



**Verified Carbon
Standard**

INSTALLATION OF HIGH EFFICIENCY WOOD BURNING COOKSTOVES IN TANZANIA -PROJECT 3

Document Prepared by

C-Quest Capital CR Stoves Private Limited

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1 PROJECT DETAILS

1.1 Summary Description of the Project

A summary description of the technologies/ measures to be implemented by the project.

The project activity includes the distribution of fuel-efficient improved cookstoves (ICS) in Tanzania. The ICS distributed through this project will replace the baseline cookstoves i.e., three-stone fire or conventional open fire.

An approximately 100,000 ICS through this project will be distributed and installed in the households of Tanzania. It is intended that under this project activity single or double pot TLC- CQC Rocket Stove will be distributed. The ICS burns wood more efficiently due to its higher thermal efficiency, hence saving fuel. As a result, deforestation will be slowed in Tanzania and will also reduce health hazards from indoor smoke pollution and women and children will spend less time gathering firewood.

The end user will be informed in advance that the use of ICS generates carbon finance to the project proponent which in turn is used for recovering the price of ICS and project implementation costs.

The location of the project.

The project activity will be implemented in Tanzania. The details of the project location are provided in Section 1.12.

An explanation of how the project is expected to generate GHG emission reductions or removals.

Each ICS is the project activity instance that will substitute the current practice of using the three stone fire or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney. Fuelwood is burnt more efficiently with the ICS because its thermal efficiency is higher, resulting in a reduction in fuel consumption and greenhouse gas emissions.

A brief description of the scenario existing prior to the implementation of the project .

The baseline scenario is the continued use of three stone fired or a conventional cook stove without a grate or a chimney by the target population burning non-renewable wood fuel to meet similar thermal energy needs in the absence of project activity.

An estimate of annual average and total GHG emission reductions and removals.

The average annual GHG emission reduction from the project is expected to be 285,339 tCO₂e. Total GHG emission reduction from the project is expected to be 2,853,391 tCO₂e over the entire crediting period of 10 years. And the estimated annual GHG emission reduction for each project activity instance is ~2.85 tCO₂e.

<u>Audit Type</u>	<u>Period</u>	<u>Program</u>	<u>VVB Name</u>	<u>Number of years</u>
VCS Joint Validation and Verification	<u>(05-August-2021– 30-June-2022)</u>	VCS	Carbon Check (India) Private Ltd	0.82

1.2 Sectoral Scope and Project Type

The project is categorised under type/category as below:

- a) Sectoral scope: 03 - Energy demand
- b) Type: II – Energy efficiency improvement projects

The project is a grouped project.

1.3 Project Eligibility

The project involves energy efficient cookstove distribution which falls under the category of efficiency improvements in thermal applications, therefore it is eligible under the scope of VCS Program.

1.4 Project Design

- ☒ The project is a grouped project.

Eligibility Criteria

For the inclusion of new project activity instances (each TLC-CQC Rocket Stove), the project proponent shall ensure that it meets the eligibility criteria below.

No.	Criterion	Compliance Requirement	Method of Evaluation
1.	Methodology	The project activity instance shall use VCS approved methodology - VMR0006: Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1 and shall comply with its requirements.	Details of how the project activity meets the requirements of the methodology to be included in section 3.2 of project description document.
2.	Technology	The project activity instance shall implement improved cookstoves having minimum efficiency of 25% below which it shall not be	Manufacturer's specification shall be used for establishing minimum

		eligible under this grouped project.	efficiency criteria in the first year of stove installation.
3.	Capacity Limits	Where a capacity limit applies to a project activity included in the project, no project activity instance shall exceed such limit. Further, no single cluster of project activity instances shall exceed the capacity limit, determined as follows: 1) Each project activity instance that exceeds one percent of the capacity limit shall be identified. 2) Such instances shall be divided into clusters, whereby each cluster is comprised of any system of instances such that each instance is within one kilometer of at least one other instance in the cluster. Instances that are not within one kilometer of any other instance shall not be assigned to clusters. 3) None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that would cause any of the clusters to exceed the capacity limit.	No project activity instance shall exceed the applicable limit, which is 180 GWh_{th}/y. The expected annual energy saving for each project activity instance is approximately 0.01 GWh_{th}/y or 0.01% of the limit. As the annual energy saving is below 1% of the limit, therefore no project activity instance is identified and divided into clusters. Calculation sheet demonstrating adherence to this criterion to be submitted to VVB.
4.	Project Location	Each project activity instance shall be located within the geographic boundary of Tanzania.	Self-declaration to demonstrate that project boundary is within the geographical boundary of Tanzania.
5.	Start date	The start date of project activity instances shall be same as or later than the grouped project activity start date.	ICS distribution/ registration data recorded in project database.
6.	Additionality	Each project activity instance shall demonstrate its compliance with a. Regulatory surplus The project should not be mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework	a. Regulatory Surplus There is no law, statute or government programme or policy in Tanzania mandating the project activity nor is there any systematically enforced law, statute or other regulatory framework for such projects hence this

		b. Positive List The inclusion of new project activity instances shall have to comply with positive list that is the ICS are installed/distributed at zero cost to end user and the project activity instance has no other source of revenue but GHG credits.	requirement is satisfied for all project activity instances to be included in the current grouped project. b. Positive List End-User consent/ICS registration form or any other documentary evidence mentioning that end users were not charged for the ICS. Same can be confirmed during validation/verification.
7.	Target Population	End user for each project activity instance shall be households with non-renewable biomass on inefficient wood or charcoal stoves. Each ICS will be assigned a unique serial number with name of ICS user, address, GPS of household, stove model, distribution date, etc	End user registration certificate or ICS installation database.
8.	Baseline Scenario: Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	All new project activity instances will be installed within Tanzania only and the baseline scenario is the continued use of non-renewable wood fuel by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity. This also conforms to the applied methodology.	In accordance with the requirements of applied methodology, baseline scenario has been defined as the continued use of non-renewable woody biomass by the target population to meet similar thermal energy needs as provided by project cookstoves. The same can be confirmed from Section 3.4 of this VCS-PD.

9.	Double Counting	The Improved Cookstove distributed under this project shall be uniquely identifiable based on the distribution records. Not leave one VCS project and subsequently enroll in another VCS project.	Each ICS distributed (Project Activity Instance) will have a unique serial number and will also have other corresponding end user details (i.e., name, geographical coordinates, address, unique serial number) in the database. Self-declaration provided by the PP.
10.	Ownership: Have evidence of project ownership, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance	A default Beneficiary Agreement for end users including the provision that emission reductions generated by the project activity are owned by the Project Proponent will be provided for project activity instance.	Copy of Consent Letter/ record of consent given from end user to Project Proponent regarding emission reduction claims (Consent record is part of registration certificate)
11.	Crediting period	Be eligible for crediting from the start date of the instance through to the end of the project crediting period (only). Note that where a new project activity instance starts in a previous verification period, no credit may be sought for GHG emission reductions or removals generated during a previous verification period (as set out in Section 3.4.4) and new instances are eligible for crediting from the start of the next verification period.	The start date of the instance will be the date of the stove began generating GHG emission reductions or removals. The end of the crediting period of instance will be the end date of project crediting period as mentioned in section 1.9.1

1.5 Project Proponent

Organization name	C-Quest Capital CR Stoves Private Limited
Contact person	Ken Newcombe
Title	Director
Address	38 Beach Road #29-11, South Beach Tower, Singapore 189767
Telephone	+1-202-247-7976
Email	cqc-operations@cquestcapital.com

1.6 Other Entities Involved in the Project

At the present, C-Quest Capital CR Stoves Private Limited is the sole entity involved in the project.

1.7 Ownership

The project ownership is with C-Quest Capital CR Stoves Private Limited.

Further, registration certificate cum declaration signed by end user (stove owner) during the registration process includes the clause “Acknowledgement and Carbon Rights Waiver – My household hereby transfers and waives all and any rights in connection with the improved cookstove or project and greenhouse gas emission reductions or other environmental or social attributes generated by the installation and use of the improved cookstove to C-Quest Capital CR Stoves Private Limited and we understand that C-Quest Capital CR Stoves Private Limited may, at any time, transfer those rights to an affiliate without further notice or consent”.

This is in line with clause 5 of section 3.7.1. of VCS project standard version 04.4.

1.8 Project Start Date

The start date of this project 05-August-2021, which is the delivery/installation date of first TLC stove.

1.9 Project Crediting Period

05-August-2021 to 04-August-2031, 10 years fixed crediting period

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated annual GHG emission reductions/removals of the project are:

- ☐ <20,000 tCO₂e/year
- ☐ 20,000 – 100,000 tCO₂e/year
- ☒ 100,001 – 1,000,000 tCO₂e/year
- ☐ >1,000,000 tCO₂e/year

Project Scale	
Project	X
Large project	

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
Year 2021-22	541,837
Year 2022-23	480,603
Year 2023-24	420,998
Year 2024-25	362,998
Year 2025-26	306,581
Year 2026-27	251,721
Year 2027-28	198,397
Year 2028-29	146,585
Year 2029-30	96,263
Year 2030-31	47,408
Total estimated ERs	2,853,391
Total number of crediting years	10
Average annual ERs	285,339

1.11 Description of the Project Activity

The project involves distribution of fuel-efficient improved cookstoves (ICS) to replace the baseline cookstoves in households.

The ICS to be deployed under this project is TLC-CQC Rocket Stove which substantially reduces fuel consumption and emissions during cooking and water heating tasks in homes. In comparison to a traditional pot support or three-stone fire, the ICS improves the combustion efficiency and thermal transfer to the pot.

Under this project activity, there are 9466 ICS that were transitioned from the project VCS 2366. Those stoves were already claimed for ERs till its 2nd monitoring period of VCS verification (2nd MP end-date: 15th October 2021) and later excluded those stoves from MP03 onwards. The same can be verified from MP03 verification report and the stove database/ER spreadsheet. PP had already provided clarification on excluding those stoves from VCS 2366 project during its MP03 verification under CAR 02 findings with the same VVB.

To avoid any double counting for those stoves and maintain transparency, PP has decided not to claim any credits for entire stoves from 5th August 2021 until 15th October 2021 and conservatively, PP has accounted the ERs from 16th October 2021 onwards. The database of the transition stoves is also shared in a separate sheet in the ER excel spreadsheet for reference.

Technology/Measure

TLC-CQC Rocket Stove uses a total of 15 bricks that will be made by the households using locally available clay. The average size of the brick would be 22cm x 11cm x 6.5cm. The bricks will be joined together using a mixture of 3 liters clay, 3 liters sand, 3 liters manure/cow dung and 3 liters of water. This ensures reduction in heat loss and better insulation. Metal components have been added to the design to optimize combustion and heat transfer



TLC-CQC Rocket Stove

Stove components

Stove has a metal top that allows the pot to sit higher improving the flow of air into the combustion chamber and out through the top of the stove.

An adjustable metal pot skirt ensures more effective transfer of heat from the fire into the pot, increasing efficiency and also helping to block wind.

TLC-CQC stoves come with a metal stick support which is placed in front of and slightly into the opening of the stove and acts as a firewood feeding platform. This ensures adequate airflow while feeding the fuel into the combustion chamber resulting in complete combustion of wood.

According to independent stove efficiency tests performed by Aprovecho Research Centre on the TLC Rocket Stove, the WBT results yielded an average thermal efficiency of 34.5%.

<i>Parameter</i>	<i>Technical Specifications</i>
Stove Size	Length: 34.5 cm Breadth: 34.5 cm Height: 28 cm
Thermal Efficiency	34.5%
Average Lifetime	10 Years

Data collection of ICS end-user

Project proponent must gather the necessary information to identify households using its ICS during the course of the project. To facilitate this process, each ICS will be assigned a unique serial number. This number will be recorded during the registration process together with the following information (as appropriate and as available):

- Name of ICS user or head of the household
- Address / GPS of ICS household
- Phone number of ICS user or household, where available.
- Stove model
- Date of distribution/installation
- ICS serial number
- Distributer information

The information collected will be stored in the electronic database which will serve as project database for project monitoring and sampling purposes.

Ex-ante v/s Actual emission reductions

The ex-ante emission reductions have been calculated as demonstrated in section 4.4. However, the actual emissions reductions during the verification will depend on the values of $B_{y=1,new,i,j,survey}$ and $N_{y,i,j}$ obtained during the monitoring surveys. Also, the projected stove installation might get extended over a year or maybe even two years depending on the rate of

construction of the stoves on field and therefore for first few years the emission reduction could be lower than the ex-ante calculated values. The uncertainty in number of stoves installed and operational during the monitoring period will primarily result in the differences of the ex-ante and actual emission reductions achieved during the crediting period.

