

TEMPLATE

KEY PROJECT INFORMATION & VPA DESIGN DOCUMENT (PDD)

PUBLICATION DATE 25/10/2022

VERSION v. 2.1

RELATED SUPPORT Programme of Activity requirements and procedures

This document contains the following Sections

KEY PROJECT INFORMATION

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AND/OR DEMONSTRATION OF SDG CONTRIBUTIONS

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KEY PROJECT INFORMATION

Type of VPA	☐ Real case VPA (An actual activity implemented/proposed to be implemented under a PoA that sets out a specific regulatory and design framework to be followed by similar regular VPAs. It is distinguished with other real case VPAs based on aspects like; technology/measure types, host country, end user type etc) ☒ Regular VPA (An activity involving single measure or a set of interrelated measures implemented under a PoA that follow the framework/requirements set out by an associated real case VPA and PoA)
Scale of VPA Note that a VPA can be of one scale. Please select applicable scale accordingly.	☐ Microscale ☐ Small scale ☒ Large scale <i>Refer to corresponding Activity Requirements for definition of the scale of PoA. A regular VPA shall comply with the scale requirements as defined at corresponding real case VPA.</i>
Title of corresponding real case VPA (if applicable)	Community Carbon Efficient Cooking Programme - VPA1
GS ID of real case VPA (if applicable)	10967
GS ID of VPA	GS 12119
Title of VPA	Community Carbon Efficient Cooking Programme- VPA 16
Time of First Submission Date	23/03/2023
Date of Design Certification	24/07/2023
Version number of the VPA-DD	4
Completion date of version	18/08/2023
Coordinating/managing entity	UpEnergy Group
VPA Implementer (s)	Community Carbon

Project Participants and any communities involved	UpEnergy Uganda Ltd.
Host Country (ies)	Uganda
GS ID and Title of applicable Design Certified VPA	N/A
GS ID and Title of applicable Performance Certified VPA	-
Activity Requirements applied	☒ Community Services Activities (in general – off grid renewable energy, distributed technology, biogas, WASH) ☐ Renewable Energy Activities (in general – renewable energy projects connected to national or regional grids or industrial facilities) ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A (projects that do not fall into either of the above, for example Shipping) Refer to the activity requirements for specific criteria
Other Requirements applied	☒ Programme of Activity requirements and procedures (PoA Requirements mandatory) Use this space to list requirements applicable to certain types of projects. E.g. microscale
Methodology (ies) applied and version number	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), version 3.1
Product Requirements applied	☒ GHG Emissions Reductions & Sequestration (required to issue VERs/PERs and label CERs) ☐ Renewable Energy Label (required to label Renewable Energy Certificates) ☐ N/A (This is the rare case when a project chooses to issue neither emission reductions/labels or renewable energy labels)

VPA Cycle:	☒ Regular (<i>Stakeholder Consultation (first round) has been conducted before the Start Date of the VPA</i>) ☐ Retroactive (<i>Stakeholder Consultation (first round) is conducted after the Start Date of the VPA</i>) <i>Retroactive VPAs can claim GS VERs/CERs for a max 2 years prior to the date of design certification.</i>
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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)	Emission Reductions	632,931	tCO2(eq)
1 (No poverty)	Percentage of users reporting money savings due to reduction in purchased fuel consumption in project	100	%
3 (Good Health and Well being)	Percentage of users reporting reduction in smoke/PM after shifting to ICS in project	100	%
5 (Gender Equality)	Percentage of users reporting time saving due to reduction in collected fuel consumption/cooking time	95	%
7 (Affordable and Clean Energy)	Number of households with operational stoves	130,000	-
8 (Decent Work and Economic Growth)	Total number of jobs created	17	-
12 (Responsible Consumption and Production)	Average percentage fuel savings reported by users in the project	55	%

15 (Life on Land)	Fuelwood equivalent savings reported by users in the project	1132	tonnes- equivalent fuelwood/day
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SECTION A. DESCRIPTION OF PROJECT

A.1. Purpose and general description of project

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The purpose of the VPA is to provide residential users with clean cooking technologies such as electric cooktop/cooker (EPC) and energy-efficient cookstoves (ICS) that moves end-users up the energy ladder and reduce greenhouse gas (GHG) emissions from the burning of non-renewable woody biomass and/or charcoal for cooking in Uganda.

The VPA is implemented by Community Carbon & UpEnergy Group is the Coordinating and Managing Entity (CME) of the PoA. Community Carbon will implement the programme in partnership with local partners and would ensure the last-mile distribution/installation of the Improved Cookstoves to the beneficiaries.

More than 2.6 billion people in world lack access to clean cooking facilities, relying instead on solid biomass, kerosene or coal as their primary cooking fuel¹. According to statistics¹, household air pollution, mostly from cooking smoke, is linked to around 2.5 million premature deaths annually worldwide.

The lack of access to clean cooking remains very acute in sub-Saharan Africa with only 17% population having clean cooking access. The vast majority of people in sub-Saharan Africa thus rely on gathering biomass for cooking, in particular in rural areas, which dramatically damages health and impairs productivity improvements. Almost 490 000 premature deaths² per year are related to household air pollution from the lack of access to clean cooking facilities, with women and children the worst affected. Forest degradation, sometimes leading to deforestation, is another serious consequence of the

¹ IEA (2020), SDG7: Data and Projections, IEA, Paris <https://www.iea.org/reports/sdg7-data-and-projections>

² IEA (2020), SDG7: Data and Projections, IEA, Paris <https://www.iea.org/reports/sdg7-data-and-projections>

unsustainable harvesting of fuelwood. Clean cooking solutions such as Electric cooktop/cooker avoids any use of non-renewable biomass/charcoal and thereby reducing GHG emissions. Improved Cookstoves (ICS) improve heat transfer efficiency as compared to the baseline conventional stoves, thereby reducing both the amount of fuel used by ICS and GHG emissions from the burning of non-renewable woody biomass and/or charcoal.

CME approves VPA-16 (GS ID: 12119) to be included under the PoA 10963.

A.1.1. Eligibility of the VPA under approved PoA

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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 VPA is located within the geographical boundary of one of the countries included in the PoA.	Improved Cookstoves (ICS) ³ will be distributed to residential users within the geographic boundary of Uganda which is within the boundary of PoA.
2	Type of project	Projects will involve the distribution of energy-efficient cooking technologies or safe drinking water systems to residential/institutions/commercial users.	VPA includes distribution of ICS to residential users. Detailed information on technology is given in Section A.3 of VPA-DD.

³ For simplicity, the remaining section of the document will mention Improved cookstove (ICS) and it is assumed it includes all the technologies such as Electric cooktop/cooker, energy-efficient improved wood/charcoal stoves.

3	No Double counting of Clean Energy Products (CEPs) and VPAs within this PoA and across other PoAs	A unique numbering or identification system for the CEP installed is applied. This shall ensure no double counting of stoves within the PoA and ensure that stoves can be identified as belonging to this PoA and not to a PoA managed by any other CME.	Each ICS distributed under the PoA will have the UpE logo or Brand name (Smart Home or similar) and unique serial number on the product. The unique serial number along with the customer details (name, address, is also stored in the sales database along with the unique serial number assigned to each product and the VPA assigned to it.
4	No Double counting of VPA	The VPA is exclusively bound to the PoA. The VPA shall not be proposed as an individual Gold Standard or	At the point of sale, sales receipts are signed by the customers having a declaration that they are not part of any other programme. Customers are made aware about this clause before they sign the receipts. During the project implementation period, end users are also asked if they part of any other programme (ICS or WPS or Borehole projects); during the project implementation period, if it has been found that any of the end user is part of other project activity, that particular end user will not be considered in the ER calculation and will not be part of any of the project activity's ex-post surveys. The carbon standard registries including UNFCCC, GS and VERRA

		CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits. A statement shall be included in the VPA-DD that the specific VPA will not be part of another single Gold Standard or CDM project activity or VPA under another PoA and confirmed by the Partner Organization (PO) implementing the VPA.	have been checked and it is confirmed that the VPA has not been registered as an individual Gold Standard or CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits.
5	Awareness and agreement of those operating a VPA on PoA subscription	Contractual provisions to ensure that those operating the VPA are aware and have agreed that their activity is being subscribed to the PoA. In the case that the CME is not responsible for implementing the VPA, the organization responsible for VPA implementation has signed a contractual agreement with the CME to participate in the PoA. This agreement: Defines the ownership of the carbon emission reduction rights - Covers the distribution and monitoring related responsibilities of the parties involved - Confirms that the CEPs to be distributed under the VPA have not and will not be distributed under any other carbon project (CDM project, PoA or Gold Standard project) - Cedes the rights to the carbon credits generated from VPAs under the PoA to the CME.	Community Carbon will be implementing the project. Contractual agreement is in place between VPA implementer and CME.
6	Non-diversion of ODA in case of public funding	The CME and the VPA operator (in case of being different from the CME) shall confirm that there is no public funding or in the case of	It is confirmed that there is no diversion of ODA. An ODA declaration confirming

		public funding, the annex I party the same has been will confirm that funding is not a submitted to GS. diversion of Official Development Assistance.	
7	VPA Crediting Period	VPA crediting period not to exceed the PoA end date and the starting date of the crediting period of a VPA shall be on or after: (i) the VPA crediting period start date is either the VPA Start Date or two years prior to the date of Design Certification whichever is later.	The VPA's crediting period commenced on 01/05/2022 (start date of project activity). The VPA will have a crediting period of 5 years which can be renewed twice, i.e. in total a maximum period of 15 years. The VPA crediting period will not exceed the end date of the registered PoA.
8	Approval of VPA by CME	CME approves each VPA to be included into its registered PoA.	Statement of CME in each VPA-DD giving approval for the VPA to be included into its registered PoA.
9	Methodology Requirement	Each VPA will comply with the applicability criteria of the applied methodology (TPDDTEC, version 03.1)	The VPA complies with all applicability criteria of TPDDTEC, version 03.1. A detailed justification is provided in Section B.2 of VPA-DD.
10	Financial Additionality	VPA level additionality are proven using one of the following options: Option-1: Projects located in LDC, LLDC, SIDS according to 4.1.9 (b) of 'Community Services Activity Requirements' Option 2: In accordance with item 1.1.3 of Annex B – positive list mentioned in the '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	The project is implemented in Uganda which is an LDC/LLDC and according to 4.1.9(b) of the 'Community Services Activity Requirements' deemed additional.

		Financial Additionality at the time of Design Certification: Project activities solely composed of isolated units where the users of the technology/measure are households or communities or institutions and where each unit results in – ICS: ≤ 600 MWh/1.8 GWhth of energy savings per year or WPS: ≤ 600 tonnes of emission reductions per year. The VPAs will use either or both options to demonstrate the additionality
11	Scale of the VPA	VPAs included under the PoA can be either small or large scale. VPA-DD is a large scale VPA and will not make any claim for suppressed demand. In case of large scale VPAs, CME shall confirm that there is no suppressed demand claim. In case of small-scale threshold of 60,000 tCO₂/crediting year for safe water VPAs and 180 GWhth for ICS VPAs will be adhered.
12	Project Technology	Specification of technology or measures, such as the level and type of service, as well as performance specification based on, intra alia, testing/certification Project technology along with technical specifications is outlined in section A.3
13	Sampling	Sampling approaches are set out in each VPA and will follow the described in VPA-DD as per TPDDTEC v3.1 and emission applied methodology reduction from safe drinking water requirements. supply-version 1.0 methodology. For safe water cross-VPA sampling a maximum of 10 VPAs can be grouped.
14	Multi-country PoA	In accordance with 17.1.2 "Programme of Activity for Uganda which is one of Requirements", an exception is the countries in the approved for the development approved deviation request multi-country PoA. The VPA-DD "POA-17.003". developed should be part of this approved deviation request

		(Deviation reference- "POA-17.003") batching. As per 17.1.4 of "PoA Requirements", one VPA shall be submitted at the time of design certification and subsequent VPAs for other countries shall be included at a later stage.	
15	SDG Outcomes	A minimum of two SDG outcome to be included in addition to SDG-13	All VPA-DDs will include a minimum of three SDG impact assessment including SDG-13. SDG targets and impact are described in section A.4 of the document

As per section 3.1.1 of GS4GG Principles & Requirements, compliance with relevant Eligibility criteria is demonstrated below:

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
1. Types of Projects	Eligible projects shall include physical action/implementation on the ground. Pre-identified eligible project types are identified in the Eligibility Principles and Requirements section.	Project is already one of the pre identified types as per section 3.1.1 (b) and automatically eligible for Gold Standard Certification as per section 4.1.3 of GS4GG Principles & Requirements.
2. Location of Project	Projects may be located in any part of the world.	Location of the VPA is the country of Uganda.
3. Project Area, Project Boundary and Scale	The Project Area and Project Boundary shall be defined. Projects may be developed at any scale although certain rules, requirements and limitations may apply under specific Activity Requirements, Impact Quantification Methodologies and Products Requirements. In order to avoid double counting the Project shall not be included in any other voluntary or compliance standards programme unless	The boundary for the VPA in terms of a geographical area is defined as the territorial boundary of Uganda. All voluntary programme activities (VPAs) associated with this PoA will be implemented within the geographical boundary of the PoA. To avoid inclusion of any stove which is a part of another registered carbon project/ programme, all ICS under this programme shall have a unique ID number / Tag number,

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
	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)	either inscribed on the stove or retained by the buyer, to uniquely identify the ICS avoiding any double counting and trace its user, later during monitoring and verification.
4. Host Country Requirements	Projects shall be in compliance with applicable Host Country's legal, environmental, ecological and social regulations.	The PoA complies with Uganda legal, environmental and ecological and social regulations.
5. 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	Name and Contact details of Project Participants is given in the Appendix 2. Legal registration details: Community Carbon is duly incorporated under the provisions of the Companies Act 2001 as Category 1 Global Business Company by Republic of Mauritius on 03/06/2022. Company Registration No: 188181. Relevant document is submitted.

