG Principles & Requirements.

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

The project is expected to have an operational lifetime of 5 years, renewable

### **C.2. Crediting period of project**

#### **C.2.1. Start date of crediting period**

21/06/2022

#### **C.2.2. Total length of crediting period**

5 years twice renewable

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

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

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

Principles	Mitigation Measures added to the Monitoring Plan
<b>Emissions (Project emissions)</b>	Monitoring of the project emissions due to road and sea transportation of LPG

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

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	<p>The VPA meets the mandatory Gender Sensitive requirements by complying with the Gender Safeguarding Principles and Requirements.</p> <p>Both women and men will benefit from the project activities, no group is excluded from participating in the project activities or use of gas stoves.</p> <p>The project will decrease the workload of women in collecting the fuel source and cooking activities, therefore allowing more time to engage in other activities.</p> <p>Moreover, both men and women are encouraged to attend to the Stakeholder Consultation and express their opinions.</p>
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	<p>Regarding official government documentation on Gender Policy, Rwanda has the Strategic Plan 2017-2019 by the Gender Monitoring Office<sup>18</sup> National Gender and Equality, the National Gender</p>

<sup>18</sup> [http://gmo.gov.rw/fileadmin/user\\_upload/strategic/GMO%20Strategic%20Plan%202017-2022.pdf](http://gmo.gov.rw/fileadmin/user_upload/strategic/GMO%20Strategic%20Plan%202017-2022.pdf)

	<p>Policy<sup>19</sup> and the Gender Equality Strategy<sup>20</sup></p> <p>The project activity implementation will be aligned to these policy documents, so the best gender practices are considered and applied.</p>
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	An Expert is not required for the Gender Safeguarding Principles & Requirements
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Based on the answers on questions 1 and 2, there is no need of an expert to assist with Gender issues at the Stakeholder Consultation

<sup>19</sup> <https://evaw-global-database.unwomen.org/fr/countries/africa/rwanda/2010/national-gender-policy--2010->

<sup>20</sup> <https://www.undp.org/content/dam/rwanda/docs/demgov/Gender%20Equality%20Strategy.pdf>

## SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

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

### E.1. Summary of stakeholder mitigation measures

The physical meeting in Rwanda took place on 13/07/2022. Bboxx developed a presentation entitled "Distributed Emission Reductions by Bboxx Energy Solutions (Clean Cook)", which presents all the general and specific topics that participants in the consultation should be aware of and have knowledge of so that they can subsequently give their opinions, suggestions, questions or any comments about technical concepts or implementation of the clean energy distribution mitigation project in the identified country.

All comments are received and considered in the development of the project. The comments that were received during the physical meeting didn't involve alterations in the design of the project.

All stakeholders are invited to the feedback round of comments in the next phase, which will be described with their respective evidence and methods used to obtain comments to assist in the development and design of the project. The project information will be available through the agreed means accessible to the public, including details on the procedure and detailed contact details for the submission of additional comments. On the official Bboxx website at the following link: <https://www.bboxx.com/carbon-project-consultation/>, there is a tab called "Carbon Project Consultation" for Rwanda where the presentation of stoves is available for comments where they are addressed one by one to take them into account in the development and design of the project.

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

Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.
	Bboxx Ltd, England and Wales at Fifth Floor, 5 New Street Square, London, EC4A 3BF, United Kingdom
Continuous Input / Grievance Expression Process Book (mandatory)	<p>Telephone access  +44 (0)2089 873 195  +44 (0)7933 445 669</p> <p>Email contact  info@bboxx.co.uk  n.suzuki@bboxx.co.uk</p>
GS Contact (mandatory)	<a href="mailto:help@goldstandard.org">help@goldstandard.org</a>
Other	Not applicable

## SECTION F. Eligibility and inclusion criteria for VPAs inclusion

>>

The below table shall be completed for all VPAs.

The CME shall provide clear description on how eligibility criteria set at real case VPAs are complied with for each real case and regular VPAs submitted for inclusion.

The CME shall not change the eligibility criteria and required condition set at real case VPAs. At the time of inclusion of regular VPAs, the CME shall only describe how the regular VPAs comply with the eligibility criterion.