1.12 Project Location

The project location will be the geographical boundary of Republic of Tanzania with coordinates 6° 22'8.5" S latitude and 34° 53.329' E longitude.¹



Tanzania map²

¹ <https://www.geodatos.net/en/coordinates/tanzania>

² <https://dhsprogram.com/pubs/pdf/MIS31/MIS31.pdf>



Map of project area

The KML file of the first project activity instance with Geo Coordinates -8.975535 latitude 32.904525 longitude has been shared with VVB for reference.

However, during this current monitoring period, the project activity instances/ICS implemented under this grouped project are shown in the table below.

Monitoring Period	District Township	Ward
05 August 2021 – 30 June 2022	Mbeya, Mbozi	Halungu, Hasanga, Igamba, Isalalo, Isansa, Itaka, Itawa, Itumpi, Magamba, Msia, Nambinzo, Shiwinga, Vwawa

1.13 Conditions Prior to Project Initiation

The conditions prior to project initiation is the continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity. The pre-project devices are inefficient three-stone fires or conventional systems lacking improved combustion air supply mechanism and flue gas ventilation system i.e., traditional stoves.

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

There are no laws and regulations governing the use of improved cookstoves in Tanzania households. The project is a voluntary effort by the project proponent.

A review is made on Tanzania environmental law and regulation as below:

- a) The Environmental Management Act, 2004³
- b) Environmental Impact Assessment and Audit Regulations, 2005⁴

There is no specific concern made on improved cookstoves project from the above law and regulation.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The project has not been registered, nor is it seeking registration under any other GHG program.

1.15.2 Projects Rejected by Other GHG Programs

The project has not been rejected by any other GHG program.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

The project is not included in an emissions trading program or any other mechanism that includes GHG allowance trading.

1.16.2 Other Forms of Environmental Credit

The project has not sought or received another form of GHG-related environment credit.

1.16.3 Supply Chain (Scope 3) Emissions

As per Section 3.23.9 of the VCS Standard, v4.4, the “producer(s) or retailer(s) of the impacted good or service are known but not involved in the project or do not have a website”. The Project Proponent has informed the manufacturer of the TLC Rocket Stoves as well as the implementing partner in Tanzania at the time of signing agreement for the goods and services provided by them, that ICS will be distributed in Tanzania under this project activity. Also, intimated them about the project registration under VERRA for the generation of VCU. A copy

³ <http://extwprlegs1.fao.org/docs/pdf/tan61491.pdf>

⁴ <http://extwprlegs1.fao.org/docs/pdf/tan71740.pdf>

of the agreement signed with manufacturer of this ICS and implementing partners has been shared with VVB.

PP has further apprised that the ownership of these credits lies exclusively with C-Quest Capital CR Stoves Private Limited to avoid any potential risk of double claiming of Scope 3 emissions through emails and notice publication.

Copies of the emails & public notice has been shared with the VVB for reference. Please refer Appendix B for the details.

1.17 Sustainable Development Contributions

1.17.1 Sustainable Development Contributions Activity Description

The project contributes to sustainable development in a number of ways:

- Environmental Sustainability
 - The project will help significantly reduce greenhouse gas emissions over its lifetime.
 - The project will help reduce the use of non-renewable biomass from forests, thus assist in conserving existing forest stock and the protection of natural forest eco-systems and wildlife habitats.
- Social Sustainability
 - Considerably less time need to be spent collecting wood fuel for the family home thereby reducing the work burden on rural families and presenting alternative opportunities for economic development.
 - The amount of indoor pollutants from the burning of biomass in the family home will be reduced. Less carbon dioxide, carbon monoxide and particulates will be emitted due to the decrease in total biomass burned and an increase in the temperature of combustion.
 - The stove provides a safer method for combusting biomass for cooking, helping to reduce burn injuries, especially for children, in the family home.
- Economic Sustainability
 - The project will help develop a section of the local economy, in the distribution, local assembly, maintenance and monitoring activities.
 - Household expenditures on cooking fuel will be reduced through the use of the ICS.
 - Saved household labour can be diverted to more productive economic activities.
 - The project will create local employment opportunities in operational and management roles, as well as future assembly and/or manufacturing initiatives.
- Technical Sustainability
 - The project introduces improved technologies which is improved cook stoves in the project region.

1.17.2 Sustainable Development Contributions Activity Monitoring

The details of the project activity's contribution to the Sustainable Development Goals have been provided in the Table below:

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
1	3.9	Project specific indicator: Reduction in PM _{2.5} emissions	Implemented activities to decrease	The project activity by replacing traditional cookstoves with 19,570 energy efficient project cookstoves will contribute to improved health and well-being brought about by reduced levels of fine particulate matter (PM _{2.5}) emissions within 100% of these households.	100% of the households receiving improved cookstoves under the project activity are expected to report reduced incidences of illness owing to smoke inhalation as well as reduced accidental burns.
2	4.3	Project specific indicator: Number of individuals who received any informal training	Increase	Vocational training and project related training with respect to successful implementation of a programme, appropriate methods of conducting surveys, carrying out maintenance activities etc. in addition to issues related to climate change was provided to 10 individuals associated with the project.	Contribute to increasing vocational and relevant skills of at least 50 local individuals (with a focus on targeting women and youth) by providing non-formal education and training on issues related to climate change, with specific skill building in operations and surveying activities related to stove distribution and its monitoring under VCS
3	5.4	Project specific indicator: Proportion of women/female population reporting reduction in time spent in collecting fuelwood and cooking.	Implemented activities to decrease	Contribute to reducing drudgery and reducing gender inequality, especially for women and children by saving time spent in collecting fuel wood and cooking, in all 19,570 households translating to equal number of women as they are primary cooks and fuel wood collectors in most of the households. The women can use the time saved for doing more productive activities or personal care.	100% of the primary fuelwood collectors/cooks in households receiving improved cookstoves under the project activity are expected to report reduction in time spent in collecting fuelwood and cooking activities, thereby freeing up time for more productive activities.
4	7.1	7.1.2 Proportion of	Increase	Increasing access to clean cooking technology by	Increase access to clean cooking technology

5	8.3	population with primary reliance on clean fuels and technology	Increase	distributing a set of project stoves in 19,570 households.	with project stoves installations in approximately 100,000 households under the project lifecycle
		8.3.1 Proportion of informal employment in non-agriculture employment, by sex		A total of 10 individuals were directly and indirectly employed under the project activity during the current monitoring period in Country for various activities related to project implementation, maintenance, and monitoring.	Contribute to generation of employment in informal sector (total economy, agriculture, and non-agriculture) by contracting locals with a target employment of 50 employees for varying lengths of time over the project lifetime with a focus on hiring females. Employment comprises all persons of working age who, during a short reference period (minimum one week), or full time will be engaged in any activity to produce goods or provide services for pay or profit
6	13.0	Project Specific indicator: Reduction in emissions as compared to baseline scenario (open fire)	Increase	Total emission reduction in the current monitoring period is 46,133 tCO ₂ eq.	Contribute to GHG reduction through an estimated reduction of ~37.61 tCO ₂ e per stove for the ten-year period owing to the replacement of baseline stoves with project stoves.
7	15.3	15.2.1 Progress towards sustainable forest management by increasing above ground biomass in forests	Implemented activities to decrease	The project has resulted in saving 1.96 tons of non-renewable biomass per stove per annum leading to total savings of ~34521 tons of biomass from 17,613 ICS installation.	Contribute an estimated reduction of deforestation of ~2.20 tons of woody biomass, per stove, per year, from forests surrounding the communities and reducing pressure on forest reserves

1.18 Additional Information Relevant to the Project

Leakage Management

Not applicable as the project adopts a net gross adjustment factor of 95% to account for leakage.

Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

Further Information

Not applicable.

2 SAFEGUARDS

2.1 No Net Harm

The project will only bring positive impacts on environmental and socio-economic aspects as elaborated in Section 1.17 and based on the following facts:

- The project does not coerce the population into any practice or habit which they are not willing to take up as the cooking practice or habit on the project stove is similar to what was practiced before implementing this project activity, i.e., on the baseline stove.
- The project activity promotes gender equality as it intends to reduce the burden on women in the most vulnerable communities by reducing the fuel wood consumption. The amount of time spent collecting fuel wood and cooking will be reduced. Women will have more time for other pursuits. The risk of being exposed to gender-based violence will also reduce.
- The project is neither involved in any activity that would bring environmental deterioration nor will lead to any emission of toxic substances. The project stoves will rather reduce emissions due to the increased thermal efficiency compared to the baseline stoves.
- There are no threats anticipated in terms of negative effects on the local economy. Moreover, the locals will also be employed as a result of this project activity. Thereby improving the economic growth in the region where the project activity has been implemented.

2.2 Local Stakeholder Consultation

PP is implementing improved cookstove projects in Tanzania and seeking registration under VERRA. Through the distribution and installation of energy efficient cookstoves, the project aims to reduce Tanzania's population dependency on non-renewable biomass used for cooking, such as wood and charcoal, improve the surrounding environment from further degradation and transform the lives of the rural poor. To better understand the project, feedback was requested from local stakeholders for the project "Installation of high efficiency wood burning cookstoves in Tanzania" between 26-October-2020 and 25-November-2020. Necessary precautions were taken place in light of the COVID-19 pandemic, with feedback having been conducted electronically when possible, minimizing large groups and socially distancing during in person meetings.

Stakeholders were invited to provide feedback via multiple methods including, an announcement posted on C-Quest Capital's website on 26-October-2020 with an electronic feedback form, Project Description Presentation, and Non-Technical Summary. Furthermore, an English and Swahili advert ran in Column East Africa News, a major national newspaper, on 10-November-2020; and e-mail invitations were sent from C-Quest Capital on 4-November-2020 to 45 people from organizations around the country including government, NGOs, stove manufacturers, project developers, academia and private and public-sector entities involved with cookstoves and/or sustainable energy. The email included a link to the CQC website announcement and feedback form which resulted in electronic commentary from one additional stakeholder.

In total, thirteen individuals attended and gave feedback at the national stakeholder level and two discussions were held on the project in rural Tanzanian communities. Feedback from the beneficiaries emphasized a desire to ensure the environment they occupy is protected. Women especially liked the idea of using small quantities of firewood, the stove producing less smoke and saving them time. They were eager to start a project and see the direct physical benefits. In Mwamlapa village, there was a mixed reaction from the beneficiaries including criticism that the size of the stove will not be able to handle huge cooking pots that large families must use to feed their household. Some also expressed doubts on the practice of switching to small diameter wood and twigs. Specific advantages of the TLC-CQC rocket stove were highlighted in all meetings including, improved health benefits from reducing smoke exposure, time-savings and reduction in labor from a reduced frequency in gathering wood, climate mitigation, protection of forests, and empowerment for women and girls as the primary cooks of the households. The participants were informed about the basics and advantages of the technology and were found interested in giving it a trial in their communities. National stakeholder feedback reflected similar sentiments and additionally noted that focus on implementation areas for stove interventions should be in cotton growing zones, commonly marred with rampant tree-cutting, and special initiatives should be taken to protect forests. Some participants also suggested the importance of using cotton stalks as the small-diameter woody biomass cooking fuel. Overall, both stakeholders and beneficiaries unanimously acknowledged

the benefits of the improved cookstove design and features and there was a considerable amount of positive feedback.

PP will ensure that regular monitoring is carried out by field staff and/or project managers in order to gather feedback from the local stakeholders. During the implementation of project activity, any stakeholders concerns (both positive or negative) will be taken due care by the project proponent and necessary actions would be taken to resolve their queries.

On-going Communication Mechanism

The stove owner can contact the local implementation partner in case any support or replacement of any stove part is required. The contact details of the local implementation partner have been shared with the end users during the stove installation. The local support staff address the end users' query by providing the necessary support. In case of replacement of stove part is needed, local staff coordinates with the management team to arrange the replacement of the part. At the time of monitoring survey also, field staff takes feedback from the local stakeholders. All stakeholders' concerns (positive or negative) during implementation of the project activity have been compiled in the survey results spreadsheet. Necessary action has been taken by the PP (if required) to address the concerns raised by stakeholders during ongoing communication.

Grievance Redressal Mechanism

PP follows a proper Feedback and Grievance Redress Policy and Procedure, which ensures that project-affected communities and individual stakeholders' grievances are properly prioritized and addressed. These measures are taken to enhance PP's accountability and transparency and to support the project initiatives that can help the communities to identify adverse effects to them, or their environment which had not previously been identified and mitigated by PP.