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
	Standard where reputational concerns are highlighted.	
6. 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.	Criteria for transfer of carbon credit ownership: • For regular cycle VPA, this shall be ensured through relevant provisions for example disclaimer on warranty/information cards, stove packaging, customer agreements / sales receipts / consent form or may be collected via monitoring app etc. or collecting stakeholder feedback on this issue during local stakeholder consultation (LSC) • For retroactive VPA, this shall be ensured through relevant provisions for example disclaimer on warranty cards, stove packaging, customer agreements / sales receipts/ consent form or may be collected via monitoring app, etc. or stakeholder feedback collected during Stakeholder Feedback Round (SFR).
7. 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	Not applicable

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
	to Gold Standard by the Project Developer and resolved prior to further project implementation in affected areas.	
8. Official Development Assistance (ODA) Declaration	All Project Developers applying for project activities located in a country named by the OECD Development Assistance Committee's ODA recipient list and seeking Gold Standard Certification for carbon credits shall declare the Official Development Assistance (ODA) support. The Project Developer shall follow the GHG Emissions Reduction & Sequestration Product Requirements and submit the declaration at the time of Design Certification.	No ODA is involved in the PoA. A declaration is being submitted.

Eligibility under Gold Standard Community Services Activity (CSA) Requirements

As per section 3 of GS4GG Community Services Activity (CSA) Requirements, Eligibility criteria is defined below:

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
1. Eligible Project Types	All CSA Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to services/resources at the household level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	The goal of the proposed VPA is to distribute ICS (improving access to services) in residential within the national borders of Uganda.
2. GENERAL ELIGIBILITY CRITERIA -	(b) End-use energy efficiency: Project activities that reduce energy requirements as	The VPA involves distribution of energy efficient ICS to residential in Uganda.

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
Type of project	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.	
3. GENERAL ELIGIBILITY CRITERIA – Project Area, Boundary and scale	Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies and Product Requirements.	The project area is point location of ICS beneficiaries in the host country of the VPA. The project boundary will be limited to the geographical boundary of the host country
4. GENERAL ELIGIBILITY CRITERIA – Legal Ownership	(a) Projects involving the distribution of a large number of devices for 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 the 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 local stakeholder	The CEP owners will be transferring their rights on ownership of carbon credits to CME via the end user agreement /consent form via monitoring app etc. The same will be discussed during stakeholder consultations.

Eligibility Criteria Category	Eligibility criterion - Required condition	Justification
	consultations for projects.	

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

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Community Carbon has the legal ownership of the Verified Emission Reductions (VERs) that are generated through the Gold Standard Certification. The carbon title for the product is signed off by end user directly to Community Carbon waiving any claim or rights on carbon credits generated under the VPA.

A.2. Location of VPA

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Host Party: Uganda

Region/State/Province: All across Uganda

City/Town/Community: All across Uganda

The geographical location of Uganda is depicted by the map below. The country is located on the East African plateau lying mostly between latitudes 4°N and 2°S and longitudes 29° and 35°E.



Figure A.1 - The physical/geographical boundary of the VPA: Uganda

A.3. Technologies and/or measures

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The VPA will include following distribution of Improved cookstoves/Electric Pressure cooker to both residential and commercial users. The programme will replace conventional charcoal stoves, with high efficiency efficient stoves (charcoal/Electric cooking). The baseline stoves are “Three stone / traditional firewood / traditional charcoal stoves”. Improved cookstoves are more efficient than conventional biomass stoves as they reduce heat loss and improve heat transfer and/or combustion efficiency.

Sustainable Development Goals Target	How the project contributes to the identified SDG
13 Climate Action (mandatory)	The emissions from the project stoves are lesser than the baseline stove therefore reducing the GHG emitted.

1 Poverty	Projects leads to money saving from less fuel consumption in the cleaner technology
3 Good Health and Wellbeing	The project results in lesser emissions of CO/PM2.5 therefore improving health of the end-users
5 Gender Equality	Project alleviates the strain on women by reducing the time spent on cooking and fuel collection
7 Affordable and Clean Energy	Project provides access to affordable and cleaner technology for cooking
8 Decent Work and Economic Growth	The project involves distribution of cleaner technology which in turn means number of people will be employed to make the programme a success
12 Responsible Consumption and Production	Project results in reduction in fuel consumption as compared to baseline
15 Life on Land	Project results in reduction in fuel consumption as compared to baseline which in turn reduces deforestation.

The models and products to be distributed under the VPA are as follows:

1. Electric Models

The below examples are just indicative, the actual model specification can be different than below and shown in figure below. New electric cookstove models can be introduced at any time during project implementation based on end-user response.

- a. Model: SmartHome Electric pressure cooker
 - Capacity: 6 liters
 - Power: 1000-1190 watt
 - Voltage: 220-240V 50/60 Hz
 - Size: 38 x 34 x 33 cm
 - Weight: 5.9 kg
 - Time and Power savings: 70% faster than conventional cooking
 - Inner Pot: Aluminum non-stick pot
 - Average Lifespan: 5 years



Figure 2: SmartHome Electric pressure cooker

2. Improved Cookstoves (biomass)

The improved cookstoves reduce fuel consumption through use of a ceramic liner that increases combustion efficiency and retains heat. The stoves consist of a metal frame (called cladding) with interior ceramic liner for thermal insulation. The ICS has a provision that allows ash collection at the base. A thin layer of cement is placed between the cladding and the liner to bind the two. During use, a single pot rests at the top the stove. The fixed/inbuilt types are finished with either selected bricks, tiles or stainless steel. The movable types are of metallic stainless-steel cladding. The insulations include of pumice, mica, vermiculite and are bonded with ordinary cement. The smoke extracts through the chimney pipes which are metallic. The fitting stainless steel saucepans are

of the thickness 3mm bottom and 2mm sides. The average lifespan of the improved cookstoves with residential use is 5 years⁴.

a. Examples of residential improved cookstoves are given below



Figure 3a: Residential cookstoves

The technical specification of few models is shown in below table. Other models will be distributed in the PoA during the course of its crediting period.

Product Model	Dimension (In cm)	Avg. unit weight (In kg)	Thermal Efficiency (In %)	Estimated life (in years)	Fuel Type
Smart Home Pro	(Ø 28 x 26 H)	12.00	37.90	5	Charcoal
RH Stove	(Ø 26.5 x 22 H)	12.00	36.30	5	
TG Stove ⁵	(Ø 27 x 23.5 H)	12.50	35.90	5	
SpendSmart Stove (SST)	(Ø 23.9 x 24.4 H)	6.87	36.30	5	
EE Stove	(Ø 23.93 x 24.43 H)	8.40	33.00	5	

⁴ The lifetime of the ICS depends on usage rates and maintenance and may go beyond 5 years.

⁵ The efficiency value for TG stove is considered as the median from which +-5% is calculated

Other models for all cooking technologies for residential may also be distributed in this VPA over time.

A.4. Scale of the VPA

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The VPA is a large-scale project activity. The applied TPDDTEC methodology allows largescale project activities.

A.5. Funding sources of VPA

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There is no public funding for the PoA. No ODA funding will be used, as confirmed by signed ODA Declarations submitted to GS.

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

B.1. Reference of approved methodology (ies)

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Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 3.1.

Requirements and Guidelines for carrying out usage surveys for projects implementing improved cooking devices version 2.

Tool:-

CDM Methodological tool 5: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0.

CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 03.0.

B.2. Applicability of methodology (ies)

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The table below lists each of the methodology applicability requirements and how the VPA complies with each of the criteria:

S.No	Methodology applicability requirement	Justification
1	This methodology is applicable to programmes or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non-domestic premises	This VPA includes distribution of efficient improved cookstoves (ICS) reducing greenhouse gas (GHG) emissions from thermal energy consumption due to burning of non-renewable woody biomass and/or charcoal for cooking in Uganda for residential users.
2.	The project activity is implemented by a project proponent and can include additional project participants. The individual households do not act as project participants.	This VPA is implemented by Community Carbon. UpEnergy is the CME of the PoA. The individual households do not act as project participants.
3.	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 geographical project boundary of this VPA is defined as the country of Uganda (also detailed in Section A.2 of this document). The carbon standard registries including UNFCCC, GS and VERRA have been checked and it is confirmed that the VPA has not been registered as an individual Gold Standard or CDM project and/or as a part of any other CDM PoA and/or any other mechanism to avail climate change mitigation benefits. Hence, it can be confirmed that double counting is being avoided. Each ICS distributed under the PoA will have the UpE logo and unique

		serial number on the product. The unique serial number along with the customer details (name, address, is also stored in the sales database along with the unique serial number assigned to each product and the VPA assigned to it.
4.	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.	The ICS distributed under this VPA have a capacity of less than the maximum 150kW per unit.
5.	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	As such, users will be encouraged to discontinue and remove the baseline stoves. However, if some of the users still continue to use the baseline stoves, the same shall be captured during the annual monitoring surveys and will be accounted for in the emission reduction calculations as part of the project Kitchen Performance Test.

	understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology.	
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.	Community Carbon will ensure that all local partners (if any) and end users are aware of the fact that Community Carbon is claiming ownership rights of and selling the emission reductions resulting from the project activity. It will be communicated to end users at the time of installation/ distribution.
7.	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	The project activity complies with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules.

	activity AND existing plantations that were established in the context of other activities but will supply biomass feedstock.	
8.	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.	Not applicable since this criterion is applicable only in case of introduction of a new biomass feedstock. CME will still capture the reduction in indoor air pollution qualitatively through annual monitoring surveys by asking end users if the indoor air pollution has improved since the introduction of ICS.
9.	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 2.0 of the 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 emissions, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly.	Not applicable since this criterion is applicable only in case of introduction of a new biomass feedstock.

The table below lists “Global Goals Community Services Activity Requirements”, version 1.2 requirements and how the VPA complies with the criteria:

S.No	Community Services Activity Requirements	Justification
1	Para 3.1.1: All CSA Projects shall lead to climate change mitigation and/or adaptation by providing or improving access to services/resources at the household or community level. Eligible services include electricity and energy, water and sanitation, waste management, housing, etc.	This VPA includes distribution of efficient improved cookstoves (ICS) reducing greenhouse gas (GHG) emissions from thermal energy consumption due to burning of non-renewable woody biomass and/or charcoal for cooking in Uganda for residential users. Therefore, the project falls under Type b (End-use energy efficiency) of Pre-identified CSA project types.
2	Para 3.1.2: Project Area and Boundary shall be defined in line with the applicable Impact Quantification Methodologies and Product Requirements	The geographical project boundary of this VPA is defined as the country of Uganda (also detailed in Section A.2 of this document).
3	Para 3.1.3: Certain Impact Quantification methodologies allow projects to account Suppressed Demand scenario when establishing a baseline. In such cases, the application of Suppressed Demand baseline is limited to Small Scale and Microscale Projects.	This VPA does not apply suppressed demand scenario.
4	Para 3.1.4: Projects involving the distribution of a large number of devices for services such as heating, cooking, lighting, electricity generation, water treatment technology such as water	Community Carbon will ensure that all local partners (if any) and end users are aware of the fact that Community Carbon is claiming ownership rights of and selling the

	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 the FPIC requirement, the proofs that end-users are aware of and willing to give up their rights on Products shall be provided. The transfer of Product ownership shall be discussed during local stakeholder consultations for projects.	emission reductions resulting from the project activity. It will be communicated to end users at the time of installation/ distribution and during local stakeholder consultations for projects. The carbon title for the product will be signed off by end user to Community Carbon waiving any claim or rights on carbon credits generated under the VPA.
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B.3. VPA boundary

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The project boundary is all across Uganda. The country is located on the east African plateau lying mostly between latitudes 4°N and 2°S and longitudes 29° and 35°E. Schematic representation of baseline and project cookstoves is given in figure B.1 and figure B.2 below.