No.	Eligibility Criterion	Description/ Required condition	Description of the VPA in relation to the criteria, Means of Verification and Supporting evidence for inclusion
1	Location of the VPA	The geographical boundary of the VPA is within one of the countries included in the PoA	The VPA is located in Rwanda (section A.2), which is within the countries included in the geographical boundary of the PoA
2	No double counting of impacts	A unique numbering or identification system for the SHS and gas stoves in each VPA will be applied in addition to the CME logo. This shall ensure no double counting of SHS, SWP or stoves within the PoA and ensure that the systems can be identified as belonging to the PoA and to a specific customer	The project activity devices have been distributed under this VPA have a unique customer number in order to ensure no double counting of devices within the project activity. Customer information and technical specifications are linked to each serial number and available in the project database.
3	No double counting of VPA	The VPA, and any of its devices is exclusively bound to the PoA and not registered as an individual project/ or as a part of any other PoA under other carbon standards, ensuring that the VPA has the full title over the emission reductions generated by the VPA	The CME checked that the project activity is neither registered as an individual project or as part of another PoA in Gold Standard or any other standard.

4	Host Country Requirements	The VPA shall be in compliance with applicable Host Country's legal, environmental, ecological, and social regulations.	The VPA follows all legal, environmental, and social guidelines at the project implementation site, in this case Rwanda. It considers all the rules and regulations for the distribution and disposal of the technologies sold in homes and businesses in the locations.
5	Technology	Each VPA will involve the distribution of solar home systems (SHS) including LED lamps, solar water pumps (SWP) and/or gas stoves (both described in section A.3) according to the geographical user's distribution	The VPA involve the distribution of the technology established in section A.3 of this VPA- DD, specifically model AC0342 stove is considered, with 6 kg or 12.5 kg LPG cylinders  Other LPGs models could be distributed in Rwanda according to available possibilities during the project implementation
6	Start date	The start date will be specified in each VPA. For retroactive VPAs the start date should be maximum one year before the submission date to the Preliminary Review	The start date of the VPA is 21/06/2022 <sup>21</sup> . The first submission to Gold Standard POA master was 25/03/2022. Therefore, the start date carries out with the VPA inclusion conditions.
7	Applicability of methodologies	Each VPA will comply with the applicability criteria of the applied methodologies (AMS-III.BL, Version 1.0 and methodology for metered & measured energy cooking devices, Version 1.0)	The VPA is in accordance with the applied methodology as shown in section B.2 of this VPA-DD
8	Additionality	All VPAs to be included under the PoA will be in compliance with the additionality criteria presented in section C of this PoA	The additionality is demonstrated following the applicable methodologies' conditions for LPG stoves. See section B.5 of this document

<sup>21</sup> The conditions, legal evidence, and transactions of the start date definition is available to the VVB for validation purpose.

9	Non-diversion of ODA	The VPAs will not receive ODA	A declaration confirming that there is no diversion of ODA is attached with the VPA-DD. The corresponding statement is made in section A.5 of this VPA-DD
10	Target group	Each VPA will involve the distribution of the specified energy systems to residential and non-residential (commercial, industrial, etc.) end-users, located in rural and urban areas within the geographical boundary currently using fossil fuels or other non-renewable and unreliable energy methods for lighting and/or cooking and not connected to the electricity grid.	<p>The target group of the VPA correspond to households and commercial users that are located in the rural and urban areas of Rwanda that previously used inefficient cooking stoves practices.</p> <p>According to the Rwanda Household Survey 2019/2020 the target population is</p> <ul style="list-style-type: none"> <li>• 2,184,000 rural households</li> <li>• 524,000 urban households</li> </ul>
11	Sampling	Sampling should be in line with the applied methodologies according to the standard of sampling of surveys for program activities	The sampling of the VPA will be in line with the applied methodologies and specified in section B.7.2. of this VPA-DD in case that it would be necessary
12	VPA scale	The project activity can be categorized as small-scale activity or micro-scale activity per the CDM methodology requirements and in accordance with the GS4GG. Emission reductions achieved by each one of the activities considered under the PoA are limited to a maximum of 60,000 tonnes of CO <sub>2</sub> e in case of being small scale and 10,000 tonnes of CO <sub>2</sub> e in case of being micro scale, in any year of their crediting period	According to the level of project implementation in Rwanda, the VPA has the category of small scale, for clean cook technologies.
13	SDG assessment	It is expected to have positive outcomes for at least 3 SDGs, which will be	The outcomes for SDG assessment for this VPA are described in section B.6 of this VPA-DD.



		assessed using the Gold Standard SDG tool	The records for SDG 7, 8 & 13 are provided.
14	Voluntary activity	Each project activity corresponds to a voluntary action; therefore, it is not required by law	Activities developed under this VPA are totally voluntary and not required by law.

## APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

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

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
<b>Principle 1. Human Rights</b>			
1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights	No	The project developers are aware of the importance of respecting human rights and therefore are not complicit in violence or human right abuses as defined in the Universal Declaration of Human Rights <sup>22</sup>	N/A

<sup>22</sup> <http://www.claiminghumanrights.org/rwanda.html?&L=...i>

2. The Project shall not discriminate with regards to participation and inclusion	No	The project will not discriminate with regards to participation and discrimination as the gas stoves can be purchased by credit and used by anyone who is located within the geographical boundaries of the VPA	N/A
<b>Principle 2. Gender Equality</b>			
1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women	No	The implementation of the project activity does not contribute to adverse impacts on gender equality. Rwanda has ratified ILO 100 convention (Equal Remuneration) and 111 conventions (Discrimination-Employment and Occupation) <sup>23</sup> . The project is, by inviting women's organization and youth groups to the LSC, contributing to Rwanda's Gender Strategy ("Gender Accountability for	N/A

<sup>23</sup> [https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200\\_COUNTRY\\_ID:103460](https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103460)

		<p>Sustainable Development – Strategic Plan 2017-2022<sup>24</sup>)</p> <p>Moreover, women within the project boundary can access to gas stoves and be directly benefited since they are mostly responsible for cooking and domestic activities.</p> <p>The project activity will not restrict in any way women's rights or access to clean energy services</p>	
2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work	No	<p>Both women and men will benefit from the project activities, following the principles of non-discrimination and equal treatment.</p> <p>Any paid or volunteer work within the implementation of the project activity is framed under the principle of equal work, and equitable participation is intended</p>	N/A

<sup>24</sup> [http://gmo.gov.rw/fileadmin/user\\_upload/strategic/GMO%20Strategic%20Plan%202017-2022.pdf](http://gmo.gov.rw/fileadmin/user_upload/strategic/GMO%20Strategic%20Plan%202017-2022.pdf)

3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks (where required)	No	The project will not include any gender related risks. On the contrary, by recognizing the critical role that women play in the development of the country, the project is in line with the Gender Equality Strategy <sup>25</sup> and the country's long term development framework Vision 2020 <sup>26</sup> , which allows Rwanda to continue having one of the highest rates of female labour force participation in the world with more than 80% <sup>27</sup>	
4. Summary of opinions and recommendations of an Expert Stakeholder(s)	No	Not applicable	N/A
<b>Principle 3. Community Health, Safety and Working Conditions</b>			
1. The Project shall avoid community exposure to	No	The project activity does not expose the community to	N/A

<sup>25</sup> <https://www.undp.org/content/dam/rwanda/docs/demgov/Gender%20Equality%20Strategy.pdf>

<sup>26</sup> <https://repositories.lib.utexas.edu/bitstream/handle/2152/5071/4164.pdf>

<sup>27</sup> <https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=RW>

increased health risks and shall not adversely affect the health of the workers and the community		<p>increased health risks, thus not affecting the health of workers and community.</p> <p>Switching from charcoal to LPG has a positive impact in the community health, since less amount of air pollutants is released when cooking, improving in such way indoor air pollution.</p> <p>Furthermore, workers participating in this project are not exposed to unsafe or unhealthy environments since no hazardous chemicals or materials are used in the gas stoves distribution process.</p>	
<b>Principle 4.1 Sites of Cultural and Historical Heritage</b>			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	<p>The project does not include sites, structures, or objects with historical, cultural, artistic, traditional, or religious values.</p> <p>The distribution of cooking devices does not require the alteration, damage, or removal of any forms of culture, since it is target to household and micro-</p>	N/A

		business located in rural and peri-urban areas of Rwanda.	
<b>Principle 4.2 Forced Eviction and Displacement</b>			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	The project involves the distribution of efficient gas stoves in the rural and urban areas of Rwanda, and therefore there is no need to cause physical or economic relocation of people at any level	N/A
<b>Principle 4.3 Land Tenure and Other Rights</b>			
a.Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or access rights, usage rights or land ownership?	No	The project does not require changes to land tenure arrangements or to access usage rights or land ownerships.	N/A
b. For Projects involving land use tenure, are there any uncertainties with regards to land tenure, access rights, usage rights or land ownership?	No	Not applicable since the project does not involve land use tenure.	N/A
<b>Principle 4.4 - Indigenous people</b>			
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project	No	No relevant. The project activity does not involve any land occupation or territory claim.	N/A