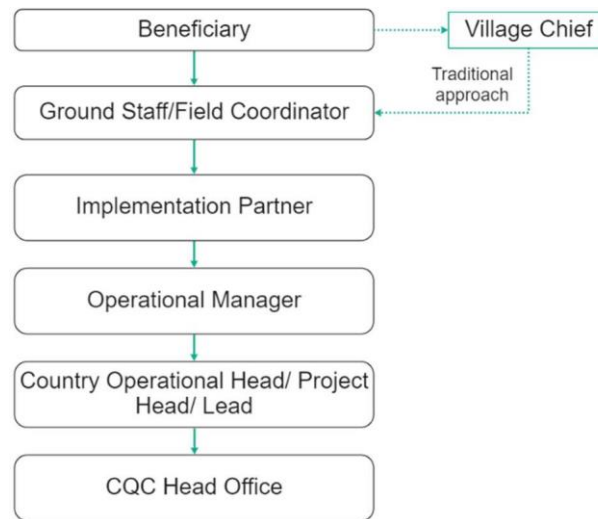


Fig: Flow of information/complaint/grievances from stakeholder to PP

The Grievance Policy and Procedure is accessible as a phone number of the PP/implementing partner office in Tanzania which is available on the brochure provided to each household. All the

grievances received during the current monitoring period are shown in the table below. Also, the grievance register records are being shared with VVB for reference.

Grievance(s) Received	Action Taken
Facing difficulties in preparing 'Ugali' (corn meal made from maize or corn flour)	An end user was facing difficulties in holding the pots while cooking their traditional meal 'Ugali'. Field coordinator visited the household and advised them to use locally made pot-holder (made of wooden stick) during the preparation of food.
Improper use of pot skirt	An end user was found improperly using the pot skirt during spot check while cooking the food. Field coordinator retrained the beneficiary to properly use the pot skirt and also explained about its importance and benefits.
Stove QR card lost	An end user has reported that she lost her stove QR card. Field enumerator reprinted the QR card and provided to the beneficiary within 2 days of reporting the issue.
Project stove is too smoky.	End user was using bigger logs to prepare their food, choking the flow of oxygen level in the combustion chamber leading to increased smoke. Field officer visited the household and sensitized to use small twigs and branches instead of bigger logs as well as to avoid using wet wood for the preparation of food.
Difficult to prepare fuel	End user has been cutting tree to make wood logs for preparing firewood. Field officer visited the household and sensitized them to use small twigs and branches collected from the fields and nearby areas instead of cutting tree.

2.3 Environmental Impact

No negative environmental impacts have been identified from the project and environmental impact assessment (EIA) is not required for the project.

2.4 Public Comments

No comments were received for this project during the public commenting period.

2.5 AFOLU-Specific Safeguards

This section is not applicable as the project is a non-AFOLU project.

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

- VMR0006: Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1⁵
- Tool 30: Calculation of the fraction of non-renewable biomass, Version 3.0⁶
- Standard: Sampling and Surveys for CDM project activities and programmes of activities, Version 09.0⁷

3.2 Applicability of Methodology

Applicability criterion	How the project complies
Project activities shall be implemented in domestic premises or in community-based kitchen	The proposed project involves deployment of ICS only in households.
The project stove shall have specified high-power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi-pot;	TLC-CQC Rocket stoves planned to be installed under this project are single pot firewood cookstoves that have an efficiency of 34.5% as per the manufacturer's specifications.
Both 'Projects' and 'Large Projects' can use the methodology	Estimated average annual emission reductions for the grouped project activity are lesser than 300,000 tonnes CO _{2e} per year. Therefore, proposed project qualifies the "Projects" criteria.

⁵ <https://verra.org/wp-content/uploads/2021/07/VMR0006-Methodology-for-Installation-of-High-Efficiency-Firewood-Cookstoves-v1.1.pdf>

⁶ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-30-v3.0.pdf>

⁷ https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20210531160756223/Meth_Stan05.pdf

Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics;	Non-renewable biomass has been used since 31 December 1989 in Tanzania as demonstrated below in this section of VCS- PD.
For the specific case of biomass residues processed as a fuel (e.g., briquettes, wood chips), it shall be demonstrated that: (a) It is produced using exclusively renewable biomass (more than one type of biomass may be used). (b) The consumption of the fuel should be monitored during the crediting period and (c) Energy use for renewable biomass processing (e.g., shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream emissions associated with the processing of the displaced fossil fuel and hence disregarded.	Not applicable. The ICS is introduced as energy efficiency measure to replace baseline stoves and reduce the use of non- renewable biomass for combustion.
The project design shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end- user locations (e.g. programme logo).	The project proponent will ensure that every cookstove that will be distributed within the project area will have alphanumeric unique ID. In addition, the project has been cross checked against other CDM project activity operating in the country using the UNFCCC, the Gold Standard, and other relevant voluntary carbon schemes to ensure that the ICS is not included in any other CDM project activity or voluntary project activity. Also, the approach adopted for distribution of cookstoves will be elaborately described in the monitoring report.
The PD shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices.	The stove manufacturers/ wholesale providers/ end users shall sign an undertaking stating clearly that the PP or an entity authorized by it shall be the sole owner of the VCU's arising from the project.

Evidence that the non-renewable biomass has been in use since 1989

Non-renewable biomass has been in use since December 31, 1989 as evidenced by various FAO statistical data. The Global Forest Resources Assessment 2010⁸ (FAO) indicates that forest areas decline yearly. Between years 1990 and 2010, Tanzania lost on average of 403,300 hectares of forest per year. This amounts to an average annual deforestation rate of 0.97%. Between years 2000 and 2010, the rate of forest loss is 10.77% or 0.11% per annum. In total, between 1990 and 2010, Tanzania lost 19.44% of its forest cover, or around 8,067,000 hectares.

Decline in forest area between 1990 - 2010

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	41 495	37 462	35 445	33 428
Other wooded land	18 183	14 901	13 260	11 619
Other land	28 902	36 217	39 875	43 533
...of which with tree cover	n/a	n/a	n/a	n/a
Inland water bodies	6 150	6 150	6 150	6 150
TOTAL	94 730	94 730	94 730	94 730

Thus, it can be concluded that losses have been reported in forest areas from before 1989 thereby hinting that majority of fuelwood used across Tanzania comes from non-renewable sources.

3.3 Project Boundary

As per VMR0006 ver1.1, the project boundary is determined following the procedure provided in CDM methodology AMS-II.G. ver13.0

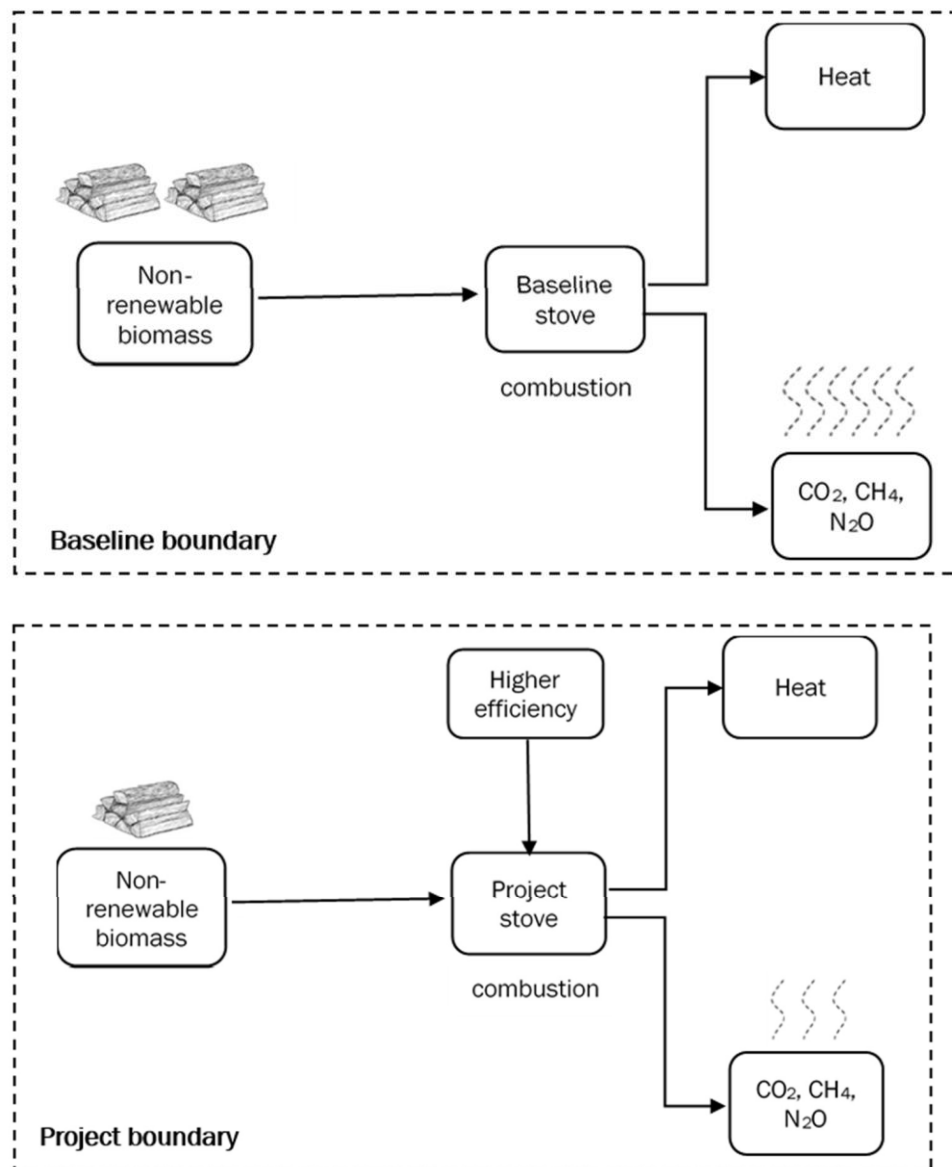
Component	Project Boundary
16. The project boundary is the physical, geographical site of the efficient devices that utilize biomass.	The project boundary for this project is the geographical boundary of republic of Tanzania. Refer section 1.12 for more details.

Source	Gas	Included?	Justification/Explanation
Baseline	Emission from CO ₂	Yes	Major source
	use of non-renewable CH ₄	Yes	Major source
	biomass/Fossil N ₂ O	Yes	Major source

⁸ FAO, Global Forest Resources Assessment 2010, Country Report, United Republic of Tanzania, PAGE 14

Project	fuel	Other	No	No other source identified
		CO ₂	Yes	Major source
	Emission from use of non-renewable biomass	CH ₄	Yes	Major source
		N ₂ O	Yes	Major source
		Other	No	No other source identified

A representation of the baseline boundary and project boundary are given as below.



3.4 Baseline Scenario

The baseline scenario is the continued use of three stone fired or a conventional cook stove without a grate or a chimney by the target population burning non-renewable wood fuel to meet similar thermal energy needs in the absence of project activity. The project cookstoves (ICS) will be deployed substituting the less efficient baseline stoves.

Tanzania is a nation of approximately 48 million people with the majority of households using biomass as the primary source of cooking energy. Firewood is the most common fuel in rural households and charcoal is the most common fuel in urban and peri-urban households. Most rural households use the three stone fire place to cook their meals. The low use of clean cookstoves and fuels has numerous consequences, including deaths due to indoor air pollution, untold numbers of burns and other injuries, deforestation and environmental degradation⁹.

The main source of energy for cooking in Tanzania Mainland is firewood (60.9%) followed by charcoal (28.8%), industrial gas (3.2%), Electricity (2.1%), paraffin (1.3%) and solar (1.1% of households). Use of firewood as the main source of energy for cooking is more common in Rural Areas (84.8% of households) than in Urban Areas (17.4%)¹⁰.

Baseline scenario can also be verified from the registration cum consent deed signed by the registered stove owner at the time of distribution of the project device (ICS), which confirms that, registered user voluntarily adopting the project stove and was using the three stone fire or conventional device (without a grate or a chimney) before adopting the project stove.

3.5 Additionality

The methodology uses activity method for the demonstration of additionality.

Activity Method

Step 1: Regulatory Surplus

There is no mandated government programme or policy in host country of this project ensuring the distribution of domestic fuel-efficient cookstoves. The project is not mandated by any law, statute or other regulatory framework, or for UNFCCC non-Annex I countries, any systematically enforced law, statute or other regulatory framework.

Households may only participate voluntarily in this project. It is hereby confirmed that the proposed project is a voluntary coordinated action by PP.

⁹ [ICS Country Action Plan.pdf \(tarea-tz.org\)](#)

¹⁰ [2017 18 HBS Key Indicators Report Engl.pdf \(nbs.go.tz\)](#)

Step 2: Positive List

As per Section 3.2, the project meets the applicability conditions of the methodology which represent the positive list.

The project installs the ICS at zero cost to the household and has no other source of revenue other than the sale of GHG credits.

The project is not implemented as part of government schemes or supported by multilateral funds.

Conclusion: As the project fulfills the conditions above, it is deemed additional.

Step 3: Project Method

This step is not applicable under project activity because the stoves are provided at zero cost to the end-users.

3.6 Methodology Deviations

The project did not apply any methodology deviations.