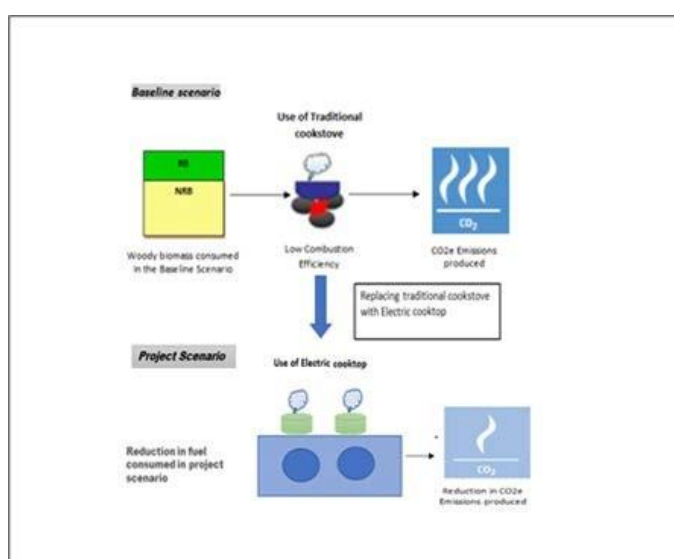


Figure B.1: Flow Diagram: baseline and project scenarios
(Electric cooking)

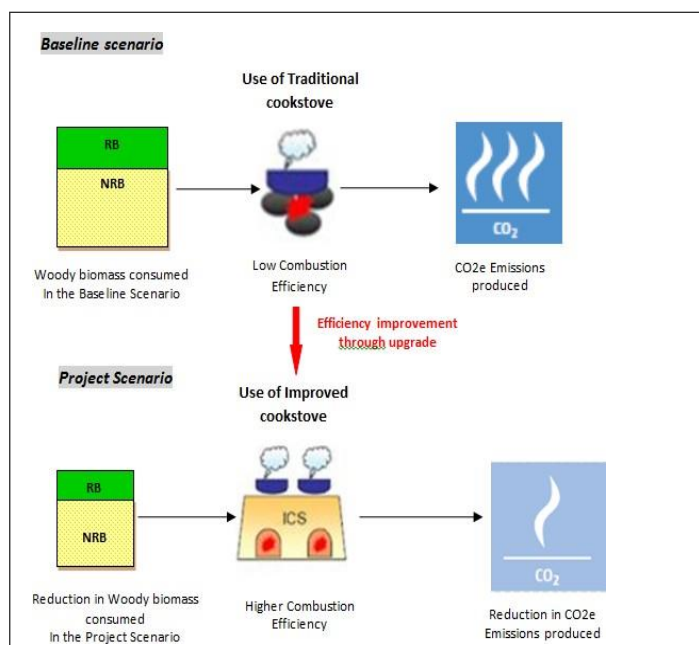


Figure B.2: Flow Diagram: baseline and project scenarios (ICS)

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Combustion of non-renewable biomass for cooking	CO ₂	Yes	Main source of emission in the baseline
		CH ₄	Yes	Important source of emissions
		N ₂ O	Yes	Important source of emissions
Project scenario	Combustion of non-renewable biomass for cooking	CO ₂	Yes	Main source of emission in the project scenario
		CH ₄	Yes	Important source of emissions
		N ₂ O	Yes	Important source of emissions
	Consumption of electricity for cooking	CO ₂	Yes	Main source of emission in the project scenario
		CH ₄	No	Important source of emissions
		N ₂ O	No	Excluded

B.4. Establishment and description of baseline scenario

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Baseline scenario

The baseline scenario as per the applied methodology TPDDTEC, version 3.1, is defined by the typical baseline fuel consumption patterns in a population that is targeted for adoption of the project technology.

The baseline study was conducted in four administrative regions of Uganda namely Northern, Eastern, Central and Western regions. The target population selected were biomass cookstove users both in urban and rural sectors in all four administrative regions of Uganda. Literature review of recognized journals and Demographic and Health Survey (DHS) report 2018 were carried out as a cross check mechanism. As per the DHS report, about 96% households using solid fuel for cooking needs in which 74% using fuel wood and 22% using charcoal as fuel. The penetration of improved cookstove in Uganda is 5%.

First, stratified representative sampling was applied at the national level by disaggregating the country into its four primary administrative regions: Central, Eastern, Northern and Western. These regions have become the natural boundaries for government statistical surveying and reporting regarding energy and fuel patterns. This also ensured that differences in geography would be captured in the survey.

Second, the survey employed a multistage random sampling approach to randomly choose districts within each region, and then randomly sampled counties within each district.

Multistage random sampling was repeated in each district to reflect the greater population. Randomization was ensured by choosing a district within each region against a list of districts. Additionally, professional expertise and local knowledge by the in-country team was applied to ensure appropriate access was available for survey teams.

The studies covered the following areas:

- Baseline surveys - stove and fuel types in use

- Baseline KPT – Quantification of baseline fuels per baseline scenario identified in the baseline survey
- Non-renewable biomass (NRB) assessment for Uganda (As per CDM tool 30)

Baseline Survey and Kitchen Performance Test (KPT)

Baseline surveys and KPTs were conducted to establish the stove and fuel (wood/charcoal) usage trends. The survey also established kitchen regime characteristics and the type of baseline technology being replaced by the project stoves.

The sample size considered were as follows:

As per TPDDTEC version 3.1, the group size above 1000, minimum of 100 samples need to be carried out for baseline survey. Hence the number of samples surveyed was 119 which has covered all four administrative regions of Uganda-East, West, North and Central.

Field questionnaires for both baseline survey and Kitchen performance test was designed to provide accurate representation, understanding of the types of baseline technologies etc. Quality assurance measures were put in place to ensure data quality for each phase of survey. The baseline questionnaires included name of the household, age group, number of people, contact details, geographical coordinates etc. The baseline survey also included current cooking device, type of fuel being used, variations of usage in rainy or dry seasons, etc.

Baseline survey was conducted for 119 households (HH) and captured the information which is mentioned above. The kitchen performance questionnaire included fuel usage, moisture content of fuel, etc. The kitchen performance was conducted for 3 consecutive days to capture the fuel consumption and moisture content of the fuel. KPT was conducted for 90 households in all administrative regions which also includes the households surveyed for baseline study.

Result

From the surveys, the following distinct fuel usage groups were identified:

Charcoal: 63 households

Firewood: 20 households

Charcoal and Firewood: 36 households

Baseline KPT – Baseline KPTs were carried out in two distinct groups

- 1) Users with primary fuel use as Charcoal
- 2) Users with fuel used as woody biomass

A total of 45 samples were considered for each of the two groups (since the pilot data showed a Covariance of 0.4. This is as per page 58 of the TPDDTEC methodology).

The quantity of biomass (charcoal/firewood) being consumed in each household surveyed is presented below. KPT was conducted for 90 households across Uganda. It was recorded that 45 (50%) HH shares charcoal as primary use as fuel and 45 (50%) HH of them were using firewood as primary fuel. The average consumption of fuel based on 90/30 precision, is tabulated below table:

Fuel Type	User Percentage %	Quantity of fuel consumed, MT/HH/day	Quantity of eq. firewood consumed, MT/HH/day
Charcoal	50%	0.00262	0.01575 ⁶
Firewood	50%	0.01607	0.01607
Average	-	-	0.01591

It can be seen from the above table that 0.01591 MT of firewood consumed every day from each household which is 5.807 MT/HH/yr.

The predominant cooking fuel for families in urban Uganda is charcoal made from predominantly non-renewable wood using inefficient production and usage methods. The green-house gas emissions associated with the production and combustion of the charcoal is significant, in areas where the wood source is non-renewing, which is the case in Uganda.

⁶ Charcoal fuel consumption is multiplied by 6 as per the methodology which allows 1 quantity of charcoal equivalent to 6 quantity of fuel-wood

The target population for this VPA are all users of traditional biomass stoves or three stone fired that have baseline stove efficiency of 10% or less. According to statistics, by the end of 2018, just over 1 percent of Ugandan households were using clean fuel as their primary cooking energy source, typically LPG (0.7 percent) or electricity (0.5 percent). Approximately 95 percent of households still cook with wood or charcoal⁷.

Project scenario

The project scenario for the project is defined by the fuel consumption of end users within a target population that adopt the use of project stoves. Emission reductions are credited by comparing fuel consumption in a project scenario to the applicable baseline scenario.

Project Surveys and KPTs will be carried out as per the requirements of the TPDDTEC methodology v3.1 to determine the fuel mix in the project scenario as well as the project KPTs.

Baseline non-renewable biomass assessment

The fraction of non-renewable biomass is determined based on the CDM Tool 30 – Calculation of the fraction of non-renewable biomass. The value of fractional non-renewability is 0.89

B.5. Demonstration of additionality

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VPA level additionality are proven using one of the following options:

Option-1: Projects located in LDC, LLDC, SIDS according to 4.1.9 (b) of 'Community Services Activity Requirements'

Option 2: In accordance with item 1.1.3 of Annex B – positive list mentioned in the 'Community Services Activity Requirements', Version 1.2, projects that meet any of the

⁷ Energizing Finance: Taking the Pulse 2019 Research report accessible at https://www.seforall.org/system/files/2019-12/Taking-Pulse-Uganda_0.pdf

following criteria are considered as deemed additional and therefore are not required to prove Financial Additionality at the time of Design Certification:

Project activities solely composed of isolated units where the users of the technology/measure are households or communities or institutions and where each unit results in –

ICS: ≤ 600 MWh/1.8 GWhth of energy savings per year or WPS: ≤ 600 tonnes of emission reductions per year.

The VPAs will use either or both options to demonstrate the additionality.

For this VPA, PP has adopted option 1 (Uganda - LDC) & deemed additional in line with GS guidelines (positive list) for additionality. The ER sheet has been also submitted to assessment team.

B.5.1. Prior Consideration

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Not Applicable (VPA 16 is regular project activity)

B.5.2. Ongoing Financial Need

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Not applicable as this is only required at time of renewal of crediting period.

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)
13 Climate Action (mandatory)	N/A	Emission Reductions
1 End poverty in all its forms everywhere	1.4 By 2030, ensure that all men and women, in particular	Percentage of users confirming money saving with clean energy products

	the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	
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	Percentage of users reporting reduction in smoke/PM after shifting to ICS in project.
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	Percentage of users reporting time saving due to reduction in collected fuel consumption/cooking time.

	family as nationally appropriate	
7: Affordable and Clean Energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	Number of households with operational stove.
8: Decent Work and Economic Growth	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services	Total no of jobs created
12: Responsible Consumption and Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	Average percentage fuel savings reported by users in the project.
15: Life on Land	15.2 By 2020, promote the implementation of sustainable management of all	Fuelwood equivalent savings reported by users in the project.

types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

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

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The VPA includes distribution of efficient Improved Cookstoves (ICS) with the aim to reduce greenhouse gas (GHG) emissions from the burning of non-renewable woody biomass and/or charcoal for cooking in Uganda. The outcome of the SDG 13 (Climate Action) will be measured as reduced greenhouse gas emissions measured as tonnes of CO₂e applying the GS methodology TPDDTEC, version 3.1. The SDG 13 outcome will be certified as “Certified SDG 13 Impacts” allowing the generation of carbon credits (GS VERs).

When the baseline fuel and the project fuel are the same and the baseline emission factor and project emission factor are same, the overall GHG reductions achieved by the project activity in year y are calculated as follows:

$$ER_y = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b, fuel} * (f_{NRB,b,y} * EF_{fuel, CO2} + EF_{fuel, nonCO2})) - \sum LE_{p,y} \quad (1)$$

Where:

$\sum_{b,p}$ Sum over all relevant (baseline b/project p) couples

$N_{p,y}$ Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y

$U_{p,y}$	Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)
$P_{p,b,y}$	Specific fuel savings for an individual technology of project p against an individual technology of baseline b in year y, in tons/day, as derived from the statistical analysis of the data collected from the field tests
$f_{NRB,b,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)
$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{b,fuel,CO_2}$	CO ₂ emission factor of the fuel that is substituted or reduced. 112 tCO ₂ /TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{b,fuel,nonCO_2}$	Non-CO ₂ emission factor of the fuel that is reduced
$LE_{p,y}$	Leakage for project scenario p in year y (tCO ₂ e/yr)

When the baseline fuel and the project fuel are different and/or the emission factors are different, the overall GHG reductions achieved by the project activity in year y are calculated as follows:

$$ER_y = \sum_{b,p} N_{p,y} * U_{p,y} * (f_{NRB_{b,y}} * ER_{b,p,y, CO_2} + ER_{b,p,y, non-CO_2}) - \sum LE_{p,y}^8 \quad (2)$$

Where:

$\sum_{b,p}$	Sum over all relevant (baseline b/project p) couples
$N_{p,y}$	Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y

⁸ <https://globalgoals.goldstandard.org/407-ee-ics-technologies-and-practices-to-displace-decentralized-thermal-energy-tpddtec-consumption/>

$U_{p,y}$	Cumulative usage rate for technologies in project scenario p in year y, based on cumulative adoption rate and drop off rate revealed by usage surveys (fraction)
$f_{NRB,b,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass (drop this term from the equation when using a fossil fuel baseline scenario)
$ER_{b,p,y, CO2}$	Specific CO2 emission savings for an individual technology of project p against an individual technology of baseline b in year y, in tCO2/day, and as derived from the statistical analysis of the data collected from the field tests
$ER_{b,p,y, non-CO2}$	Specific non-CO2 emission savings for an individual technology of project j against an individual technology of baseline b in year y, converted in tCO2/year, and as derived from the statistical analysis of the data collected from the field tests
$LE_{p,y}$	Leakage for project scenario p in year y (tCO ₂ e/yr)

Calculation for units including electric stoves:

The emission reduction achieved by the project activity shall be calculated as the difference between the baseline emission in the premises evaluated as per the baseline fuel consumption savings (accounting for any parallel use of baseline technology) and the project emissions evaluated as per the guidance provided in the CDM Methodological tool for Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 3, as follows. The CDM tool is used to estimate the project emissions from electricity consumptions as per below equation. The baseline emissions are calculated using equation in TPDDTEC v3.1 as the baseline scenario for improved cookstove and electric stoves are the same. The leakage emission from project is zero as there is no net increase in electricity consumption other than project activity need which are already accounted in project emissions.