located on land/territory claimed by indigenous peoples?		Access to affordable modern technology will only benefit the indigenous people in improving their quality of life	
<b>Principle 5. Corruption</b>			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects	No	The project shall not involve, be complicit in or contribute to reinforce corruption or corrupt projects considering that Bboxx and other project partners have ethical codes against corruption. In addition, the United Nations Convention against corruption was signed and ratified by Kenya on the 4 <sup>th</sup> of October 2006 <sup>28</sup> .	
<b>Principle 6.1 Labour Rights</b>			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the	No	Employment generated under this project follows the Labour Law: N° 66/2018 of 30/08/2018 <sup>29</sup> regulating labour in Rwanda, set out in 'Official Gazette no Special of 06/09/2018'	

<sup>28</sup> [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XVIII-14&chapter=18](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-14&chapter=18)

<sup>29</sup> [https://www.ilo.org/dyn/natlex/natlex4.detail?p\\_lang=en&p\\_isn=108704&p\\_country=RWA&p\\_count=411&p\\_classification=01.02&p\\_classcount=4](https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=108704&p_country=RWA&p_count=411&p_classification=01.02&p_classcount=4)



principles and standards embodied in the ILO fundamental conventions		Moreover, it follows the principles and standards embodied in the ILO fundamental conventions <sup>30</sup> : convention 29 (Forced Labour Convention) and 105 (Abolition of Forced Labour Convention).	
2. Workers shall be able to establish and join labour organisations	No	Workers under this project can establish and join labour organisations according to the ILO convention 98: Right to Organise and Collective Bargaining Convention, which was ratified by Rwanda.	N/A
3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours per week on a regular basis), AND b) Duties and tasks, AND	No	The working agreements with individual workers are framed under the Labour Law <sup>31</sup> and are documented and include the minimum requirements regarding working hours, duties and tasks, remuneration, modalities on health insurance, contract	N/A

<sup>30</sup> [https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200\\_COUNTRY\\_ID:103460](https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103460)

<sup>31</sup> [https://www.ilo.org/dyn/travail/docs/530/rwanda\\_labour\\_law.pdf](https://www.ilo.org/dyn/travail/docs/530/rwanda_labour_law.pdf)

<ul style="list-style-type: none"> <li>c) Remuneration (must include provision for payment of overtime), AND</li> <li>d) Modalities on health insurance, AND</li> <li>e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND</li> <li>f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave</li> </ul>		<p>termination conditions, permission for annual leave.</p>	
<p>4. No child labour is allowed (Exceptions for children working on their families' property requires an <a href="#">Expert Stakeholder</a> opinion)</p>	<p>No</p>	<p>All personnel working in this project is above 16, respecting in such way the minimum age requirement stated by the Labour Law</p>	<p>N/A</p>
<p>5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures</p>	<p>No</p>	<p>All works within the project activity will be carried out using the appropriate equipment and personnel training. Documentation and reporting of accidents, incidents and emergencies will be done, and the respectively measures will be taken.</p>	<p>N/A</p>

Principle 6.2 Negative Economic Consequences			
Appendix 1.	Does the project cause negative economic consequences during and after project implementation?	No	The project has positive economic consequences since it is based in the commercial model PAYG (Pay as you go), where customers pay only for the energy they use. If the customer keeps paying for the service, the ownership of the appliance's transfers to the customer within 3 years
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project will provide reductions in comparison to the baseline scenario, since it replaces charcoal and fuelwood with LPG, which has a lower emission factor	N/A
>>			
Principle 7.2 Energy Supply			
Will the Project use energy from a local grid or power supply (i.e., not connected to a national or regional grid) or fuel resource (such as wood, biomass) that provides for other local users?	No	The project involves the use of LPG; hence, it does not use energy from a local grid or power supply, nor use other local resources that could impact other local users.	N/A