4 IMPLEMENTATION STATUS

4.1 Implementation Status of the Project Activity

There is a total of 19570 ICS (TLC-CQC Rocket Stove model) distributed under the project activity during the 1st MP (5th August 2021 to 30th June 2022). Out of which there are 9466 ICS that were transitioned from the project VCS 2366. To avoid any double counting for those stoves and maintain transparency, PP has decided not to claim any credits for entire stoves until 15th October 2021 and conservatively, PP has accounted for the ERs from 16th October 2021 onwards only.

Below shows the district wise implementation status of the project activity instances (PAIs) during the current monitoring period (05 August 2021 – 30 June 2022).

Distribution Month	District Township Name	No. of ICS distributed
August (from 5 th)	Mbozi	2,537
September	Mbozi	5,048
October	Mbozi	4,443
November	Mbozi	3,444
December	Mbozi	3,292

January	Mbozi	803
February	Mbozi, Mbeya	3
March	-	-
April	-	-
May	-	-
June	-	-

VCS methodology VMR0006, version 1.1 allows the use of a correction factor of 0.95 applied to the overall emissions reductions to account for any possible leakage. This factor has been applied to the emissions reductions presented in this report.

5 ESTIMATED GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

The methodology (VMR0006- Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1) does not account for baseline emissions separately, but instead quantifies net emission reductions achieved by the project. Please refer to Section 4.4

5.2 Project Emissions

The methodology (VMR0006- Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1) does not account for project emissions separately, but instead quantifies net emission reductions achieved by the project. Please refer to Section 4.4

5.3 Leakage

Leakage shall be considered as default 0.95 in accordance with methodology (VMR0006- Methodology for Installation of High Efficiency Firewood Cookstoves, Version 1.1).

5.4 Estimated Net GHG Emission Reductions and Removals

The improved cookstove is introduced as energy efficiency measure in the project, therefore equations 1 and 2 of the methodology will be applied to calculate the net GHG emission reductions.

$$ER_y = \sum_i \sum_j ER_{y,i,j} \quad \text{Equation (1)}$$

Where:

- i = Indices for the situation where more than one type/model of improved cookstove is introduced to replace three-stone fire
- j = Indices for the situation where there is more than one batch of improved cookstove of type i
- ER_y = Emission reductions during year y in t CO₂e
- $ER_{y,i,j}$ = Emission reductions by improved cookstove of type i and batch j during year y in t CO₂e

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,C02} + EF_{wf,non\ C02}) \times N_{y,i,j} \times 0.95 \quad \text{Equation (2)}$$

Where:

- $B_{y,savings,i,j}$ = Quantity of woody biomass that is saved in tonnes per improved cookstove of type i and batch j during year y
- $f_{NRB,y}$ = Fraction of woody biomass that can be established as non-renewable biomass (fNRB)
- $NCV_{wood\ fuel}$ = Net calorific value of the non-renewable woody biomass that is substituted or reduced (IPCC default for wood fuel, 0.0156 TJ/tonne)¹¹
- $EF_{wf,C02}$ = CO₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 112 tCO₂/TJ)¹²
- $EF_{wf,non\ C02}$ = Non-CO₂ emission factor for the use of wood fuel in baseline scenario (IPCC default for wood fuel, 26.23 tCO₂/TJ)¹³

¹¹ 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 1 Introduction

¹² 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

¹³ 2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion

$N_{y,i,j}$	=	Number of improved cookstoves of type i and batch j operating during year y
0.95	=	Discount factor to account for leakage

The quantify of woody biomass saved due to implementation of improved cookstoves to be estimated using equation below:

$$B_{y,savings,i,j} = B_{y=1,new,i,survey} \times \left(\frac{\eta_{new,y,i,j}}{\eta_{old}} - 1 \right) \quad \text{Equation (3)}$$

where

η_{old}	=	Efficiency of baseline cookstove
$\eta_{new,y,i,j}$	=	Efficiency of the improved cookstove type i and batch j determined through water boiling test (WBT) during year y Alternatively, efficiency may be determined using Equation 4.
$B_{y=1,new,i,j,survey}$	=	Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j , determined in the first year of the implementation of the project through a sample survey.

$$\eta_{new,y,i,j} = \eta_p \times (DF_n)^{y-1} \times 0.94 \quad \text{Equation (4)}$$

where

η_p	=	Efficiency of project stove (fraction) at the start of project activity.
$(DF_n)^{y-1}$	=	Discount factor to account for efficiency loss of project cookstove per year of operation (fraction). This value may be based on actual monitoring or based on manufacturer's declaration on expected loss in efficiency or through publicly available literature on relevant industry standards. Alternatively default value of 0.99 efficiency loss per year can be considered.
0.94	=	Adjustment factor to account for uncertainty related to project cookstove efficiency test.

For ex-ante calculation purpose, the assumption below is applied.

- 1) The project will install up to 100,000 ICS.
- 2) The life span of ICS is 10 years. For conservative estimate of ER, the annual stove loss rate is estimated at 10%.

$B_{y=1,new,i,j,survey}$ is assumed as 1.32 tonnes / device / year

Determination of number of ICS operating during year y

$$N_{y,i,j} = 100,000 \times [1 - (y-1) \times 10\%]$$

Example of calculation:

If $y = 2$,

$$N_{y,i,j} = 100,000 \times [1 - (2-1) \times 10\%]$$

$$= 100,000 \times 90\%$$

$$= 90,000$$

Hence, the number of ICS operating during year y is as below:

Year (y)	$N_{y,i,j}$
1	100,000
2	90,000
3	80,000
4	70,000
5	60,000
6	50,000
7	40,000
8	30,000
9	20,000
10	10,000

Determination of efficiency of ICS during year y

$$\eta_{\text{new},y,i,j} = \eta_p \times (DF_n)^{y-1} \times 0.94$$

Where

$$\eta_p = 34.5\%$$

$$DF_n = 0.99$$

Example of calculation:

If $y = 2$

$$\eta_{\text{new},y,i,j} = 34.5\% \times (0.99)^{2-1} \times 0.94$$

$$= 32.11\%$$

Hence the efficiency of ICS during year y is as below:

Year (y)	$y_{new,y,i,j}$
1	32.43%
2	32.11%
3	31.78%
4	31.47%
5	31.15%
6	30.84%
7	30.53%
8	30.23%
9	29.92%
10	29.63%

Determination of quantity of woody biomass that is saved in tonnes per ICS during year y

$$B_{y,savings,i,j} = B_{y=1,new,i,survey} \times \left(\frac{\eta_{new,y,i,j}}{\eta_{old}} - 1 \right)$$

Example of calculation:

If y= 2,

$$B_{y,savings,i,j} = 1.32 \times [(0.3211/0.1) - 1]$$

$$= 2.9289 \text{ tonnes}$$

Year (y)	$B_{y=1,new,i,survey}$	$y_{new,y,i,j}$	η_{old}	$B_{y,savings,i,j}$
1	1.32	32.43%	0.1	2.9719
2	1.32	32.11%	0.1	2.9289
3	1.32	31.78%	0.1	2.8864
4	1.32	31.47%	0.1	2.8442
5	1.32	31.15%	0.1	2.8026
6	1.32	30.84%	0.1	2.7613
7	1.32	30.53%	0.1	2.7204

8	1.32	30.23%	0.1	2.6800
9	1.32	29.92%	0.1	2.6399
10	1.32	29.63%	0.1	2.6003

Determination of emission reductions by ICS during year y

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,C02} + EF_{wf,non\ C02}) \times N_{y,i,j} \times 0.95$$

Where

$$NCV_{wood\ fuel} = 0.0156\ TJ/tonne$$

$$f_{NRB,y} = 0.89$$

$$EF_{wf,C02} + EF_{wf,non\ C02} = 112 + 26.23 = 138.23\ tCO_2/TJ$$

Example of calculation:

If y=2,

$$ER_{y,i,j} = 2.9289 \times 0.0156 \times 0.89 \times 138.23 \times 90,000 \times 0.95$$

$$=480,603\ tCO_2$$

Year	$B_{y,savings,i,j}$	$NCV_{wood\ fuel}$	$f_{NRB,y}$	$EF_{wf,C02} + EF_{wf,non\ C02}$	$N_{y,i,j}$	$ER_{y,i,j}$
1	2.9719	0.0156	0.89	138.23	100,000	541,837
2	2.9289	0.0156	0.89	138.23	90,000	480,603
3	2.8864	0.0156	0.89	138.23	80,000	420,998
4	2.8442	0.0156	0.89	138.23	70,000	362,998
5	2.8026	0.0156	0.89	138.23	60,000	306,581
6	2.7613	0.0156	0.89	138.23	50,000	251,721
7	2.7204	0.0156	0.89	138.23	40,000	198,397
8	2.6800	0.0156	0.89	138.23	30,000	146,585

9	2.6399	0.0156	0.89	138.23	20,000	96,263
10	2.6003	0.0156	0.89	138.23	10,000	47,408

Year	Estimated baseline emissions or removals (tCO _{2e})	Estimated project emissions or removals (tCO _{2e})	Estimated leakage emissions (tCO _{2e})	Estimated net GHG emission reductions or removals (tCO _{2e})
Year 2021-22	541,837	0	0	541,837
Year 2022-23	480,603	0	0	480,603
Year 2023-24	420,998	0	0	420,998
Year 2024-25	362,998	0	0	362,998
Year 2025-26	306,581	0	0	306,581
Year 2026-27	251,721	0	0	251,721
Year 2027-28	198,397	0	0	198,397
Year 2028-29	146,585	0	0	146,585
Year 2029-30	96,263	0	0	96,263
Year 2030-31	47,408	0	0	47,408
Total	2,853,391	0	0	2,853,391

6 MONITORING

6.1 Data and Parameters Available at Validation

Data / Parameter	$f_{NRB,y}$
Data unit	Fraction
Description	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass
Source of data	Value determined from survey methods

Value applied	0.89
Justification of choice of data or description of measurement methods and procedures applied	This parameter shall be determined ex-ante. C4 EcoSolutions (Pty) Ltd was appointed as third party to study and derive the f_{NRB} value for Tanzania.
Purpose of Data	Calculation of emission reductions
Comments	The report of f_{NRB} will be made available to VVB during the validation.

Data / Parameter	$NCV_{wood\ fuel}$
Data unit	TJ/tonne
Description	Net calorific value of the non-renewable woody biomass that is substituted or reduced
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 1 Introduction
Value applied	0.0156
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value
Purpose of Data	Calculation of emission reductions
Comments	No comments

Data / Parameter	EF_{wf,CO_2}
Data unit	tCO ₂ /TJ
Description	CO ₂ emission factor for the use of wood fuel in baseline scenario
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion
Value applied	112
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value

Purpose of Data	Calculation of emission reductions
Comments	No Comments

Data / Parameter	$EF_{wf,non\ CO_2}$
Data unit	tCO ₂ /TJ
Description	Non-CO ₂ emission factor for the use of wood fuel in baseline scenario
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories; Volume 2 Energy, Chapter 2 Stationary Combustion
Value applied	26.23
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value
Purpose of Data	Calculation of emission reductions
Comments	No Comments

Data / Parameter	η_{old}
Data unit	Fraction
Description	Efficiency of baseline cookstove
Source of data	Methodological default value
Value applied	0.1
Justification of choice of data or description of measurement methods and procedures applied	A default value of 0.1 shall be used if baseline device is a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney
Purpose of Data	Calculation of emission reductions
Comments	No Comments

Data / Parameter	η_p
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Data unit	Fraction
Description	Efficiency of project stove at the start of project activity.
Source of data	Manufacturer's specification
Value applied	0.345
Justification of choice of data or description of measurement methods and procedures applied	This parameter shall be determined ex-ante
Purpose of Data	Calculation of $I_{new,y,i,j}$
Comments	No Comments

6.2 Data and Parameters Monitored

Data / Parameter	$N_{y,i,j}$
Data unit	Number
Description	Number of project devices of type I and batch j operating during year y
Source of data	Monitoring
Description of measurement methods and procedures to be applied	Measured directly or based on a representative sample. Sampling standard shall be used for determining the sample size to achieve 90/10 confidence precision according to version 9 of sampling standard "sampling and surveys for CDM project activities and programme of activities", version 9.
Frequency of monitoring/recording	At least once every two years
Value applied	For ex-ante emission reduction calculation, it is assumed that the project will distribute up to 100,000 ICS.
Monitoring equipment	Monitoring survey
QA/QC procedures to be applied	The unique reference number/stove ID for each ICS shall be logged in the monitoring database having the records for total number of ICS distributed. Data from the sampling plan will be collected in each monitoring period by trained project staff and applied in the emission reduction calculations. Regular internal spot-audits will be undertaken by the Project Proponent as

	QA/QC procedures.
Purpose of data	Calculation of emission reductions
Calculation method	Proportion of operational stoves obtained from the survey is multiplied by the total commissioned stoves to arrive at this value As per the current MP survey 100% of stoves were found to be operational. However, as per the stove champion follow up survey conducted in latest MP, stoves in operation was 97.26%, and as per the secondary data of other projects, stoves in operation percentage was 94.40%. PP has considered as minimum number of stoves in operation 90%. Hence, PP has considered the lowest value of stoves in operation 90% on a conservative basis. Proportion of operational stoves: 90% $N_{y,i,j} = 90\% * 19,570$ $= 17,613$
Comments	No Comments