The monitoring of quantity of electricity consumed by project activity (electric cooking device) is determined by conducting 3-day consecutive kitchen performance test in

which the energy meter will be fixed to the device to monitor the consumption of electricity for entire day. On the second day, record the final reading before starting the cooking. This will be repeated for the three days. The fourth day the final reading is captured. The average reading of three days provided the consumption of electricity per day.

Project emissions due to electricity consumption from the grid is applicable for this project.

$$PE_y = \sum_d EG_{p,d,y} \times EF_{el,y} \times (1 + TDL_{j,y}) \quad (3)$$

$$PE_y = B_{ep,y} * ((f_{NRB,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}$$

Where:

$\sum_d$	Sum over all relevant devices
PE_y	Project emissions from electricity consumption in year y (t CO ₂ /yr)
$EG_{p,d,y}$	Quantity of electricity consumed by the project device d in year y (MWh/yr)
$EF_{el,y}$	Emission factor for electricity system in year y (t CO ₂ /MWh)
$TDL_{j,y}$	Average technical transmission and distribution losses for providing electricity to source j in year y
j	Sources of electricity consumption in the project
PE_y	Project emissions from the use of biomass in year y (t CO ₂ /yr)
$B_{ep,y}$	Quantity of fuel consumed by baseline technology in project scenario p during year y, in tons
$f_{NRB,y}$	Fraction of biomass used in year y that can be established as non-renewable biomass
$NCV_{p,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{p,fuel,CO2}$	CO ₂ emission factor of the fuel that is substituted or reduced. 112 tCO ₂ /TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{p,fuel,nonCO2}$	Non-CO ₂ emission factor of the fuel that is reduced

Calculations for Improved Cookstoves using woody biomass⁹:

The baseline emissions in case of different fuel in project and baseline scenario is calculated using the below equation:

Baseline Emissions

$$BE_{b,y} = B_{b,y} * ((f_{NRB,y} * EF_{b,fuel,CO2}) + EF_{b,fuel,nonCO2}) * NCV_{b,fuel}$$

Where:

$BE_{b,y}$	Emissions for baseline scenario b during the year y in tCO ₂ e
$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during year y, in tons
$f_{NRB,y}$	Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass
$NCV_{b,fuel}$	Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{b,fuel,CO2}$	CO ₂ emission factor of the fuel that is substituted or reduced. 112 tCO ₂ /TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{b,fuel,nonCO2}$	Non-CO ₂ emission factor of the fuel that is reduced

$$B_{b,y} = N_{p,y} * P_{b,y}$$

Where:

$B_{b,y}$	Quantity of fuel consumed in baseline scenario b during year y, in tons
$P_{b,y}$	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day
$N_{p,y}$	Project technology-days in the project database for project scenario p through year y

Project Emissions

⁹ In case of charcoal fuel consumption is multiplied by 6 as Methodology allows 1 quantity of charcoal is equivalent to 6 quantity of fuel-wood.

$$PE_{p,y} = B_{p,y} * ((f_{NRB,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}$$

$$B_{p,y} = N_{p,y} * ((P_{p,y} * U_{p,y}) + (P_{b,y} * (1 - U_{p,y})))$$

Where:

$PE_{p,y}$	Emissions for project scenario p during the year y in tCO ₂ e
$B_{p,y}$	Quantity of fuel consumed in project scenario p during year y, in tons
$f_{NRB,y}$	Fraction of biomass used in year y that can be established as non-renewable biomass
$NCV_{p,fuel}$	Net calorific value of the project fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)
$EF_{p,fuel,CO2}$	CO ₂ emission factor of the fuel that is substituted or reduced. 112 tCO ₂ /TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel
$EF_{p,fuel,nonCO2}$	Non-CO ₂ emission factor of the fuel that is reduced
$N_{p,y}$	Project technology-days in the project database for project scenario p through year y
$P_{p,y}$	Specific fuel consumption for an individual technology in project scenario p during year y converted to tons/day
$U_{p,y}$	Cumulative usage rate for technologies in project scenario j during year y, based on cumulative installation rate and drop-off rate
$P_{b,y}$	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day

Leakage

Leakage ($LE_{p,y}$): As per applied GS TPDDTEC methodology version 3.1, leakage emissions are accounted for the following sources:

Leakage emission sources to be assessed:

#	Leakage Source	Assessment
a	The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.	No, the displaced baseline technologies (traditional cookstoves) are not reused outside the project boundary. It is highly unlikely that households outside the project boundaries who may have obtained a more efficient stove or other

		lower emitting technologies (like e.g. LPG gas) would go back to the use of baseline technology.
b	Non-project users who previously used lower emitting energy sources use the non-renewable biomass or fossil fuels saved under the project activity.	No, as it is evident from the baseline survey that the share of household that use a lower emitting energy source such as LPG is very small. These households that use a lower emitting energy source, such as LPG, are not likely to use nonrenewable biomass (NRB) saved under the project activity, instead of lower emitting sources like LPG.
c	The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for NRB fraction in their baseline scenario.	No, the project leads to reduction in firewood consumption which ultimately brings positive impact to the project vicinity area. It is not expected that the NRB in other areas will be affected so quickly that it would impact other CDM/VER projects activities if any. Furthermore, fNRB update takes place in each renewal of CP which automatically includes the studies evaluating the impact on FNRB.
d	The project population compensates for loss of the space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.	Not applicable, as the project population location is entire country of Uganda. Uganda is an African country crossed by the Equator, where the climate is pleasantly warm, with average temperatures ranging between 20 °C and 25 °C.
e	By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.	Not applicable as the baseline survey conducted showed that end users in the baseline, use traditional cookstoves; hence it is highly unlikely that the project stimulates substitution within households who commonly used a technology with relatively lower emissions.

At the time of monitoring, PP shall be determining if the displaced technologies are used outside the project boundary in place of lower emitting technology through survey. As

mentioned in the methodology, Leakage is either calculated as a quantitative emissions volume (tCO₂e) or as a percentage of total emission reductions.

Emission Reductions

The overall GHG reductions achieved by the project activity are then calculated as follows:

$$ER_y = \sum BE_{b,y} - \sum PE_{p,y} - \sum LE_{p,y}$$

Where:

ER _y	Emission reduction for total project activity in year y (tCO ₂ e/yr)
PE _{p,y}	Emissions for project scenario p during the year y in tCO ₂ e
BE _{p,y}	Baseline emissions for baseline scenario b in year y (tCO ₂ e/yr)
LE _{p,y}	Leakage for project scenario p in year y (tCO ₂ e/yr)

The other SDGs impacts of this VPA (SDG 3, SDG 5, SDG 7, SDG 8, SDG 12 and SDG 15) will be estimated as below.

Approach to estimate SDG 1

SDG 1-No Poverty		
HHS _{baseline}	% users reporting money saving due reduced fuel consumption in baseline	0%
HHS _{project}	% HH reporting money saving due reduced fuel consumption in in project	100%
Percentage of households reporting money savings due to reduction in purchased fuel consumption in project	(HHS _{project} -HHS _{baseline})	100%

Approach to estimate SDG 3

SDG 3-Good health and well being		
HHsmoke _{baseline}	% users reporting reduction in smoke after shifting to ICS in baseline	0
HHsmoke _{project}	% users reporting reduction in smoke after shifting to ICS in project	100%

Percentage of households reporting reduction in smoke/PM after shifting to ICS in project	$(HHsmoke_{project} - HHsmoke_{baseline})$	100%
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Approach to estimate SDG 5

SDG 5-Gender Equality		
$HHtime_{baseline}$	% users reporting time saving due to reduced collected fuel consumption / cooking time in baseline	0%
$HHtime_{project}$	% users reporting time saving due to reduced collected fuel consumption / cooking time in project	95%
Percentage of users reporting time saving due to reduction in collected fuel consumption / cooking time in project	$(HHtime_{project} - HHtime_{baseline})$	95%

Approach to estimate SDG 7

SDG 7-Affordable and Clean Energy		
$HHclean_{baseline}$	Number of household having access to affordable and clean energy functional/Operational ICS units under Baseline	0
$HHclean_{project}$	Access to affordable and clean energy functional ICS units under Project	130,000
Percentage of ICS distributed and operating under the project as an indicator of providing clean technology (relative to baseline stoves).	$(HHclean_{project} - HHclean_{baseline})$	130,000

Approach related to estimate SDG 8

SDG 8-Decent work and economic growth		
$EG_{baseline}$	Generation of employment in baseline scenario	0
$EG_{project}$	Generation of employment in project scenario	17
Total number of jobs created	$(EG_{project} - EG_{baseline})$	17

Approach related to estimate SDG 12

SDG 12 Responsible consumption and Production		
$FC_{baseline}$	Quantity of biomass saved per tonnes per year in the baseline	5.81
$FC_{project}$	Quantity of biomass saved per tonnes per year in the project	2.63
Average percentage of Fuel savings reported by users in the project	$(1 - FC_{project}/FC_{baseline})$	55%

Approach related to estimate SDG 15

SDG 15 Life on land		
$FCHH_{baseline}$	Average Fuel consumption per HH in baseline (tonnes eq. fuelwood/HH/day)	0.01591
$FCHH_{project}$	Average Fuel consumption per HH in project (tonnes eq. fuelwood/HH/day)	0.007205
Fuel wood equivalent savings reported by users in the project	$(FCHH_{baseline} - FCHH_{project}) * \text{Number of operational ICS}$	1132

B.6.2. Data and parameters fixed ex ante

SDG13

Data/parameter	EF_{b,CO_2}
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor arising from use of fuels in baseline Scenario
Source of data	IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.5)
Value(s) applied	Fuelwood (Residential): 112

Choice of data or Measurement methods and procedures	Default IPCC value for fuelwood and charcoal is applied
Purpose of data	CO ₂ Emission calculation in baseline
Additional comment	-

Data/parameter	EF _{b,non-CO2}
Unit	tCO ₂ /TJ
Description	Non-CO ₂ emission factor arising from use of fuels in baseline scenario
Source of data	IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.9)
Value(s) applied	Fuelwood (Residential): 9.46
Choice of data or Measurement methods and procedures	Default IPCC value for fuelwood and charcoal is applied
Purpose of data	Non-CO ₂ Emission calculation in baseline
Additional comment	

Data/parameter	EF _{p,CO2}
Unit	tCO ₂ /TJ
Description	CO ₂ emission factor arising from use of fuels in project Scenario
Source of data	IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.5)

Value(s) applied	Fuelwood (Residential): 112
Choice of data or Measurement methods and procedures	Default IPCC value is applied
Purpose of data	CO ₂ Emission calculation in project scenario
Additional comment	-

Data/parameter	EF _{p,non-CO2}
Unit	tCO ₂ /TJ
Description	Non-CO ₂ emission factor for methane arising from use of fuels in project Scenario
Source of data	IPCC default value as per 2006 IPCC Guidelines for National Greenhouse Gas Inventories, volume 2, chapter 2 (Table 2.9)
Value(s) applied	Fuelwood (Residential): 9.46
Choice of data or Measurement methods and procedures	Default IPCC value for fuelwood and charcoal is applied
Purpose of data	Non-CO ₂ Emission calculation in project scenario
Additional comment	-

Data/parameter	EF _{el,y}
Unit	tCO ₂ /MWh
Description	CO ₂ emission factor arising from use of grid electricity in project scenario

Source of data	Harmonized Grid Emission factor 2020 Version 3.1 – UNFCCC ¹⁰
Value(s) applied	0.1158
Choice of data or Measurement methods and procedures	Combined margin CO ₂ emission factor for the project electricity system applicable to all renewable power generation project activities other than wind and solar for the first crediting period
Purpose of data	CO ₂ Emission calculation in project scenario
Additional comment	-

Data/parameter	TDL _{j,y}
Unit	Fraction
Description	Average technical transmission and distribution losses for providing electricity to source j
Source of data	CDM Methodological tool: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0
Value(s) applied	0.20
Choice of data or Measurement methods and procedures	Default values of 20% as per the tool
Purpose of data	CO ₂ Emission calculation in project scenario
Additional comment	-

¹⁰ <https://unfccc.int/climate-action/sectoral-engagement/ifi-harmonization-of-standards-for-ghg-accounting/ifi-twq-list-of-methodologies>

Data/parameter ID	ICS 12
Data/parameter	NCV _b
Unit	TJ/ton
Description	Net calorific value of the fuels used in the baseline
Source of data	IPCC default 2006, volume 2, chapter 1 (Table 1.2)
Value(s) applied	Fuelwood: 0.0156
Choice of data or Measurement methods and procedures	Default IPCC value for fuelwood and charcoal is applied
Purpose of data	CO ₂ Emission calculation in project scenario
Additional comment	-

Data/parameter ID	ICS 13
Data/parameter	NCV _p
Unit	TJ/ton
Description	Net calorific value of the fuels used in the project
Source of data	IPCC default 2006, volume 2, chapter 1 (Table 1.2)
Value(s) applied	Fuelwood: 0.0156
Choice of data or Measurement methods and procedures	Default IPCC value for fuelwood is applied
Purpose of data	CO ₂ Emission calculation in project scenario
Additional comment	-

Data/parameter ID	ICS 17
Data/parameter	$f_{NRB,i,y}$
Unit	Fractional non-renewability
Description	Non-renewability status of woody biomass fuel in scenario i during year y
Source of data	Assessment based on CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 03.0
Value(s) applied	0.89
Choice of data or Measurement methods and procedures	Assessment based on CDM Methodological tool 30: Calculation of the fraction of non-renewable biomass, Version 03.0
Purpose of data	CO ₂ Emission calculation in project scenario
Additional comment	The f_{NRB} value will remain fixed during the crediting period

Data/parameter ID	ICS 18
Data / Parameter	$P_{b,y}$
Unit	tonnes/day
Description	Specific fuel consumption for an individual technology in baseline scenario b during year y converted to tons/day
Source of data	Baseline survey and KPT is conducted and value is fixed ex-ante for subsequent issuance.
Value(s) applied	Fuel wood: 0.01591
Choice of data or Measurement methods and procedures	Based on baseline Field Test updates. KPT conducted for 3 consecutive dates by measuring fuel and moisture in fuel. Compiled data and averaged the data of 3 days for specific fuel consumption. The details are shown in baseline KPT
Purpose of data	To calculate baseline emissions
Additional comment	This parameter is fixed ex-ante for first crediting period.