>>		LPG is considered as a commodity and is imported, since no domestic production of natural gas is performed in Rwanda.	
<b>Principle 8.1 Impact on Natural Water Patterns/Flows</b>			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The project does not negatively impact natural or existing patterns of watercourses, groundwater and/or watersheds.	N/A
>>			
<b>Principle 8.2 Erosion and/or Water Body Instability</b>			
a. Could the Project directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion?	No	The project does not involve any activity that may cause erosion and/or water body instability in a directly or indirectly way	N/A
>>			
b. Is the Project's area of influence susceptible to excessive erosion and/or water body instability?	No	The project area is not susceptible to excessive erosion and/or water body instability	
<b>Principle 9.1 Landscape Modification and Soil</b>			

Does the Project involve the use of land and soil for production of crops or other products?	No	The project does not involve the use of land and soil to produce any kind of product	N/A
>>			
<b>Principle 9.2 Vulnerability to Natural Disaster</b>			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project has no connection with increasing vulnerability to any extreme climatic condition	N/A
>>			
<b>Principle 9.3 Genetic Resources</b>			
Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The project does not involve GMOs and has no possibility of being impacted by GMOS	N/A
>>			
<b>Principle 9.4 Release of pollutants</b>			

Could the Project potentially result in the release of pollutants to the environment?	No	The project reduces the amount of air pollutants in comparison to the baseline. As for water and land pollutants, the distribution of gas stoves do not contribute to releasing these kind of pollutants	
>>			
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/or use of hazardous and non-hazardous chemicals and/or materials?	No	The Project will not involve the manufacture, trade, release and/or use of chemicals. There is no disposal process of the cylinders and stoves by the final users. Bboxx will collect all materials and elements of LPG devices as part of commercial activities.	Bboxx has an internal disposal procedure as described below:  - Find disposal partners: get quotes from different recycling companies, understand how they use the products, request environmental certificates, and ensure they adhere to all local regulations, negotiate the contract for review and signature.  - Sign disposed stock into disposal location: ensure internal stock moves, set clear stock locations for each product, and determine the storage
>>			

			<p>capacity, store each type of disposal separately.</p> <ul style="list-style-type: none"> <li>- Review list of items to be disposed of: receive the list of items to be disposed, review the list, and ensure no main product is disposed of, unless the product is broken and cant repaired, only legacy products approved for write off can be disposed of as full products without having to dismantled them.</li> <li>- Approval: Check that all procedures are complying.</li> <li>- Financial impact of disposal: calculate impact of disposal, send someone from bbox team for physical inspection, provide details.</li> </ul>
--	--	--	--

Principle 9.6 Pesticides & Fertilisers			
Will the Project involve the application of pesticides and/or fertilisers?	No	The project does not involve the application of pesticides and/or fertilizers as part of its activities	N/A
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	No harvesting of forests is involved as part of the project	N/A
>>			
Principle 9.8 Food			
Does the Project modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives?	No	The project has no impact on the quantity or nutritional quality of food available	N/A
>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	No animal husbandry is involved in the project development	N/A
>>			
Principle 9.10 High Conservation Value Areas and Critical Habitats			
Does the Project physically affect or alter largely intact or High	No	The project location does not include High Conservation Value	N/A



Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?		areas, so no physical affectation is expected with the project implementation	
>>			
<b>Principle 9.11 Endangered Species</b>			
a. Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)?	No	No endangered species are identifies as potentially being present within the project boundary, which is the areas where the gas stoves are distributed.	N/A
b. Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	The project activity It is not expected to potentially impact other areas where endangered species be present through transboundary affects	N/A

## APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

Organization name	Bboxx Ltd.
Registration number with relevant authority	
Street/P.O. Box	9B Power Road
Building	
City	London
State/Region	
Postcode	W4 5PY
Country	England, United Kingdom
Telephone	+44-79-3344-5669
E-mail	n.suzuki@bboxx.co.uk
Website	<a href="https://www.bboxx.com/">https://www.bboxx.com/</a>
Contact person	Norio Suzuki
Title	Focal Point
Salutation	Mr.
Last name	Suzuky
Middle name	
First name	Norio
Department	
Mobile	
Direct tel.	+44-79-3344-5669
Personal e-mail	n.suzuki@bboxx.co.uk

## APPENDIX 3- LUF ADDITIONAL INFORMATION

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

## APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

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

## APPENDIX 5- DOCUMENT LIST

1. Legal ownership of GHG Emission Reductions.doc
2. Project database.xls
3. Product brochure\_2021.pdf

## Revision History

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