Data / Parameter	$\eta_{new,y,i,j}$																						
Data unit	Fraction																						
Description	Efficiency of the improved cookstove type i and batch j determined through water boiling test (WBT) during year y																						
Source of data	Calculation																						
Description of measurement methods and procedures to be applied	To adopt Option V given in the methodology: “Efficiency of the improved cookstoves to be estimated using equation 5 above where loss in efficiency per year is calculated, and therefore this parameter does not need to be monitored”																						
Frequency of monitoring/recording	Once at the time of project stove installation																						
Value applied	For ex-ante calculation, the value below is applied. <table border="1"> <thead> <tr> <th>Year (y)</th><th>$\eta_{new,y,i,j}$</th></tr> </thead> <tbody> <tr><td>1</td><td>32.43%</td></tr> <tr><td>2</td><td>32.11%</td></tr> <tr><td>3</td><td>31.78%</td></tr> <tr><td>4</td><td>31.47%</td></tr> <tr><td>5</td><td>31.15%</td></tr> <tr><td>6</td><td>30.84%</td></tr> <tr><td>7</td><td>30.53%</td></tr> <tr><td>8</td><td>30.23%</td></tr> <tr><td>9</td><td>29.92%</td></tr> <tr><td>10</td><td>29.63%</td></tr> </tbody> </table>	Year (y)	$\eta_{new,y,i,j}$	1	32.43%	2	32.11%	3	31.78%	4	31.47%	5	31.15%	6	30.84%	7	30.53%	8	30.23%	9	29.92%	10	29.63%
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10	29.63%																						

Monitoring equipment	Not Applicable
QA/QC procedures to be applied	Not Applicable
Purpose of data	Calculation of emission reductions
Calculation method	Calculation was performed using equation below: $\eta_{\text{new},y,i,j} = \eta_p \times (DF_n)^{y-1} \times 0.94$ For vintage 1 stoves: $\eta_{\text{new},1,i,j} = 0.345 \times (0.99)^{1-1} \times 0.94$ = 0.3243 For vintage 2 stoves: $\eta_{\text{new},2,i,j} = 0.345 \times (0.99)^{2-1} \times 0.94$ = 0.3211 For vintage 3 stoves: $\eta_{\text{new},3,i,j} = 0.345 \times (0.99)^{3-1} \times 0.94$ = 0.3178 For vintage 4 stoves: $\eta_{\text{new},4,i,j} = 0.345 \times (0.99)^{4-1} \times 0.94$ = 0.3147 For vintage 5 stoves: $\eta_{\text{new},5,i,j} = 0.345 \times (0.99)^{5-1} \times 0.94$ = 0.3115 For vintage 6 stoves: $\eta_{\text{new},6,i,j} = 0.345 \times (0.99)^{6-1} \times 0.94$ = 0.3084 For vintage 7 stoves: $\eta_{\text{new},7,i,j} = 0.345 \times (0.99)^{7-1} \times 0.94$ = 0.3053 For vintage 8 stoves: $\eta_{\text{new},8,i,j} = 0.345 \times (0.99)^{8-1} \times 0.94$ = 0.3023 For vintage 9 stoves: $\eta_{\text{new},9,i,j} = 0.345 \times (0.99)^{9-1} \times 0.94$ = 0.2992 For vintage 10 stoves: $\eta_{\text{new},10,i,j} = 0.345 \times (0.99)^{10-1} \times 0.94$ = 0.2963
Comments	No Comments

Data / Parameter	$B_{y=1,\text{new},i,j,\text{survey}}$
Data unit	Tonnes
Description	Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j, determined in the first year of the implementation of the project through a sample

	survey
Source of data	Monitoring survey
Description of measurement methods and procedures to be applied	Sampling standard “sampling and surveys for CDM project activities and programme of activities” version 9 was used for determining the sample size. This value was determined within the first year of the introduction of the devices through sample surveys.
Frequency of monitoring/recording	In the first year of project implementation
Value applied	For ex-ante calculation, the value is assumed as 3.63 kg/device/day or equal to 1.32 tonnes/device/year.
Monitoring equipment	Weighing Scales will be used for measuring the quantity of fuelwood consumption in the project device.
QA/QC procedures to be applied	Calibration of weighing scales to be used for measuring the fuel wood will get done prior to its use on the site.
Purpose of data	Calculation of emission reductions
Calculation method	Not Applicable. This is monitored value.
Comments	No Comments

Data / Parameter	Life Span
Data unit	Number of years
Description	The operating lifetime of the project device. The life span should be reported if the methodology equation 5 is adopted to determine the project stove efficiency
Source of data	Manufacturer’s specification
Description of measurement methods and procedures to be applied	PP promotes end users to build the stove themselves (mud and brick structure) as per the design specification and then PP provides all metal parts to end user at the time of registration of the ICS in project database. PP provides free of cost replacement for the metal parts in case it is damaged or broken throughout the crediting period of the project. All end users have been trained to repair the mud and brick structure in case of any cracks or damage. Considering the above, it can be confirmed that TLC Rocket stove can easily survive the project lifetime of 10 years due to ease of

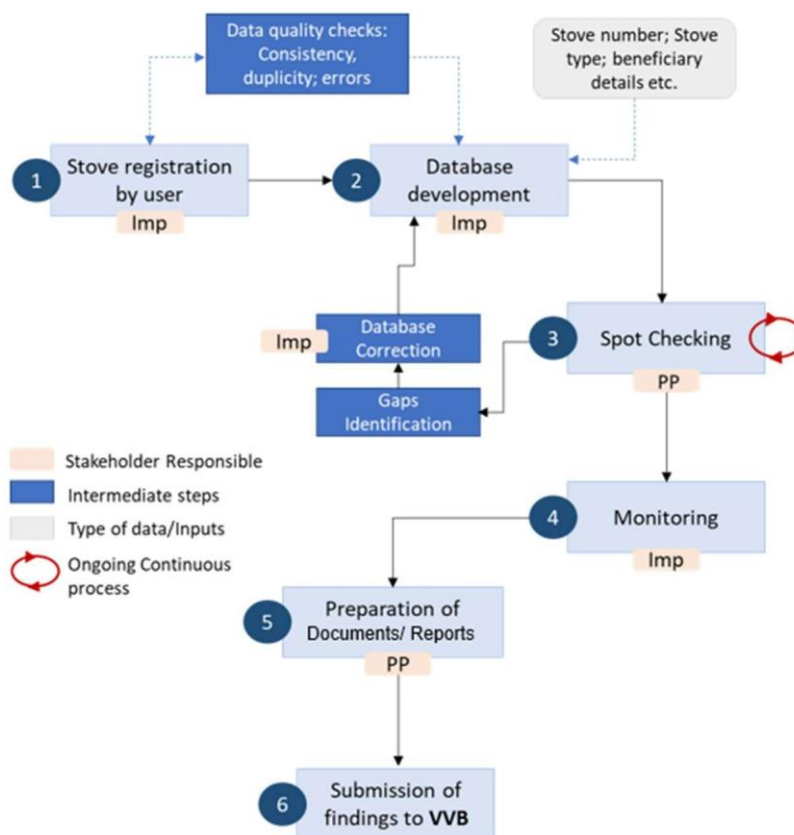
	repair and free replacement of metal parts.
Frequency of monitoring/recording	Once at the time of project stove installation
Value applied	10
Monitoring equipment	No equipment is required to monitor this parameter
QA/QC procedures to be applied	PP conducts periodic audits of the stoves that will be distributed under the project activity to ensure their proper functioning throughout the project lifetime.
Purpose of data	Calculation of emission reductions
Calculation method	Not Applicable
Comments	No Comments

6.3 Monitoring Plan

The Monitoring Plan applied in this project involves several key elements that ensure that the PP and/or Implementer have high-quality, unbiased, and reliable information regarding the performance of the project in terms of implementation and outcomes, and for the purposes of calculating Verified Carbon Units (VCUs) following VMR 0006 version 1.1 on the basis of the amount of non-renewable biomass saved by the ICS in the project activity. The key elements are the following:

- Data collection procedures
- Distribution and Monitoring Database
- Spot Checking of ICS (ongoing)
- Sample Plan for the Monitoring Survey
- Data Quality, Consistency and Duplication Checks
- Monitoring Reporting

The below flow-chart illustrates the roles and responsibilities of the parties during the implementation of the monitoring plan for the project. In the below flowchart, the project implementer is abbreviated to “Imp” and the project proponent by “PP”.



Below is the description of the above steps on the flow-chart.

1. Project Implementor: User stove registration: Project implementer will collect/receive the necessary information requested in the registration process from the user. Server based Mobile Application shall be used as means of collecting the information and for storing into the centralized database management system. Project Implementers' staff shall double check the accuracy of information provided, and request for field staff additional clarifications if needed.
2. Project Implementor: Data logged into database: Project implementer trained staff shall double check the information stored on the database and check for duplications and other entry errors. Any duplicate information shall be investigate and corrected or excluded from the database if it is a true duplicate entry.
3. Project Proponent: Spot- checking (ongoing): PP has a standard procedure for internal audit called spot-checking, where field staff randomly selects households and visit or contact the stove owners to cross-check the information stored on the database with the factual evidence in the field, to ensure proper functioning of the project stoves throughout the project lifetime and to ensure that the project stoves continue to work as efficient as

specified by the manufacturer. Any inconsistencies found (e.g., change in the address of a user) gets updated on the database, and in case, ICS are found to be no longer in use, they get clearly marked as such and is excluded from emission reductions calculations.

During the spot check, if any of the project stoves was found to be in poor working condition like cracked/damaged or with missing metal parts, the stove owner repairs the stove as they have been trained during installation. If the stove owners are unsuccessful in repairing, the field staff informs the implementer to provide the necessary assistance and the missing metal parts are reported to the management of implementor who then either provides the parts from their existing stocks or request the same to project proponent who procured those from their suppliers. Stove owners are then provided with the missing parts by the implementing partner. Spot checking is a continuous ongoing process

4. Project Implementor: Monitoring: Project implementer will follow all the standard requirements to collect the necessary information needed for preparing the monitoring report.
5. Project Proponent: Preparation of Report: The PP will prepare the final monitoring report to be provided to the VVB for verification of emission reductions. A copy of the monitoring report will remain with the PP.

The PP will coordinate and manage each project Implementer and assist them in implementing each element of the monitoring plan. The monitoring plan shall be elaborated in accordance with the Sampling Plan below. Also, regular audits conducted throughout the project lifetime ensures proper functioning of stoves and determination of the lifespan of the same.

Sampling Plan

As per the Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 09.0, the sampling plan is the following:

(a) Sampling design

Due to the large number of ICS envisioned to be distributed under the project, it is not economically feasible to monitor each individual ICS unit distributed. Therefore, representative sampling shall be undertaken for each batch of ICS. Samples will be drawn from the total ICS distributed being recorded in the project database.

I. Objectives and Reliability Requirements

The objective is to obtain an unbiased and reliable estimate of the proportion or mean value of the following key variables over the course of the crediting period.

Monitored Parameters:

No. II.	Monitoring parameters	Sampling parameters	Parameter type	Monitoring frequency
1	$N_{y,i,j}$ Number of project devices of type i and batch j operating during year y	Proportion of ICS still in operation	Proportion	Biennially
2	$B_{y=1,new,i,survey}$ Quantity of woody biomass used by project devices in tonnes per device of type i . and batch j	Daily consumption of woody biomass per ICS	Mean value	Determined in the first year of project implementation

II. Target Population

The target population will be the complete set of appliances (ICS) deployed under the project activity.

III. Sampling Frame

Since the end users shall always be households and geographical location is restricted to the project boundary It is therefore expected that the end user locations do not have influence on the parameters of interest that is $N_{y,i,j}$, & $B_{y=1,new,i,survey}$. Thus, these parameters can be assumed to be highly homogeneous regardless of how the end user group and distribution/installation location is defined. The Sampling Frame for individual parameters have been defined in the following paragraphs.

The sample frame refers to all the information sources on the Database. Mobile App based Kiosk system is the primary mechanism for data collection for newly distributed ICS and the Monitoring Survey (which includes a household questionnaire and visual inspection of ICSs) that will be used throughout the lifetime of the project.

All the TLC-CQC rocket stoves distributed under this project shall be grouped together to create a Primary Sampling Unit which is homogenous. The procedure to determine the sample of households will ensure that they adequately represent the broader project population, minimizing sampling error. Using, a 90 per cent confidence level, and a 10 per cent margin of error, a random sample will be selected from the target population.

1) Sampling frame for proportion of ICS still in operation ($N_{y,i}$)

The first step is to identify the Primary Sampling Units.