SDG 1: No Poverty

Data/parameter	HHS _{baseline}
Unit	Percentage (%)
Description	% users reporting money saving due to reduced fuel consumption in baseline
Source of data	-
Value(s) applied	0
Choice of data or Measurement methods and procedures	-
Purpose of data	SDG 1 impact calculation
Additional Comment	-

SDG 3: Good Health and Well Being

Data/parameter	HHsmoke _{baseline}
Unit	Percentage (%)
Description	% users reporting reduction in smoke/PM emissions while cooking on improved stove in baseline
Source of data	-
Value(s) applied	0
Choice of data or Measurement methods and procedures	--
Purpose of data	SDG 3 impact calculation
Additional Comment	-

SDG 5: Gender Equality

Data/parameter	HHtime _{baseline}
Unit	Percentage (%)
Description	% users reporting time saving for cooking /fuel collection
Source of data	-
Value(s) applied	0
Choice of data or Measurement methods and procedures	-
Purpose of data	SDG 5 impact calculation
Additional Comment	-

SDG 7: Affordable and clean energy

Data/parameter	HHclean _{baseline}
Unit	Number
Description	Access to affordable and clean energy (Number of ICS operating)
Source of data	-
Value(s) applied	0
Choice of data or Measurement methods and procedures	-
Purpose of data	SDG 7 impact calculation
Additional Comment	-

SDG 8: Decent Work and Economic Growth

Data/parameter	EG _{baseline}
Unit	Number
Description	Quantitative Employment and income generation
Source of data	-
Value(s) applied	0
Choice of data or Measurement methods and procedures	-
Purpose of data	SDG 8 impact calculation

SDG 12: Responsible Consumption and Production

Data/parameter	FC _{baseline}
Unit	tonnes/year
Description	Fuel consumption in baseline
Source of data	-
Value(s) applied	5.81
Choice of data or Measurement methods and procedures	-
Purpose of data	SDG 12 impact calculation

SDG 15: Life on Land

Data/parameter	FCHH _{baseline}
Unit	tonne-eq.fuelwood/HH/day

Description	Average Fuel consumption per HH in baseline
Source of data	-
Value(s) applied	0.01591
Choice of data or Measurement methods and procedures	-
Purpose of data	SDG 15 impact calculation

B.6.3. Ex ante estimation of SDG Impact

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Ex-ante calculations of emission reductions related to outcomes of SDG 13 is estimated in ex-ante emission sheet and along with other SDGs are shown in below table:

SDG targeted	SDG impact indicator	Calculation	Ex-ante estimation
1 No poverty	Indicator: % users reporting money saving due to reduction in purchased fuel consumption in project	$HHS_{project} - HHS_{baseline}$ $= 100\% - 0\%$	100%
3 Good health and Well Being	Indicator: % users reporting reduction in smoke/PM after shifting to ICS in project	$HHsmoke_{project} - Hhsmoke_{baseline}$ $= 100\% - 0\%$	100%
5 Gender Equality	Indicator: % users reporting time saving due to reduction in collected fuel consumption /	$Hhtime_{project} - Hhtime_{baseline}$ $= 95\% - 0\%$	95%

	cooking time in project		
7 Affordable and Clean Energy	Indicator: Number of households with operational stoves	$(Hh_{clean_{project}} - Hh_{clean_{baseline}}) * \text{Total number functional/Operational of ICS distributed}$ $= (100\% - 0\%) * 130,000$	130,000
8 Decent Work and economic growth	Indicator: Total No of Jobs Created	$(EG_{project} - EG_{baseline})$ $= 17 - 0$	17
12 Responsible consumption and production	Indicator: Average % Fuel savings reported by users in the project	$FC_{project} / FC_{baseline}$ $= (1 - 2.63 / 5.84) * 100$	55%
15 Life on land	Indicator: Fuelwood equivalent savings reported by user in the project	$(FCHH_{baseline} - FCHH_{project}) * \text{Total functional device}$ $= (0.01591 - 0.007205) * 130,000$	1132 tonnes-eq.fuelwood/day
13 Climate Action	Indicator: Total greenhouse gas emissions reduction per year	The overall GHG reductions achieved by the project activity will be calculated as follows: $ER_y = \sum BE_{b,y} - \sum PE_{p,y} - \sum LE_{p,y}$ Where: ER_y Emission reduction for total project activity in year y (tCO₂e/yr) $BE_{b,y}$ Baseline emissions for baseline	632,931 tCO ₂ e per year

		scenario b in year y (tCO₂e/yr) PE_{p,y} Project emissions for project scenario p in year y (tCO₂e/yr) LE_{p,y} Leakage for project scenario p in year y (tCO₂e/yr) <i>Calculation for ICS:</i> $BE_{b,y} = B_{b,y} * ((fNRB_{b,y} * EF_{b,fuel,CO_2}) + EF_{b,fuel,nonCO_2}) * NCV_{b,fuel}$ Where: BE_{b,y} Emissions for baseline scenario b during the year y in tCO₂e B_{b,y} Quantity of fuel consumed in baseline scenario b during year y, in tons fNRB_{b,y} Fraction of biomass used in year y for baseline scenario b that can be established as non-renewable biomass NCV_{b,fuel} Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton) EF_{b,fuel,CO₂} CO₂ emission factor of the	
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		fuel that is substituted or reduced. 112 tCO₂/TJ for Wood/Wood Waste, or the IPCC default value of other relevant fuel EF_{b,fuel,nonCO2} Non-CO₂ emission factor of the fuel that is reduced $PE_{p,y} = B_{p,y} * ((fNRB_{,py} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}$ Where: PE_{p,y} Emissions for project scenario p during the year y in tCO₂e B_{p,y} Quantity of fuel consumed in project scenario p during year y, in tons f NRB_{,y} Fraction of biomass used in year y that can be established as non-renewable biomass NCV_{p,fuel} Net calorific value of the project fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton)	
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		$EF_{p,fuel,CO2}$ 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 $EF_{p,fuel,nonCO2}$ Non-CO2 emission factor of the fuel that is reduced <i>Calculation for EPC:</i> $PE_y = \sum_d EG_{p,d,y} \times EF_{el,y} \times (1+TDL_{j,y})$ $PE_y = B_{ep,y} * ((f_{NRB,y} * EF_{p,fuel,CO2}) + EF_{p,fuel,nonCO2}) * NCV_{p,fuel}$ Where: $\sum_d$ Sum over all relevant devices PE_y Project emissions from electricity consumption in year y (t CO₂/yr) $EG_{p,d,y}$ Quantity of electricity consumed by the project device d in year y (MWh/yr) $EF_{el,y}$ Emission factor for electricity system in year y (t CO₂/MWh)	
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		$TDL_{j,y}$ Average technical transmission and distribution losses for providing electricity to source j in year y j Sources of electricity consumption in the project PE_y Project emissions from the use of biomass in year y (t CO₂/yr) $B_{ep,y}$ Quantity of fuel consumed by baseline technology in project scenario p during year y, in tons $f_{NRB,y}$ Fraction of biomass used in year y that can be established as non-renewable biomass $NCV_{p,fuel}$ Net calorific value of the fuel that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/ton) $EF_{p,fuel,CO_2}$ CO₂ emission factor of the fuel that is substituted or reduced. 112 tCO₂/TJ for Wood/Wood Waste, or	
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		the IPCC default value of other relevant fuel $EF_{p,fuel,nonCO2}$ Non-CO₂ emission factor of the fuel that is reduced	
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B.6.4. Summary of ex ante estimates of each SDG outcome

SDG 13

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	494,358	250,923	243,435
01/05/2023 to 30/04/2024	1,483,074	752,770	730,304
01/05/2024 to 30/04/2025	1,483,074	752,770	730,304
01/05/2025 to 30/04/2026	1,483,074	752,770	730,304
01/05/2026 to 30/04/2027	1,483,074	752,770	730,304
Total	6,426,654	3,262,002	3,164,653
Total number of crediting years	5		
Annual average over the crediting period	1,285,331	652,400	632,931

SDG 1

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	0%	100%	100%

01/05/2023 to 30/04/2024	0%	100%	100%
01/05/2024 to 30/04/2025	0%	100%	100%
01/05/2025 to 30/04/2026	0%	100%	100%
01/05/2026 to 30/04/2027	0%	100%	100%
Total	0%	100%	100%
Total number of crediting years	5		
Annual average over the crediting period	0%	100%	100%

SDG 3

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	0%	100%	100%
01/05/2023 to 30/04/2024	0%	100%	100%
01/05/2024 to 30/04/2025	0%	100%	100%
01/05/2025 to 30/04/2026	0%	100%	100%
01/05/2026 to 30/04/2027	0%	100%	100%
Total	0%	100%	100%
Total number of crediting years	5		
Annual average over the crediting period	0%	100%	100%

SDG 5

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	0%	95%	95%

01/05/2023 to 30/04/2024	0%	95%	95%
01/05/2024 to 30/04/2025	0%	95%	95%
01/05/2025 to 30/04/2026	0%	95%	95%
01/05/2026 to 30/04/2027	0%	95%	95%
Total	0%	95%	95%
Total number of crediting years	5		
Annual average over the crediting period	0%	95%	95%

SDG 7

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	0	50,000	50,000
01/05/2023 to 30/04/2024	0	150,000	150,000
01/05/2024 to 30/04/2025	0	150,000	150,000
01/05/2025 to 30/04/2026	0	150,000	150,000
01/05/2026 to 30/04/2027	0	150,000	150,000
Total	0	150,000	150,000
Total number of crediting years	5		
Annual average over the crediting period	0	130,000	130,000

SDG 8

Year	Baseline estimate	Project estimate	Net benefit
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01/05/2022 to 30/04/2023	0	17	17
01/05/2023 to 30/04/2024	0	17	17
01/05/2024 to 30/04/2025	0	17	17
01/05/2025 to 30/04/2026	0	17	17
01/05/2026 to 30/04/2027	0	17	17
Total	0	17	17
Total number of crediting years	5		
Annual average over the crediting period	0	17	17

Total number of jobs generated over 5 years = 17

SDG 12

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	5.81	2.63	55%
01/05/2023 to 30/04/2024	5.81	2.63	55%
01/05/2024 to 30/04/2025	5.81	2.63	55%
01/05/2025 to 30/04/2026	5.81	2.63	55%
01/05/2026 to 30/04/2027	5.81	2.63	55%
Total	5.81	2.63	55%
Total number of crediting years	5		
Annual average over the crediting period	5.81	2.63	55%

SDG 15

Year	Baseline estimate	Project estimate	Net benefit
01/05/2022 to 30/04/2023	796	360	435
01/05/2023 to 30/04/2024	2,387	1,081	1,306
01/05/2024 to 30/04/2025	2,387	1,081	1,306
01/05/2025 to 30/04/2026	2,387	1,081	1,306
01/05/2026 to 30/04/2027	2,387	1,081	1,306
Total	10,342	4,684	5,658
Total number of crediting years	5		
Annual average over the crediting period	2,068	937	1,132

B.7. Monitoring plan

B.7.1. Data and parameters to be monitored

SDG 13

Data/parameter ID	ICS 19
Data / Parameter	$P_{p,y}$
Unit	tonnes/day
Description	Specific fuel consumption for an individual technology in project scenario p during year y converted to tons/day
Source of data	Project Kitchen Performance Test
Value(s) applied	ICS - 0.007205 tonnes/day EPC - 0.00419 tonnes/day

Measurement methods and procedures	The actual value will be determined based on the Kitchen Performance Test to be carried out in accordance with Annex 4 of the applied methodology TPDDTEC
Monitoring frequency	Every 2 years
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To calculate emission reductions
Additional comment	A single project fuel consumption parameter is weighted to be representative of the quantity of project technologies of each age being credited in a given project scenario. In case some of the users still continue to use the baseline stoves in spite of community carbon measures to not continue use of the baseline technology, the usage shall be captured during the annual monitoring surveys and will be accounted for in the emission reduction calculations as part of the project Kitchen Performance Test.

Data/parameter ID	ICS 26
Data / Parameter	$U_{p,y}$
Unit	Percentage
Description	Usage rate in project scenario p during year y
Source of data	Annual usage survey
Value(s) applied	90%
Measurement methods and procedures	Ex-post monitoring and surveys will determine the number of appliances still in operation by field survey
Monitoring frequency	Annual
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To calculate emission reductions
Additional comment	A single usage parameter is weighted to be representative of the quantity of project technologies of each age being credited in a given project scenario

	TPDDTEC Usage Requirements will be followed.
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Data/parameter ID	ICS 27
Data / Parameter	$N_{p,y}$
Unit	Project technologies credited (units)
Description	Technologies in the project database for project scenario p through year y
Source of data	Total sales record
Value(s) applied	130,000
Measurement methods and procedures	The total number of appliances deployed during period y is tracked in the Project Database of the specific VPA, which is updated regularly. All appliances distributed will be recorded. Any appliance not recorded in the Project Database will not be credited for emission reductions.
Monitoring frequency	Continuous
QA/QC procedures	Transparent data analysis and reporting
Purpose of data	To calculate emission reductions
Additional comment	The total sales record is divided based on project scenario to create the project database

Data/parameter ID	ICS 28
Data / Parameter	$LE_{p,y}$
Unit	t_CO ₂ e per year
Description	Leakage in project scenario p during year y
Source of data	Baseline and monitoring surveys
Value(s) applied	0
Measurement methods and procedures	Not applicable
Monitoring frequency	Every two years
QA/QC procedures	Transparent data analysis and reporting

Purpose of data	To calculate emission reductions
Additional comment	The potential leakage probability is very low due to the following reasons: 1. The project developer encourages clients to return back their traditional stove by creating incentive such as additional warranty. Thus, it will not be reused outside the project boundary. 2. The project does not have any significant impact on NRB fraction in the project boundary Aggregate leakage can be assessed for multiple project scenarios, if appropriate.

Data/parameter ID	ICS 29
Data / Parameter	$\eta_{new,i}$
Unit	Fraction
Description	Efficiency of the project cookstove
Source of data	Water Boiling Tests (WBT)
Value(s) applied	35%
Measurement methods and procedures	The procedures as outlined in Annex 8 of TPDDTEC will be followed. The minimum sample size of each age group shall comply with the 90/10 rule
Monitoring frequency	Annual
QA/QC procedures	WBT tests will be carried out following the WBT protocol, 4.2.3(Stove Testing Update - Release of Water Boiling Test Protocol 4.2.3 Clean Cooking Alliance)
Purpose of data	To calculate project fuel consumption
Additional comment	-

Data / Parameter	μ_y
Unit	Fraction

Description	Adjustment to account for any continued use of pre-project devices (baseline stove) in the project scenario during the year y
Source of data	Monitoring/usage surveys
Value(s) applied	0
Measurement methods and procedures	Monitoring surveys to capture cooking habits and stove usage of households in the region, including quantification of use of baseline devices, by formulating questions and/or collecting evidences to determine the frequency of usage of both the project devices and baseline devices
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	To calculate emission reduction
Additional comment	-

Data / Parameter	$EG_{P,d,y}$
Unit	MWh/yr
Description	Quantity of electricity consumed by the project electricity consumption source j in year y
Source of data	Calculated
Value(s) applied	110 (PDD ex-ante estimation)
Measurement methods and procedures	Direct measurement method will be used. The project developer will use an appropriate instrument to determine the electricity consumption. The monitoring of quantity of electricity consumed by project activity is determined by conducting 3-day consecutive kitchen performance test in which the energy meter will be fixed to the device to monitor the consumption of electricity for entire day. On the second day, record the final reading before start the cooking. This will be repeated for the third day. The fourth day the final reading will be captured. The average reading of three days provided the consumption of electricity per day. The measurement for three days will then be extrapolated for the entire year.

	As a cross-check approach, this parameter may be calculated by multiplying wattage of the electric cooking unit with the average number of hours product is used in a year, which will be captured during the monitoring survey. A user will be given a log to record the time of operation in a day for a period of three days similar to project KPT surveys. This will help determine the average number of hours ($H_{p,y}$) product is used in a year (pro-rated from three-day study). If the PP chooses the direct measurement method, there is no requirement of measuring $H_{p,y}$ and use of rated wattage.
Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	To calculate project emissions
Additional comment	The details of calculation are given in ER calculation sheet. The measurements are conservative as it assumes rated wattage of the device based on maximum operational function.

Data / Parameter	$H_{p,y}$
Unit	Hours
Description	Project technology-hours in the project database for project scenario p through year y
Source of data	Calculated
Value(s) applied	0 (for Year-1 PDD ex-ante estimation)
Measurement methods and procedures	The number of hours used will be monitored based on sample basis using simple random sampling. A user will be given a log to record the time of operation in a day for a period of three days. This parameter will be calculated by total number of devices installed in a year with the average number of hours product is used in a year (pro-rated from three-day study), which will be captured during the monitoring survey.

Monitoring frequency	Annual
QA/QC procedures	-
Purpose of data	To calculate project emissions
Additional comment	The measurements are conservative as it assumes rated wattage of the device based on maximum operational function.

SDG 1: End poverty in all its forms everywhere

Data / Parameter	HHS _{project}
Unit	Percentage (%)
Description	% users reporting money savings due to reduction in purchased fuel consumption in project
Source of data	Database
Value(s) applied	100% (for ex-ante estimation)
Measurement methods and procedures	The number of clean energy products distributed are recorded as part of the CME database which will be used to estimate this parameter
Monitoring frequency	Continuous
QA/QC procedures	-
Purpose of data	Monitoring of SDG 1
Additional comment	-

SDG 3: Good Health and Well-being

Data / Parameter	HHsmoke _{project}
Unit	Percentage (%)
Description	% users reporting reduction in smoke/PM after shifting to ICS in project

Source of data	Monitoring Survey
Value(s) applied	100% (for ex-ante estimation)
Measurement methods and procedures	This parameter will be monitored as part of the monitoring survey. Users will be asked as part of monitoring survey if there is less smoke with the use of improved stove.
Monitoring frequency	Once every 2 years (biennially)
QA/QC procedures	-
Purpose of data	Monitoring of SDG 3
Additional comment	The parameter will be measured qualitatively

SDG 5: Gender Equality

Data / Parameter	HHtime _{project}
Unit	Percentage (%)
Description	% users reporting time saving due to reduction in collected fuel consumption/cooking time
Source of data	Monitoring Survey
Value(s) applied	95% (for ex-ante estimation)
Measurement methods and procedures	This parameter will be monitored as part of the monitoring survey. Users will be asked as part of monitoring survey if they have been able to save time due to use of clean energy products
Monitoring frequency	Once every 2 years (biennially)
QA/QC procedures	-
Purpose of data	Monitoring of SDG 5
Additional comment	The parameter will be measured qualitatively

SDG 7: Affordable and Clean Energy

Data / Parameter	HHclean _{project}
Unit	Number
Description	Number of households with operational stoves
Source of data	CME Database
Value(s) applied	130,000
Measurement methods and procedures	The number of improved cookstoves distributed will be recorded as part of the CME database which will be used to estimate this parameter
Monitoring frequency	Continuous
QA/QC procedures	-
Purpose of data	Monitoring of SDG 7
Additional comment	-

SDG 8: Decent Work and Economic Growth

Data / Parameter	EG _{project}
Unit	Number
Description	Total no of jobs created
Source of data	CME Database
Value(s) applied	17
Measurement methods and procedures	CME will maintain a record of jobs created as a result of implementation of this programme in form employee list/ payroll system/ contracts/ pay slips
Monitoring frequency	Continuous
QA/QC procedures	-
Purpose of data	Monitoring of SDG 8
Additional comment	-

SDG 12: Responsible Consumption and Production

Data / Parameter	FC_{project}
Unit	tonnes/HH/year
Description	Consumption of non-renewable biomass per household
Source of data	Monitoring survey
Value(s) applied	2.63
Measurement methods and procedures	This parameter will be calculated by subtracting Quantity of fuel that is consumed in project scenario p during year y from the Quantity of fuel that is consumed in baseline scenario p during year y
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Monitoring of SDG 12 and 15
Additional comment	-

SDG 15: Life on Land

Data / Parameter	$FCHH_{\text{project}}$
Unit	Tonnes eq. fuelwood/day
Description	Average Fuel consumption per HH in project scenario
Source of data	-
Value(s) applied	0.0072054
Measurement methods and procedures	-
Monitoring frequency	Annually
QA/QC procedures	-
Purpose of data	Monitoring of SDG 12 and 15
Additional comment	-

B.7.2. Sampling plan

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The sampling plan given below defines the approach for determining relevant monitoring parameters via ex-post sampling. All required monitoring and documentation will be implemented, reported, consolidated and managed by the CME or a qualified expert partner to meet verification requirements.

Target population– The target population is the total stove population (residential ICS and EPC) existing under the VPA boundary. If multiple VPAs are grouped for cross-VPA sampling, then the target population would encompass the total ICS population served under the grouped VPAs, as recorded in the Distribution Database/Record.

Sampling Plan across VPAs within the PoA

There are three project scenarios under the VPA – domestic stove, and electric pressure cooker. Project technologies especially the domestic stoves which are part of the VPA have similar design and performance characteristics. All have same fundamental combustion technology and their respective thermal efficiencies or specific consumptions do not differ by more than +/-5% in absolute terms which can be verified by the technical specification sheet. Hence, these will be included under a single project scenario. Furthermore, EPC will be considered as a separate project scenario. Sampling will be undertaken separately for different project scenarios. If homogeneity of population can be demonstrated, or differences are taken into account (stratification) in the sample size calculation then 90/10 confidence/precision will be applied.

In case of cross-VPA sampling, 95/10 confidence/precision will be applied

Monitoring/Usage survey:

The monitoring survey investigates changes over time in a project scenario by surveying end users with project technologies on an annual basis. An usage survey determines the drop off rates as project technologies age and users switch back to the baseline technology.

Random sampling shall be applied for determining the usage rate of for each project scenario separately. The sample size determined shall be distributed within each age category based on percentage of stoves in corresponding age category. For example, if only technologies in the first year of use (age 0-1) are being credited, a usage parameter must be established through a usage survey for technologies age 0-1. If technologies in the first year of use (age 0-1) and second year of use (age 1-2) are credited, a usage parameter is required that is weighted to be representative of drop off rates for technologies age 0-1 and age 1-2. The minimum total sample size is 100, with at least 30 samples for project technologies of each age being credited.

The majority of interviews in a monitoring and usage survey will be conducted by Community Carbon staff or by hired experts who would be trained before and include expert observation by the interviewer within the kitchen in question, while the remainder may be conducted via telephone by the same interviewers on condition that in-kitchen observational interviews are first concluded and analyzed such that typical circumstances are well understood by the telephone interviewers. The GS cookstove usage rate guidelines will be followed.

Along with the usage survey, a monitoring survey is carried out annually to assess end-user characteristics such as technology use, fuel consumption and seasonal variation.

Project and baseline KPT:

For determining the fuel consumption in the baseline / project scenarios, the random sampling for KPTs shall be applied. The sample size determined shall be distributed within each age category based on percentage of stoves in corresponding age category. For determining the fuel consumption in the baseline / project scenario the KPT sample size determination shall be based on Kitchen Performance Test Protocol. Alternatively, the guideline given in TPDDTEC version 3.1 may be used for determination of sample size.

The project fuel consumption test can also be replaced with ageing test approach from second monitoring period.

In case PP opts for the ageing test approach instead of biennial project KPTs, annual WBTs would be conducted on a representative sample of each age group. The sample size would be calculated using student's t-distribution approach for mean based parameter. The sample size is appropriately sampled from each age group and enough so that the results comply with the 90/10 rule. In case of not meeting the required confidence/precision, lower bound value will be used. The WBT shall be carried out along with the project KPTs prior to 1st issuance and then subsequently WBTs shall be carried out annually to monitor the degradation in the efficiency of the ICS. The WBTs should be conducted in the last 3 months of the monitoring period or after the monitoring period, provided it is representative of each age group.

Sampling Plan for monitoring parameters

The objective of the sampling plan for this VPA is to determine:

- (i) $\eta_{new,i}$: Efficiency of the project cookstove. This parameter will be monitored with 90% confidence and 10% precision annually for each VPA, or 95/10 in case of cross-VPA sampling or biennial monitoring (when applicable).
- (ii) $U_{p,y}$: Usage rate in project scenario p during year y. This would be based on usage survey, to be conducted upon the representative sample of operational stoves.
- (iii) μ_y : Adjustment to account for any continued use of pre-project devices (baseline stove) in the project scenario during the year y. Survey questionnaires administered to a sample of end users will elicit visual inspections of the household and if necessary an interview to confirm whether they are still using a baseline stove and, in that case, to obtain self-reported estimates of the amount of non-renewable biomass consumed per day in traditional stoves in parallel to the project stove.
- (iv) $P_{p,y}$: Specific fuel consumption for an individual technology in project scenario. The actual value will be determined based on the Kitchen Performance Test to be carried out in accordance with Annex 4 of the applied methodology TPDDTEC version 3.1.
- (v) $EG_{p,d,y}$: The monitoring of quantity of electricity consumed by project activity will be done for 3-consecutive days similar to kitchen performance

test in which the energy meter will be fixed to the device to monitor the consumption of electricity for entire day. On the fourth day the final reading will be captured.