Factors such as model of the ICS do not effect parameter $N_{y,j}$. Therefore Primary sampling unit in case of parameters $N_{y,j}$ is independent of model of stove.

2) Quantity of woody biomass used by project devices in tonnes per device ($B_{y=1,new,i,survey}$)

The parameter $B_{y=1,new,i,survey}$ will also form a Primary Sampling Unit since ICS to be distributed shall be of same model type. The value will be determined in the first year of the introduction of the devices through the monitoring survey.

Under this project single or double TLC-CQC Rocket Stoves will be installed in each household. At the time of monitoring survey, field staff measure and records the fuelwood consumed for each project stove through server based mobile application. Calibration of weighing scales to be used for measuring the fuel wood will be done in household before start on the site.

IV. Sampling Method

The sampling method for the monitored parameters $N_{y,i,j}$, and $B_{y=1,new,i,survey}$ is Simple Random Sampling and samples will be randomly selected from the primary sampling units as illustrated above. To ensure a random selection of ICS, random number generators shall be applied. Each ICS in the target population is uniquely identifiable by its unique ID number. Each ICS can thus be allocated a Sample Selection Number in each monitoring period, starting at 1 and increasing up to the total number of ICS in the Database. Applying the random number generators, the ICS can then be randomly chosen from the defined population up to the required sample size as calculated by the project proponent.

To determine the parameters, sampling will involve the following approaches (outcome in brackets):

$N_{y,i,j}$ Visual inspection of the premises to see if ICS is operational and in use.
Interview with end user if required to verify that ICS is still in use (Yes/No)

$B_{y=1,new,i,j,survey}$ Interview with end user and estimate the quantity of woody biomass consumption on the project device (Measure the daily consumption of woody biomass on ICS)

V. Sample Size

The procedure to determine the sample of households will ensure that they adequately represent the broader project population, minimizing sampling error. Using a 90 per cent confidence level, and a 10 per cent margin of error, random samples will be selected from each Primary Sampling Unit. The parameter number of stoves still in operation during the monitoring period as determined by the monitoring survey ($N_{y,j}$) will be estimated through sampling biennially and the parameter Quantity of woody biomass used by project devices in tonnes per device $B_{y=1,new,i,survey}$ shall be estimated through sampling within the first year of project installation. $B_{y=1,new,i,survey}$ can be coupled with $N_{y,j}$ for the first year. Of the two parameters to be monitored, $N_{y,i,j}$ is proportion/percentage parameter and $B_{y=1,new,i,survey}$ is a mean value parameter.

Proportion parameter ($N_{y,i,j}$)

To estimate the sample size for proportion parameter $N_{y,i,j}$, the following equation is used:

$$n \geq \frac{1.645^2 N \times p \times (1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.645^2 p \times (1-p)}$$

Where:

- n = Sample size
- N = Population size (Total number of ICS)
- p = Expected proportion
- 1.645 = Represents the 90% confidence required
(In the case of 95% confidence, 1.96 shall be used)
- 0.1 = Represents the 10% relative precision

The following assumptions are made to exemplify the sample size calculation for the parameters.

1. An overview of the estimated sample sizes for a hypothetical population of 100,000 ICS units applying a level of 90/10 is provided below. It is likely that all the sample frames for each parameter will include fewer than 100,000 ICS in the first monitoring period, so this is a conservative approach. Hence, population size, N , is taken as 100,000 ICS.

It is expected at least 85% of ICS is still in operation, hence the expected proportion p is taken as 0.85.

Sample size calculation:

The calculation of the required sample size for each parameter in the first monitoring period is illustrated below. In all cases a conservative approach is taken, however if for any parameter the required confidence/precision is not met then the PP will randomly select an additional sample and collect further data from this sample to ensure the pooled data meet or exceed the required thresholds.

Therefore, in this case a sample size of 48 is to be sampled from each primary sampling unit.

Mean value parameter ($B_{y=1,new,i,survey}$)

For the purposes of determining sample size in the first monitoring period, the performance of ICS is characterized by the range of likely mean wood consumption and the likely values of SD relative to the mean, according to the type of ICS. The ICS models that are manufactured in

modern factories tend to be very highly efficient (30-50% thermal efficiency) and have been designed to meet stringent efficiency specifications, so the standard deviation is expected to be relatively low.

To estimate the sample size for mean value parameter, the following equation¹⁴ is used:

$$n \geq \frac{1.645^2 NV}{(N-1) \times 0.1^2 + 1.645^2 V}$$

Where:

$$V = \left(\frac{SD}{mean} \right)^2$$

n = Sample size

N = Population size (Total number of households/ICS)

$mean$ = Expected mean of ICS thermal efficiency

SD = Expected standard deviation

1.645 = Represents the 90% confidence required

0.1 = Represents the 10% relative precision

Based on the above assumptions, the sample size calculation would be

$$n \geq \frac{1.645^2 \times 100,000 \times \left(\frac{0.076}{0.38} \right)^2}{(100,000 - 1) \times 0.1^2 + 1.645^2 \times \left(\frac{0.076}{0.38} \right)^2} = 10.82$$

If the resulting sample size based on the above equation is smaller than 30 ICS, then as the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the Student's t-distribution shall be used as per paragraph 14 of Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 09.0.

The sample size for mean value parameter is referred to the equation below¹⁵

¹⁴ Equation 4 of Appendix 2, *Guidelines for Sampling and Surveys in CDM Project Activities and Programme of Activities* (Version 04.0)

¹⁵ Paragraph 102, *Guidelines for Sampling and Surveys in CDM Project Activities and Programme of Activities* (version 04.0)

$$n = \left(\frac{t_{n-1} \times SD}{0.1 \times \text{mean}} \right)^2$$

Where t_{n-1} is the value of the t-distribution for 90% confidence when the sample size is n. Since the sample size is not known yet, the first step is to use the value for 90% confidence when the sample is large, i.e. 1.645 and then redefine the calculation.

$$n = \left(\frac{1.645 \times 0.076}{0.1 \times 0.38} \right)^2 = 10.82$$

Thus, n is rounded to 11.

The calculation now needs to repeat using t-value for 90% confidence and n=11

$$n = \left(\frac{1.812 \times 0.076}{0.1 \times 0.38} \right)^2 = 13.13$$

And n is rounded to 13.

The calculation now needs to repeat using t_{n-1} value for n = 13. The process should be iterated until there is no change to the value of n.

T_{13-1}	1.782
n	12.70
Rounded	13

The repeated calculation shows that n = 13. Thus, the sample size to be sampled from each sampling unit is 13

The project proponent may choose to use the same sample to monitor more than one parameter. According to the Standard for sampling and surveys for CDM project activities and programme of activities, if there is more than one parameter to be estimated, then a sample size calculation should be done for each of them. Then either the largest number for the sample size is chosen as sampling effort with one common survey, or separate sampling efforts and surveys are undertaken for each parameter. For instance, the project proponent may sample separately $N_{y,i,jj}$ and $B_{y=1,new,i,survey}$ –or a combination of two parameters in the same sample.

In order to take care of any attrition, outliers or non-response associated with the sample, an additional 10 to 20 percent samples is identified. The sample size shown above will be adjusted upwards to account for non-responses, Project proponent shall determine the appropriate non-responses rate based on previous experience.

(b) Data to be collected:

(i) Field Measurements:

The table below summarizes field measurement data requirements

Parameter	Timing (indicative)	Frequency as required by methodology	Methods to be applied	Comments on seasonal fluctuation
$N_{y,t,j}$	Monitoring will likely occur every 12 to 24 months	Biennially	Visits to the premises, visual inspection and interview with ICS end-user.	Seasonal fluctuation is not expected to affect this parameter.
$B_{y=1,new,i,survey}$	Monitoring will likely occur within the first year after installation	First year of installation	Visits to the premises, visual inspection and interview with ICS end-user.	Seasonal fluctuation is not expected to affect this parameter. However, in case the survey results show a difference, the same shall be taken into account in ER estimation.

Soft copies of original stove purchase contracts, information collected at the time of registration or other means of acceptance by the users will be stored in the project office. A back-up of the project database will also be stored on an electric medium.

(ii) Quality Assurance/ Quality Control

The project proponent will apply measures to ensure the required confidence/precision for each sampled parameter is met, allowing for non-response and the possible removal of outliers from the sample, as part of a Quality Control/Quality Assurance system.

The sampling plan has the following procedures in place to ensure good quality data. The project proponent will ensure that field personnel have reviewed, understand and have agreed to follow the monitoring plan procedures. A quality control and assurance strategy will be documented. The project proponent or a competent third party designated by the project proponent with the proper skills will train the monitoring personnel on how to properly survey households to prevent bias from interviewer.

The sample data for mean value parameter is continuous and therefore the presence of outliers is possible. To identify and address outliers for the parameter, outliers will be defined as those data points with values greater than three standard deviations from the mean of the sample. Data points identified as outliers will be examined further to correct for possible transcription and data entry errors but will be omitted from the analysis if no such administrative errors exist.

(iii) Analysis

The project proponent will manage a project database that includes the end-user name, community/location, distribution/installation date and unique serial number data that can be directly attributable to each ICS within the project, thereby allowing unambiguous determination of the emission reductions attributable to each project.

Data obtained from the samples will be used to estimate proportions and mean values for the parameters described above. The values will then be factored into the emissions reduction calculations and result in the request for issuance of VERs. The stoves that are not in use will be excluded from emissions reductions calculations and will not be counted towards the total number of ICS in operation during the monitoring period.

(c) Implementation

Sampling for the purpose of emission reduction calculation and elaboration of the monitoring report will occur at the end of each monitoring period. This sampling will be conducted by trained personnel from project proponent or an experienced third-party entity. The credentials and/or training materials for the sampling personnel will be provided to the VVB at verification. The project proponent will be responsible for managing household data collection and entry into the project database. Appropriate record keeping procedures will be implemented to ensure that each monitoring period data set can be transparently attributed to its corresponding project, preventing any occurrences of double counting. An internal review of the project database will be able to determine the current status of each Project – the duration of previous monitoring periods, the households delivering monitoring data, and current verification activities.

(d) Results

The following parameter was obtained through sampling during the current monitoring period:

1. $N_{y,i,j}$: Number of stoves in operation
2. $B_{y=1,new,i,j,survey}$: Quantity of woody biomass used by project device

The following table summarizes the sample sizes and results.

Monitored Parameter	Sample size	Survey Results	Precision achieved
---------------------	-------------	----------------	--------------------

Number of stoves in operation ($N_{y,i,j}$)	48	100%	0.00%
Quantity of woody biomass used by project device ($B_{y=1,new,i,j,survey}$)	48	2.69 Kg/device/day	6.73%

As per the current MP survey 100% of stoves were found to be operational. However, as per the stove champion follow up survey conducted in latest MP, stoves in operation was 97.26% (**achieved precision is 0.17%**),¹ and as per the secondary data of other projects, stoves in operation percentage was 94.40%. PP has considered as minimum number of stoves in operation 90%. Hence, PP has considered the lowest value of stoves in operation 90% on a conservative basis.

7 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

7.1 Data and Parameters Monitored

Data / Parameter	$N_{y,i,j}$
Data unit	Number
Description	Number of project devices of type i and batch j operating during year y
Value applied	17,613
Comments	As per applied methodology, PP needs to conduct the monitoring survey at least once every 2 years (biennial), however PP is conducting monitoring survey annually (at least once every year).

¹ For VVB reference excel spreadsheet workbook compiling the primary data from our stove champion program with respect to stoves in operation (usage rate) for our Sub-Saharan Africa projects under review has been uploaded to the data room and available at 44.03

Data / Parameter	$\eta_{new,y,i,j}$																						
Data unit	Fraction																						
Description	Efficiency of the improved cookstove type i and batch j during year y																						
Value applied	the value below is applied. <table> <tr> <th>Year (y)</th><th>$\eta_{new,y,i,j}$</th></tr> <tr><td>1</td><td>32.43%</td></tr> <tr><td>2</td><td>32.11%</td></tr> <tr><td>3</td><td>31.78%</td></tr> <tr><td>4</td><td>31.47%</td></tr> <tr><td>5</td><td>31.15%</td></tr> <tr><td>6</td><td>30.84%</td></tr> <tr><td>7</td><td>30.53%</td></tr> <tr><td>8</td><td>30.23%</td></tr> <tr><td>9</td><td>29.92%</td></tr> <tr><td>10</td><td>29.63%</td></tr> </table>	Year (y)	$\eta_{new,y,i,j}$	1	32.43%	2	32.11%	3	31.78%	4	31.47%	5	31.15%	6	30.84%	7	30.53%	8	30.23%	9	29.92%	10	29.63%
Year (y)	$\eta_{new,y,i,j}$																						
1	32.43%																						
2	32.11%																						
3	31.78%																						
4	31.47%																						
5	31.15%																						
6	30.84%																						
7	30.53%																						
8	30.23%																						
9	29.92%																						
10	29.63%																						
Comments	No comments																						

7.2 Baseline Emissions

The methodology does not account for baseline emissions separately. It quantifies net emission reductions achieved by the project which has been described in Section 4.4 of this document. The emission reductions calculations have been provided in an excel spreadsheet.