- (vi) $H_{p,y}$: Project technology-hours for project database for project technology. This parameter will be monitored with 90% confidence and 10% precision annually for each VPA, or 95/10 in case of cross-VPA sampling or biennial monitoring (when applicable)¹¹.

$P_{ep,y}$: Quantity of fuel consumed by a baseline technology y in project scenario. This will be based on survey questionnaire, to be conducted upon the representative sample of project technologies.

B.7.3. Other elements of monitoring plan

>>

Monitored Systems

1. Total Distribution Record: The total distribution record documents the information listed below for the technologies implemented. A carbon waiver including a warranty card will be distributed with each stove distributed. The CME makes every effort to retrieve this information (paper form or electronically (i.e. SMS) but cannot guarantee the collection of information for waivers and warranties with every stove due to challenges such as high rates of illiteracy and logistical challenges. The total distributions record will be kept electronically and with supporting evidence from paper records and/or SMS tracking records and will be provided to the GS-VVB at verification. The Total Distribution Record contains:

- a) VPA-ID (VPA to which appliance belongs)
- b) Unique identification of stove using stove serial number
- c) Partner organization name, address and telephone (as available)
- d) Date of distribution and model/type of project technology distributed

¹¹ As this is a large-scale VPA, the CME will not follow cross-VPA sampling for monitoring.

- e) Quantity of project technology distributed as evidenced by invoices

Frequency: Ongoing

2. Project Database: [Parameter $N_{p,y}$] Each VPA will have a specific Project Database that records each ICS crediting in that VPA. Every ICS listed in the Total Distribution Record will be transferred into the Project Database of this VPA as needed to expand the number of ICS deployed, until the maximum threshold for this VPA is reached. In addition to the information provided in the Total Distribution Record, the VPA-specific Project Database will record user details (enough for end-user identification and follow-up) for all, or a subset of all, appliances deployed. End-user details recorded are:

- a) Name
- b) Telephone, or address (as available)
- c) Type of stove (stove model) and fuel the ICS is replacing: Example – traditional or improved baseline stoves, or wood or charcoal fuel.

ICS with end-user details recorded here will be used to determine other information needed using as many samples as commensurate with representative sampling to calculate the emission reductions of the project, following TPDDTEC v3.1 page 28/29 guidance on Total Sales Record.

Frequency: Ongoing

3. Continued use of displaced traditional stoves

The replaced low efficiency devices are disposed of and not used within the boundary or within the region. Monitoring surveys conducted on households (HH) using ICS will also investigate the extent to which baseline traditional stoves are still in use. If it is found that a traditional stove is still used, even in a secondary role, the HH will be encouraged to discard their traditional stove through the Disposal Policy. Evidence of use of traditional stoves in other kitchens is not possible as the stoves in question are fixed type. As a final resort, in cases where further

implementation of the Disposal Policy is shown by the monitoring visits to be ineffective, emission reductions are calculated taking into account only that portion of the wood used in the kitchen overall is subject to the improved efficiency of the ICS.

4. Disposal Policy: The project activity encourages full adoption of project stove distributed. To incentivize full adoption, the project proponents extend a full-year warranty in exchange for the disposal of a household's traditional stove.

5. Organizational structure of monitoring and inclusions:

Person	Role
CME database administrator	The database administrator is responsible for updating and maintaining all electronic databases. Required competencies include experience with data management systems (eg. Excel, STATA, or SPSS), minimum 2 years working experience in a similar field, and at minimum a Bachelor's degree from an institution of higher education.
Monitoring team	The monitoring team will be assigned by the CME to conduct the user interviews and appliance tests during the periodic sampling and reports the results to the database administrator. The skills and experience required for the data collection activities include: • Experience conducting surveys/tests • Experience conducting door-to-door surveys of biomass consumption • Local language skills (especially important for input to questionnaire design and interviewing of end users) • English language skills • Cultural awareness • Numerical proficiency • Data entry skills

6. Quality Assurance/Quality control

As the PoA is intended to include multiple regions within a country with a high level of cultural diversity as well as different end user groups, there is no “one size fits all” approach for dealing with these issues. However, in order to avoid many of these problems the CME will undertake the following strategies, tailoring the specific approach to the local circumstances:

- a) Ensuring end user awareness. At the time of distribution, the ICS customer is made aware that they are required to participate in monitoring activities. This will be via a written statement (in English and local language where appropriate) on the carbon waiver form, or via alternative means such as training distribution personnel to explain the importance of monitoring to each customer.
- b) Questionnaire design. The design of the questionnaire will ensure that the questions are non-intrusive and easy to understand for both the interviewee and interviewer. For example, when conducting sampling to estimate the parameter μ_y a simplified approach has been designed to avoid the need for asking customers how much money they spend on fuel.
- c) Drawing on local knowledge. The local contractors to be hired by the CME in the country will play an important role in tailoring the approach to suit local circumstances. For example, in some instances, it may be essential for a local person to conduct the interview in order to obtain accurate results, e.g. to explain to the end user that their old stove will not be removed if they admit to its continued use.
- d) Quality of contractors. Any third parties hired by the CME to carry out sampling will be required to demonstrate a high level of cultural awareness, local language skills and appropriate experience with data entry and data management. The CME will ensure that contractors are adequately trained for the tasks they are contracted for (eg. carrying out of WBTs in line with a methodology supported by an appropriate international body/standards).

Training will also be provided on how to deal with non-responses, refusals and other problems should these occur.

7. Fuel switch scenario

The potential increase in fuels with different carbon intensities (such as increased charcoal usage on users that consumed originally firewood prior to the purchase of the ICS) will be accounted by monitoring consumption of biomass distinguishing the different fuels as charcoal and firewood. In light of this the future monitoring tasks are to be performed accordingly.

SECTION C. DURATION AND CREDITING PERIOD

C.1. Duration of project

C.1.1. Start date of VPA

>>

01/05/2022

C.1.2. Expected operational lifetime of VPA

>>

15 years (3 x 5 years)

C.2. Crediting period of project

C.2.1. Start date of crediting period

>>

01/05/2022

C.2.2. Total length of crediting period

>>

5 years. The crediting period may be renewed twice in line with the Community Services Activity Requirements.

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](#), no ongoing monitoring is applicable to this VPA.

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

Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	The local stakeholder consultation meeting will be carried out following a gender sensitive approach. The VPA refers to raising awareness and consideration of gender norms, roles and relations but do not necessary address inequality generated by unequal norms, roles and relations through remedial action beyond creating gender awareness. The project also includes compliance with the gender 'do no harm' safeguard, gender-gap analysis and gender sensitive stakeholder consultation.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	Uganda has National Gender Policy 2007 with the goal to achieve gender equality and women's empowerment as an integral part of Uganda's socio-economic development. The project will contribute towards the goal of policy by providing women with efficient cookstoves, thereby they will spend less time on cooking or fuel procurement and will be able to cook in cleaner environment.
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	Not required. Improved cookstove projects not following Gender responsive approach do not require to contract an expert as per Gender Equality Requirements & Guidelines. The project will have a positive impact on women included under the programme by providing them with cleaner cooking solutions.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Not required. Improved cookstove projects not following Gender responsive approach do not require to contract an expert as per Gender Equality Requirements & Guidelines. The stakeholder consultation will include interactions with potential beneficiaries including women and their feedback shall be considered appropriately.

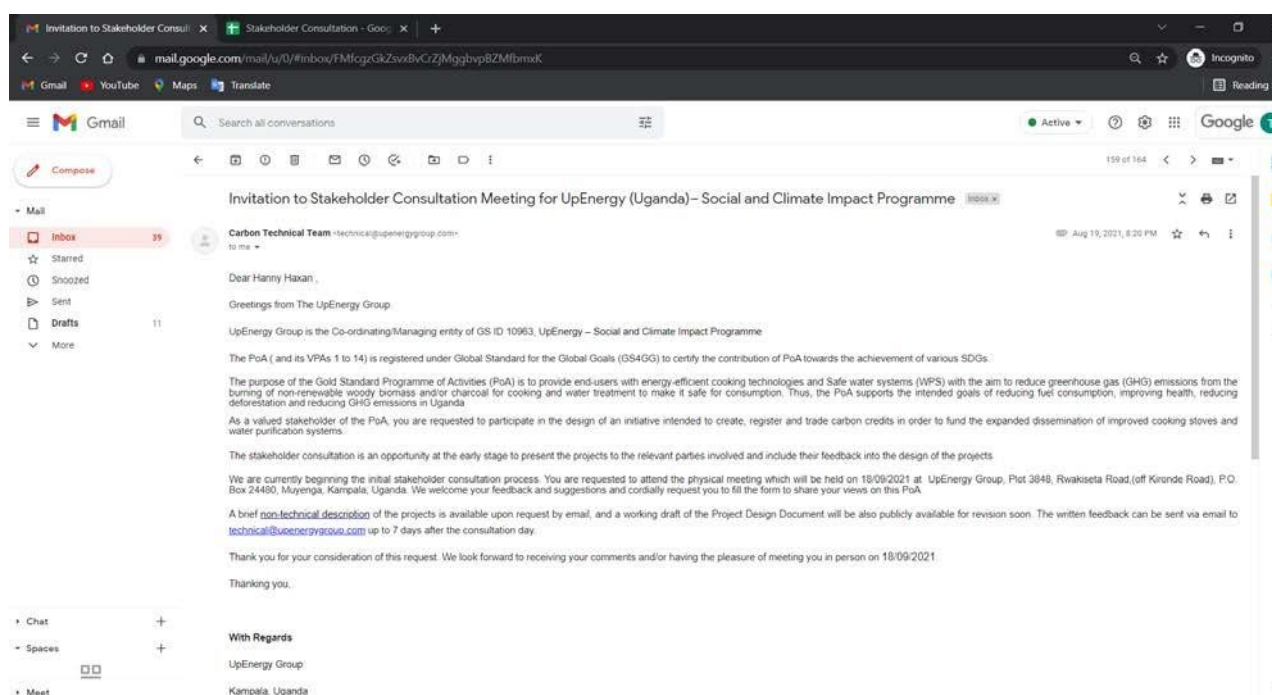
SECTION E. SUMMARY OF LOCAL STAKEHOLDER CONSULTATION

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

>>

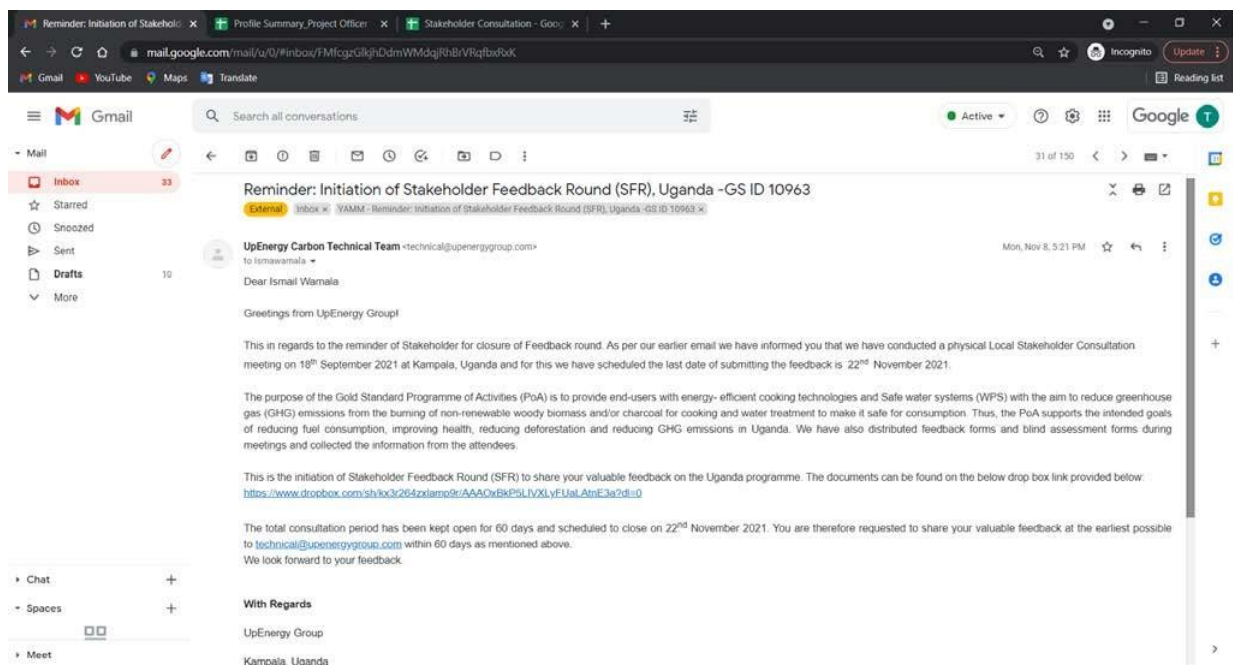
The physical local stakeholder consultation meeting was conducted on 18th September 2021 (which is more than/at least 30-days' notice given to the stakeholders). Invitations were sent to stakeholders along with feedback form and non-technical summary via email on 19th August 2021. Also, newspaper advertisement was published on 23rd August 2021 and 16th September 2021. The screenshots of the advertisement are shown below. Apart from e-mail and newspaper advertisement, stakeholders were invited via informal channels such as phone, whatsapp. There were about 19 participants from various categories participated in the LSC meeting. The feedback forms were distributed during the physical meeting as well as via email along with invitation.