7.3 Project Emissions

The methodology does not account for project emissions separately, but instead quantifies net emission reductions achieved by the project.

7.4 Leakage

Default leakage adjustment factor of 0.95 has been considered in accordance with methodology.

7.5 Net GHG Emission Reductions and Removals

Calculation of GHG Emission Reductions

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,CO2} + EF_{wf,non\ CO2}) \times N_{y,i,j} \times 0.95$$

Where:

$$B_{y,savings,i,j} = B_{y=1,new,i,survey} \times \left(\frac{\eta_{new,y,i,j}}{\eta_{old}} - 1 \right)$$

Parameter	Description	Unit	Value
$B_{y,savings,1}$	Total biomass that is saved in tonnes during the monitoring period of vintage 1	Tonnes	2.2023
$f_{NRB,y}$	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass	Fraction	0.89
$NCV_{wood\ fuel}$	Net Calorific Value of biomass	TJ/tonne	0.0156
$EF_{wf,CO2}$	CO2 emission factor for the use of wood fuel in baseline scenario	tCO2e/TJ	112
$EF_{wf,non\ CO2}$	Non-CO2 emission factor for the use of wood fuel in baseline scenario	tCO2e/TJ	26.23
0.95	Discount factor to account for leakage	Fraction	0.95
η_{old}	Efficiency of the system being replaced	Fraction	0.10
$\eta_{new,1}$	Efficiency of the system being deployed as part of the project activity (Vintage 1)	Fraction	0.3243
$N_{y,i,j}$	Number of stoves still in operation during the monitoring period	Quantity	19,570
$B_{y=1,new,i,survey}$	Quantity of woody biomass used in the absence of the project activity	Tonnes / device/ year	0.9819

PP has calculated the emission reduction for each ICS installed under the project activity separately in the ER excel spreadsheet.

In this section an example of ER calculation for one ICS (stove serial number CQCVTZ0019061) is provided:

Date of installation: 01-November-2021

Vintage for the stove: Vintage 1

For year 2021

No. of days in vintage 1: 61 (from 01-November-2021 to 31-December-2021)

Year fraction: $61/365 = 0.1671$

$$B_{y=1,new,i,survey} = 0.9819$$

$$\eta_{new,1,i,j} = 0.3243$$

$$B_{y,savings,i,j} = 0.9819 \times ((0.3243/0.1) - 1)$$

$$= 2.2024$$

$$ER_{y,i,j} = 2.2024 \times 0.0156 \times 0.89 \times (112 + 26.23) \times 0.9 \times 0.95 \times 0.1671$$

$$= 0.671$$

For year 2022

No. of days in vintage 1: 181 (from 01-January-2022 to 30-June-2022)

Year fraction: $181/365 = 0.4959$

$$B_{y=1,new,i,survey} = 0.9819$$

$$\eta_{new,1,i,j} = 0.3243$$

$$B_{y,savings,i,j} = 0.9819 \times ((0.3243/0.1) - 1)$$

$$= 2.2024$$

$$ER_{y,i,j} = 2.2023 \times 0.0156 \times 0.89 \times (112 + 26.23) \times 0.9 \times 0.95 \times 0.4959$$

$$= 1.9913$$

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2021 (05-August-2021 to 15-October-2021)	0	0	0	0
2021 (16-October-2021 to 31-December-2021)	11,187	0	0	11,187
2022 (01-January-2022 to 30-June-2022)	34,946	0	0	34,946
Total	46,133	0	0	46,133

Note: No Emission Reductions were claimed for any ICS from 5th Aug 2021 to 15th Oct 2021.

<u>Ex-ante emissions reductions /removals</u>	<u>Achieved emissions reductions /removals</u>	<u>Percent difference</u>	<u>Justification for the difference</u>
39,470	46,133	16.9%	Actual emission reductions achieved are slightly higher than the value estimated in ex-ante calculation due to 100% ICS were found operating during the monitoring survey as compared to the 10% annual loss rate assumed during ex-ante calculation.

APPENDIX A: LOCAL STAKEHOLDER CONSULTATION

CQC Website Announcement and Feedback Submission Form [Posted on October 26th, 2020]

October 26, 2020

Local Stakeholder Feedback Requested for Sub-Saharan African Improved Cookstove Projects

C-Quest Capital is developing improved cookstove projects in Angola, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe under VERRA/Voluntary Carbon Standard (VCS) and seeks to obtain Voluntary Carbon Units (VCUs). Through the distribution and installation of our energy-efficient cookstoves, we aim to reduce the use of non-renewable biomass for cooking and water boiling for households, particularly in rural areas. To better design these projects, C-Quest Capital is seeking feedback through an online stakeholder consultation process that seeks to gather comments and suggestions.

Feedback on the proposed projects will be collected from **26 October to 25 November 2020**.

Detailed information on the projects is below. Please provide feedback in the form below.

Non-Technical Summaries: Angola, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe.

Project Presentations: Angola, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe.

Select *

Country

Tanzania ▾

Name *

First Name

Last Name

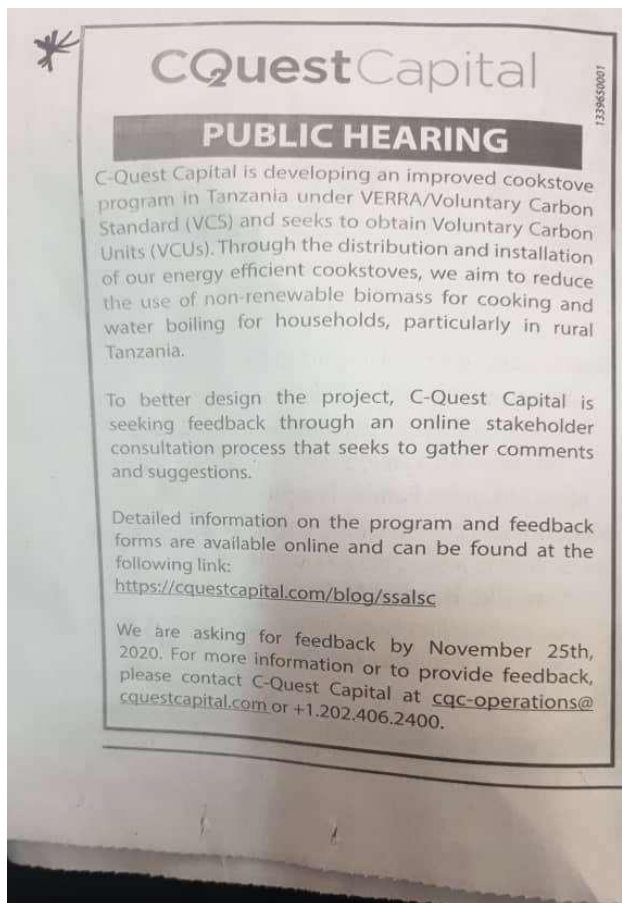
Job Title

Organization Name

Email *

Newspaper Advert

Column East Africa News, November 10th 2020 [English & Swahili]



CQuestCapital

PUBLIC HEARING

C-Quest Capital is developing an improved cookstove program in Tanzania under VERRA/Voluntary Carbon Standard (VCS) and seeks to obtain Voluntary Carbon Units (VCUs). Through the distribution and installation of our energy efficient cookstoves, we aim to reduce the use of non-renewable biomass for cooking and water boiling for households, particularly in rural Tanzania.

To better design the project, C-Quest Capital is seeking feedback through an online stakeholder consultation process that seeks to gather comments and suggestions.

Detailed information on the program and feedback forms are available online and can be found at the following link:
<https://cquestcapital.com/blog/ssalsc>

We are asking for feedback by November 25th, 2020. For more information or to provide feedback, please contact C-Quest Capital at cqc-operations@cquestcapital.com or +1.202.406.2400.



CQuestCapital

KUPOKEA MAONI/ MAPENDEKEZO

C-Quest Capital inaendeleza mpango wa majiko yaliyoboreshwa hapa Tanzania chini ya VERRA/ Voluntary Carbon Standard (VCS) na kutafuta upatikanaji wa Voluntary Carbon Units (VCUs). Kupitia usambazaji na uwekaji wa nishati ya kutosha wa majiko yetu ya kupikia, tunampango wa kupunguza matumizi ya nishati isiyo mbadala ya biomass kwa kupikia na kuchemsha maji kwa matumizi ya nyumbani, hasa kwa Tanzania vijijini.

Kwa kuweka mradi vizuri, C-Quest Capital inatafuta mrejesho kwa kutumia mchakato wa ushauri wa wadau kwa njia ya mtandao ili kukusanya ushauri na mapendekezo.

Kwa taarifa za kina kuhusu mpango na mrejesho fomu zinapatikana kwenye mtandao na inaweza kupatikana kwenye kiunganishi kifuatacho:
<https://cquestcapital.com/blog/ssalsc>

Siku ya mwisho ya kutoa mrejesho ni Novemba 25, 2020. Kwa taarifa Zaidi au kwa kutoa mrejesho, tafadhari wasiliana na C-Quest Capital kwa cqc-operations@cquestcapital.com au +1.202.406.2400.

Invitation Email

Local Stakeholder Consultation Feedback Requested - Improved Cookstoves (Tanzania)

 Brent Moser (bmoser@CquestCapital.com)
 To: Brent Moser (bmoser@CquestCapital.com)
 Cc: Jason Steele (jsteele@CquestCapital.com)

Dear Madam / Sir:

As the Project Participant, C-Quest Capital would like to request local stakeholders in Tanzania to provide feedback on their proposed improved cookstove project for Tanzania. The project has been developed under VERRA/Voluntary Carbon Standard (VCS) and seeks to obtain Voluntary Carbon Units (VCUs). This program plans to disseminate and install high efficiency firewood cookstoves to poorer households in Tanzania that cook with open-fires with the goal to significantly reduce the dependency on Tanzania's remaining natural resources, reduce greenhouse gas emissions related to cooking, and contribute to improved health outcomes for the end-user. Carbon finance will be the primary source of funding for this program.

All program information including non-technical summary and project presentation is located on our website: <https://cquestcapital.com/blog/ssalsc>

You can provide feedback by replying to this email or through the feedback form on our website via the link above.

Please provide any feedback by 25 November 2020.

Brent Moser
 Director of Operations – Africa Region
 C-Quest Capital LLC
 1015 18th Street NW Suite 730
 Washington, DC 20036
 Phone: +1 407 491 0368
 Skype: moser.brent
 E-mail: bmoser@CquestCapital.com
 Website: www.cquestcapital.com

 Reply  Reply All  Forward 

Wed 11/4/2020 11:17 AM

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Invitation List

No	Organization	Name of Invitee	Title	Email Address
1	Ministry of Energy	Eng. Zena Ahmed Said	Permanent Secretary	ps@nishati.go.tz
2	Ministry of Minerals	Prof. Simon S. Msanjila	Permanent Secretary	ps@madini.go.tz
3	Ministry of Health, Community Development, Gender, Elders and Children		Permanent Secretary	dngo@communitydevelopment.go.tz
4	Ministry of Education, Science, Technology and Vocational Training	Dr. Leonard Akwilapo	Permanent Secretary	info@moe.go.tz
5	National Environmental Management Council (NEMC)	Dr. Eng. Samuel Gwamaka Mafwenga	Director General	dg@nemc.or.tz
6	National Environmental Management Council (NEMC)	Lake Victoria Office - Mwanza Region		nemcmwanza@nemc.or.tz
7	USAID Tanzania	Sharon Pauling	Power Africa TZ Country Team Leader	spauling@usaid.gov
8	USAID Tanzania	Andrew Herscowitz	Power Africa Coordinator	powerafrica@usaid.gov
9	United Nations Environment Programme (UNEP)			unenvironment-privatesector@un.org
10	UNFCCC	Patricia Espinosa	Executive Secretary	secretariat@unfccc.int
11	United Nations Convention to Combat Desertification (UNCCD)	George KAFUMU	Senior Environmental Officer	grkafumu@yahoo.com ; sotchair@africaonline.co.tz
12	Worldwide Fund for Nature (WWF)	Mariana Panuncio-Feldman	Alliances for Climate Action Global Lead	Mariana.Panuncio@WWFUS.org
13	Agricultural Research and Development Institute Maruku	Fidelis B Kaihura	National Project Manager	Fidelis.kaihura@fao.org
14	Energy 4 Impact			info.tanzania@energy4impact

				org
15	Peace Corps Tanzania			Webmaster@tz.peacecorps.gov
16	SNV	Alemayehu Zeleke	Senior Improved Cookstove Expert	azeleke@snv.org
17	SNV	Inga Brill	Energy Sector Lead (TZ)	ibrill@snv.org
18	Tanzania-ICSEE(T)	Dr. Robert V. Lange	Office of Programs and Development	robertvlange@internationalcollaborative.org
19	Demo-Momba	Miledi D Maselo		miledimaselo@gmail.com
20	Massai Stoves & Solar	Kisioki Lengoiye Moitiko	Project Manager-in-Chief (ICSEE)	lengoiye@gmail.com
21	Simusolar			info@simusolar.com
22	Tanzania Renewable Energy Association (TAREA)			info@tarea-tz.org
23	Tanzania Renewable Energy Association (TAREA) Lake Victoria Zone			tarealakezone@gmail.com
24	Rural Energy Fund		Director General	dg@rea.go.tz
25	GEF (Global Environment Facility)	Abubakari RAJABU	Permanent Secretary	armsrajabu@yahoo.co.uk
26	GEF (Global Environment Facility)			makamu@twiga.com
27	National Focal Point for Sustainable Development	Julius Ningu	Director of Environment	jkningu@yahoo.com ; emugurusi@yahoo.co.uk
28	Regional Natural Resources Officer	Zakayo Frank Mwaitosya		zakayo.mwaitosya@songwe.go.tz
29	Rural Community Support Organization (RUCOSUO)	Lukas		lukas@rucosuo.or.tz
30	KAKUTE Ltd	Livinus Manyanga		l_manyanga@yahoo.com
31	Envotec Tanzania Limited	Sylvester Mwambije		envotec@gmail.com
32	Ensol	Eng. Hamisi Mikate		hmikate@ensol.co.tz
33	Biomass Cooking Expert-Dar es Saalaam	Ndilanha, Eng. Arfaksad		ndilanha2010@yahoo.com
34	Energio Verda Africa	Frederic Morel		Frederic.morel@energioverda.com