The SFR was initiated on 22nd September 2021. The reminder email for SFR closure was sent on 08th November 2021. The SFR closing mail was sent on 22nd November 2021.

The screenshot of the emails are below:



The consultation involved inviting comments/feedback from the following, but limited to, category of stakeholders:

- Local people impacted by the project and official representatives.
- Local policy makers and representatives of local authorities
- Local non-governmental organizations working on topics relevant to the PoA
- Host country DNA
- Research organizations/institutes working on the technology involved in the PoA
- Renewable energy/energy development nodal agencies
- GS NGO Supporters (present in that host country) + International GS NGOSupporter NGOs
- Other relevant local NGOs of the host country

The consultation process included invitation to wide range of invitees to include effective and equal participation of both men and women. But due to COVID, the attendees were less. Prior to consultation, Community Carbon had provided with the following documents in the language that allows local stakeholders to understand and engage with the project.

- Non-Technical summary with relevant information
- Summary of the economic, social and environmental impacts of the project
- Contact details of the Community Carbon to get for getting technical and projectrelated information of the project
- Email id of Community Carbon was provided to the stakeholders who are not able to join the consultation meeting

The stakeholder consultation report along with findings have been submitted separately. Summary of the few findings from LSC and SFR are listed below:

Organization	Stakeholder Comments (Relevant)	If any changes in project design were made

African Clean Energy	Ensure that the data collection on SDGs are done correctly and people are really benefitting from the programme	NA
African Clean Energy	Programme will ensure to bridge the gap of gender equality and provide opportunities to women	NA
End User	The programme may lead to monetary saving	NA
Bold Energy Limited	Programme provides access to affordable clean energy products to poor households and overall has positive impact on environment	NA

Assessment of comments from all consultations:-

Sr.no	Stakeholder comment	Explanation
1.	Program should be rolled out to cover the entire country especially the area prone to environmental degradation	The geographical area covered is all four administrative regions of Uganda
2.	Carbon credits should be availed to all major green companies	The company is yet to decide on this.
3.	Customers should be given caps, shirts, and money when visited for surveys	We are providing shirt/caps etc for survey team
4.	Should add more effort in the products/ publish in radio and televisions of the product	May consider in future after discussion with management
5.	The moderator was knowledgeable	Narrated the technologies and operations etc to stakeholders in better way by live demonstrations.

6.	UPE needs to understand properly the culture of our people and the challenges	Already implemented this strategy and trying to improve as required.
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E.2. Final continuous input / grievance mechanism

Method	Include all details of Chosen Method (s) so that they may be understood and, where relevant, used by readers.	
Continuous Input / Grievance Expression Process Book (mandatory)	In line with section 2.1 of the Annex W Expression book has been placed at office of Up Energy (Uganda) Limited in Uganda. Stakeholders are free to voice their concerns via the Grievance Expression Book. By maintaining feedback book at the local office, it is ensured that stakeholders that don't have access to electronic media for expressing concerns / grievances are also able to share their concerns / feedback. Additionally, the end users always have an option to revert to the salesperson (representative of distribution/retail partners etc.) in case of any feedback / complaints with the product post distribution.	
GS Contact (mandatory)	help@goldstandard.org	
Other	Email: anantha@communityco2.org	

SECTION F. Eligibility and inclusion criteria for VPAs inclusion

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Please Refer Section A.1.1

APPENDIX 1 - SAFEGUARDING PRINCIPLES ASSESSMENT

Complete the Assessment below and copy all Mitigation Measures for each Principle into [SECTION D](#) above.

Assessment Questions/ Requirements	Justification of Relevance (Yes/potentially/no)	How Project will achieve Requirements through design, management or risk mitigation.	Mitigation Measures added to the Monitoring Plan (if required)
Principle 1. Human Rights			
1. The Project Developer and the Project shall respect internationally proclaimed human rights and shall not be complicit in violence or human rights abuses of any kind as defined in the Universal Declaration of Human Rights 2. The Project shall not discriminate with regards to participation and inclusion	No	The project will be implemented in collaboration with local partners and CME will 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 Right. The project will not discriminate with regards to participation and inclusion.	N/A
Principle 2. Gender Equality			

1. The Project shall not directly or indirectly lead to/contribute to adverse impacts on gender equality and/or the situation of women 2. Projects shall apply the principles of non-discrimination, equal treatment, and equal pay for equal work 3. The Project shall refer to the country's national gender strategy or equivalent national commitment to aid in assessing gender risks 4. (where required) Summary of opinions and recommendations of an Expert Stakeholder(s)	No.	The project activity doesn't endorse any form of discrimination based on gender. ICS will be distributed to all willing customers within the project boundary. The project will have a positive impact on women considering that they will spend less time on cooking or fuel procurement and will be able to cook in cleaner environment.	N/A
Principle 3. Community Health, Safety and Working Conditions			
1. The Project shall avoid community exposure to increased health risks	No	The project doesn't expose the community to increased health risks and is not adversely	N/A

and shall not adversely affect the health of the workers and the community		affecting the health of workers and the community. Use of ICS will contribute in improving the health of users as compared to inefficient traditional stoves by reducing the indoor air pollution. The improved cookstoves are designed, engineered and manufactured in Uganda is being distributed under the PoA. UpEnergy in its capacity as coordinating / managing entity of the PoA confirms that the workers participating in the project activity are not exposed to unsafe or unhealthy work environments and applicable country regulations are strictly adhered to. The same has been vetted during selection of manufacturing partner by the CME. A declaration to this	
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		effect signed by CME has been submitted to Gold Standard.	
Principle 4.1 Sites of Cultural and Historical Heritage			
Does the Project Area include sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture?	No	Since this is a cookstove project, there is no risk of risk to cultural and historic heritage.	N/A
>>			
Principle 4.2 Forced Eviction and Displacement			
Does the Project require or cause the physical or economic relocation of peoples (temporary or permanent, full or partial)?	No	Since this is a cookstove project, there is no risk of forced eviction and displacement.	N/A
>>			
Principle 4.3 Land Tenure and Other Rights			
a. Does the Project require any change, or have any uncertainties related to land tenure arrangements and/or	No	Since this is a cookstove project, there is no risk of uncertainty due to land rights/ownership.	N/A

access rights, usage rights or land ownership? 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 Relevant	Not Required
>>			
Principle 4.4 - Indigenous people			
Are indigenous peoples present in or within the area of influence of the Project and/or is the Project located on land/territory claimed by indigenous peoples?	No	The project does not affect indigenous population directly or indirectly	Not Required
>>			
Principle 5. Corruption			
1. The Project shall not involve, be complicit in or inadvertently contribute to or reinforce	No	CME will ensure that the project doesn't involve, be complicit in or inadvertently contribute to or reinforce corruption or corrupt Projects.	N/A

corruption or corrupt Projects			
Principle 6.1 Labour Rights			
1. The Project Developer shall ensure that all employment is in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions 2. Workers shall be able to establish and join labour organisations 3. Working agreements with all individual workers shall be documented and implemented and include: a) Working hours (must not exceed 48 hours	No	1. The project is implemented on the ground by the UPE in collaboration with other project partners. The project employment will be in compliance with national labour occupational health and safety laws and with the principles and standards embodied in the ILO fundamental conventions. 2. The workers employed by CME for the project are able to establish and join labour organizations. 3. The working agreements with the individual workers will be documented and implemented and the minimum requirements	

per week on a regular basis), AND b) Duties and tasks, AND c) Remuneration (must include provision for payment of overtime), AND d) Modalities on health insurance, AND e) Modalities on termination of the contract with provision for voluntary resignation by employee, AND f) Provision for annual leave of not less than 10 days per year, not including sick and casual leave. 4. No child labour is allowed (Exceptions for children working on their families' property requires an <u>Expert Stakeholder</u> opinion)		stated will be respected as applicable. 4. The minimum age for possible staff hired is 18. 5. All the workers will be provided with appropriate equipment, training documentation and reporting of accidents and incidents, and emergency preparedness and response measures.	
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5. The Project Developer shall ensure the use of appropriate equipment, training of workers, documentation and reporting of accidents and incidents, and emergency preparedness and response measures			
Principle 6.2 Negative Economic Consequences			
1. Does the project cause negative economic consequences during and after project implementation?	No	The project involves sale of ICS to willing customers within the project boundary. Carbon revenues are important for creating awareness among the end users and strengthening the local sales and distribution services.	N/A
>>			
Principle 7.1 Emissions			
Will the Project increase greenhouse gas emissions over the Baseline Scenario?	No	The project will reduce the GHG emissions which will be monitored and verified in line with the GS4GG.	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 does not use energy from a local grid or power supply. Use fuelwood/ charcoal will be significantly reduced by introducing Improved Cookstoves.	N/A
>>			
Principle 8.1 Impact on Natural Water Patterns/Flows			
Will the Project affect the natural or pre-existing pattern of watercourses, ground-water and/or the watershed(s) such as high seasonal flow variability, flooding potential, lack of aquatic connectivity or water scarcity?	No	The project is a cookstoves distribution programme and will not 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.	N/A
>>			
Principle 8.2 Erosion and/or Water Body Instability			
Could the Project directly or indirectly cause additional	No	The project is a cookstoves distribution programme and	N/A

erosion and/or water body instability or disrupt the natural pattern of erosion?		will not directly or indirectly cause additional erosion and/or water body instability or disrupt the natural pattern of erosion.	
>>			
Principle 9.1 Landscape Modification and Soil			
Does the Project involve the use of land and soil for production of crops or other products?	No	The project is a cookstoves distribution programme and does not involve the use of land and soil for production of crops or other products.	N/A
>>			
Principle 9.2 Vulnerability to Natural Disaster			
Will the Project be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions?	No	The project is a cookstoves distribution programme and will not be susceptible to or lead to increased vulnerability to wind, earthquakes, subsidence, landslides, erosion, flooding, drought or other extreme climatic conditions.	N/A
>>			
Principle 9.3 Genetic Resources			

Could the Project be negatively impacted by or involve genetically modified organisms or GMOs (e.g., contamination, collection and/or harvesting, commercial development, or take place in facilities or farms that include GMOs in their processes and production)?	No	The Project is not negatively impacted by the use of genetically modified organisms or GMOs.	N/A
>>			
Principle 9.4 Release of pollutants			
Could the Project potentially result in the release of pollutants to the environment?	No	As the project includes distribution of improved stoves, there is no risk of releasing increased pollutants to the environment.	N/A
>>			
Principle 9.5 Hazardous and Non-hazardous Waste			
Will the Project involve the manufacture, trade, release, and/ or use of hazardous and non-hazardous chemicals and/or materials?	No	The Project does not involve the manufacture, trade, release, and/or use of hazardous chemicals and or materials.	N/A
>>			

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 fertilisers.	N/A
>>			
Principle 9.7 Harvesting of Forests			
Will the Project involve the harvesting of forests?	No	The project does not involve involve the harvesting of forests.	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 does not modify the quantity or nutritional quality of food available such as through crop regime alteration or export or economic incentives.	N/A
>>			
Principle 9.9 Animal husbandry			
Will the Project involve animal husbandry?	No	The project does not involve animal husbandry.	N/A
>>			
Principle 9.10 High Conservation Value Areas and Critical Habitats			

Does the Project physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified?	No	The project is a cookstoves distribution programme and physically affect or alter largely intact or High Conservation Value (HCV) ecosystems, critical habitats, landscapes, key biodiversity areas or sites identified.	N/A
>>			
Principle 9.11 Endangered Species			
Are there any endangered species identified as potentially being present within the Project boundary (including those that may route through the area)? AND/OR Does the Project potentially impact other areas where endangered species may be present through transboundary affects?	No	The project boundary is geographical sites of cookstoves distributed and there are no endangered species identified as potentially being present within the Project boundary.	N/A
>>			

APPENDIX 2- CONTACT INFORMATION OF VPA IMPLEMENTER

Organization name	Community Carbon
Registration number with relevant authority	188181
Street/P.O. Box	
Building	
City	PORT LOUIS
State/Region	
Postcode	
Country	MAURITIUS
Telephone	
E-mail	anantha@communityco2.org
Website	
Contact person	
Title	DIRECTOR
Salutation	
Last name	RAGNAR BURNING
Middle name	
First name	KRISTIAN
Department	
Mobile	
Direct tel.	
Personal e-mail	

APPENDIX 3- LUF ADDITIONAL INFORMATION

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

Where indigenous people and local communities have legal rights, customary rights or sites with special cultural, ecological, economic, religious or spiritual significance:	NA
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APPENDIX 4-SUMMARY OF APPROVED DESIGN CHANGES

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