35	Mena Wood Briquetting Co	Mr. A.K Mahenge		menawood@yahoo.com
36	Kiwi & Lausten Ltd	Bjarne Lausten		bjarne@kiwlau.com
37	Hifadhi Mazingira Karatu	Aloyce Songay		
38	College of Engineering and Technology, University of Dar es Salaam			principalcoet@udsm.ac.tz
39	University of Dodoma	Principal-College of Earth Sciences		info@udom.ac.tz
40	Kikuletwa Renewable Energy Training Centre	Eng. Sithole Mwakatage		smwakatage@atc.ac.tz
41	Africa Mini grid Development Association	Jessica Stephens	Renewable Energy Association	jstephens@africamda.org
42	PowerGen	Adrian Mapunda		amapunda@powergen-re.com
43	Elico Foundation	Sisty Basil		info@elicofoundation.org
44	DXD Rural Energy Development	Rashid Zulu		info@red.or.tz
45	WHO Tanzania	Dr Tigest Ketsela Mengestu		ketselat@who.int
46	International Center for Research on Women (ICRW)	Dr. Allie Glinski		aglinski@icrw.org
47	Alliance Ginneries	Boaz Ogola	Program Manger	boaz.ogola@allianceginneries.com

Stakeholder's Queries and Comments

Stakeholder's Comments and Questions	Project Proponent's Responses
A Division Officer from Mbozi District recommended on the need of getting a partner from Tanzania for stoves parts production rather than depending on importing from Malawi. He insisted by saying availability of stoves parts within the country will help with fast spread of the project and creation of employments for young Tanzanians. He wished to see practically how to construct the stove.	PP promised to show all participants on how to construct the stove at their respective offices, before starting the implementation of the project at their districts
A District Community Development Officer from Momba District asked what if any end-user face problem with the stove, how will the PP help	PP assured that once project gets implemented, the team on ground will be surveying on a regular basis, to know the feedback of the end-user, if any problem

them to sort the problem	raised by end-user our ground team will act on that. PP also explained about the grievance policy, where end-user can directly connect to get solution on their problems.
A Ward Executive Officer from Igamba thanked CQC for designing the project which aim at not only conserving the environment but also lifting the Tanzanian individual economy. As the local government leader at Igamba where the project implementation began, he was pleased with the acceptance of his community about the project. He also thanked IP for involving them and calling for their help whenever they have difficulties. Lastly, he asked the higher government authorities (Regional Level) on properly ways of dealing with citizens who spread negative news on the rocket stoves.	PP noted the stakeholder's request and informed Regional Administrative Secretary (RAS) personnel who was part of LSC meeting. The officer from RAS promised that he will discuss the issue with the top management on the right ways of dealing with such kind of challenge.

List of Attendees

Alliance Gineries Limited				
Stakeholders Meeting in Bariadi on Rocket Stoves.				
Venue: Regional Commissioner's Board Room			Date: 06/November/2020	
No	Name of participant	Title	Contact (Phone or Email)	Signature
1	MARIAM P. MMBAGA	RAS	ras@simiyu.go.tz	Hh
2	BOAZ OGOLA	GENERAL MANAGER	boaz.ogola@alliancegineries.com	BOAZ
3	WILLIAM MALICHA	CS & Data	williammalicha@gmail.com	William
4	MUSSA HUSENI	C.D.O	0757-247-291	Mussa
5	FORAUNE MARUKA	Profit Mgr	0769846466	Foraune
6	FAISO KISWASA	DC	0758-494584	Faiso
7	MARIETTA THOMAS	W.E.O	0743348005	Marietta
8	HAMISI SAMSONI	D.ENV.OFFICER	-	Hamisi
9	EDITH NYEMG	D.ENV.OFFICER	0754-992055	Edith
10	SAID KARANGA	C.D.O	saidkaranga@gmail.com	Said
11	THASGO MUKAYO	C.I	0764 761 535	Thasgo
12	MARY MCHOMENY	Env-Officer	0627-709161	Mary
13	MAYALA JACCS	W.C	0753-254493	Mayala
14				
15				

ALLIANCE GINNERIES LIMITED

MAFUNZO/TRAINING FOR STOVE INSTALLATION

TAREHE/DATE 11/NOV/2020 UKUMBI/VENUE ALLIANCE

No	JINA / NAME	KIJIKI/VILLAGE	KAZI/TITLE	SAHIHI
1	CHINA WILLIAM	MBITI	FUNDI	<i>William</i>
2	KASILI NKWABI	IBULU	MKULIMA	<i>Nkwabi</i>
3	PATRICK MALIGISU	MWAMLAPA	MKULIMA	<i>Patrick</i>
4	DAVID M. ZEPHILINI	SALAMA	MKULIMA	<i>David</i>
5	EMMAUEL B. NCHELE	CHANDULU	MKULIMA	<i>Emmanuel</i>
6	PAULO REUBEN	NGHAYA	SELEMPARA	<i>Paulo</i>
7	JAMES P. MUSSA	NGHAYA	FUNDI MWASHI	<i>James</i>
8	ANTHONY MADUTU	KILALO	MKULIMA	<i>Anthony</i>
9	FORTUNATUS A. KINGOLU	MWAMLAPA	MKULIMA	<i>Fortunatus</i>
10	AMOSI KELEMENTI	KILALO	MKULIMA	<i>Amosi</i>
11	DANIEL M. SHISA	KILALO	MKULIMA	<i>Daniel</i>
12	JOHN - MAKUKE	MWANDU	MKULIMA	<i>John</i>
13	MASALI ELIAS	NGHAYA	MKULIMA	<i>Masali</i>
14	HAMIS - MATHIAS	DITIMA	MKULIMA	<i>Hamis</i>
15	MGEMA LYOTHI	NYAMSWA	FUNDI	<i>Mgema</i>

16	RICHARD D. SILANGA	KIGULYATI	MKULIMA	<i>Richard</i>
17	MASALI MADUKU	NYASOSI	MKULIMA	<i>Masali</i>
18	SIMON ELSHA MATULILO	NYAMSWA	MKULIMA	<i>Simon</i>
19	SHABRACKA - ARON	CHANDULU	MKULIMA	<i>Shabracka</i>
20	KABEGA MAMUKUNDU	SHIMBALE	FUNDI	<i>Kabega</i>
21	LAMECK - NOBELE	SAKWE	FUNDI	<i>Lameck</i>
22	SENGELEMA - BONHENDO	BUGATU	MKULIMA	<i>Sengelema</i>
23	MARTINE - JOSEPH	IKUNGU 'A'	MKULIMA	<i>Martine</i>
24	NDIMUTHA - CHARLES	SILAMA	MKULIMA	<i>Ndimutha</i>
25	YOMBO L. MASHIMBA	KASOL	MKULIMA (FUNDI)	<i>Yombo</i>
26	PAUL S. MADUTU	KILALO	MKULIMA/FUNDI	<i>Paul</i>
27	MILHAKA Y. MASHUR	KASOL	MKULIMA	<i>Milhaka</i>
28	SAMSONI MASHUR	KILALO	MKULIMA	<i>Samsoni</i>
29	MAGEMBE JOEL	KASOL	MKULIMA (FUNDI)	<i>Magembe</i>
30	HASSAN - JOHN	KASOL	MKULIMA	<i>Hassan</i>
31	KISHIMBA MARCO	NYAMISAGUSA	FUNDI	<i>Kishimba</i>
32	MUSA SIMON KANIGINI	MBITI	MKULIMA	<i>Musa</i>
33	JAMES CHARLES - SABUN	NDUHA	MKULIMA	<i>James</i>
34	STEPHANO - MATIAS	NYAMISAGUSA	FUNDI	<i>Stephano</i>
35	LUBALTO DAUD	NYAMISAGUSA	MKULIMA	<i>Lubalto</i>
36	MATHEW E. - MATHIAS	MWASIBAYA	FUNDI	<i>Mathew</i>
37	LYONGO KILU	YEYA	MKULIMA	<i>Lyongo</i>

38	CUSANING FABIAN	KASOLI	MKULIMA	~~Handwritten signature~~
39	MANASE ISACKA	KUGULU	MKULIMA	~~Handwritten signature~~
40	ISSA HOJA MANTINGU	MUSABURUYA	MKULIMA	~~Handwritten signature~~
41	MAKINTA KILALI	GUDUINI	MKULIMA	m.k. Boni
42	LEONAD EMANUEL	KILALO	MKULIMA (FUNDI)	~~Handwritten signature~~
43	MISUNGUJI-JOHN	KILALO	MKULIMA (FUNDI)	~~Handwritten signature~~
44	NYOROB - MAUHU	KILALO	MKULIMA	~~Handwritten signature~~
45	Liku DABDA	KASOLI	PC CLERK	~~Handwritten signature~~
46	MUSSA BULUBA	KUDUWT/MBURANI	FUNDI	~~Handwritten signature~~
47	REGINA MASANJA	KASOLI	TOOLS KEEPER	~~Handwritten signature~~
48	ABDALLAH S. MAFURU	KASOLI	FUNDI	~~Handwritten signature~~
49	KABANZA JIBUSALI	KASOLI	EXTENSION OFFICER	~~Handwritten signature~~
50	JOHNSON SADI DINDILA	MISTI	BREWER	~~Handwritten signature~~
51	MAIGE MAGIDA	AGL	F.E.O	~~Handwritten signature~~
52	LOUIS EUEKA SANGUAI	KASOLI	FUNDI	~~Handwritten signature~~
53	MASALI SAMUEL	AGL	F.E.O	~~Handwritten signature~~
54	MASANJA MBOJE	SAKWE	MKULIMA KILALI	~~Handwritten signature~~
55	GEORGE LAWERI	KASOLI	ENGINEER	~~Handwritten signature~~
56	PETER JOSEPH	MWAMLAPA	MKULIMA	~~Handwritten signature~~
57	JAMES KIBIKA	KASOLI	FUNDI	~~Handwritten signature~~
58	BULATA CHARLES	KASOLI	MKULIMA	~~Handwritten signature~~
59	PETER MARICO	KASOLI	MKULIMA	~~Handwritten signature~~

60	JOHN OTIENO	BUSESE	MKULIMA	~~Handwritten signature~~
61	MUSA KATWALE	KASOLI	MKULIMA	MUSSA
62	LILIA OGENZI	MITANGO	FUNDI	~~Handwritten signature~~
63	LAMECK JAMES MASONGO	KILALO	MKULIMA	~~Handwritten signature~~
64	MUSSA MAGATANO	KASOLI	MKULIMA	~~Handwritten signature~~
65	DAUDI CHARLES	IKUNGUZYAMBESHI	MKULIMA	~~Handwritten signature~~
66	SHIMO MASATANO	MWAMBALANCE	MKULIMA	~~Handwritten signature~~
67	MARTIN M. CHARLES	MAMATA/MBANSWA	MKULIMA	~~Handwritten signature~~
68	JOHN N. MAIGE	NAMSWA	ICTB OFFICER	~~Handwritten signature~~
69	MUNYANO SHWA	KUWACHANDA/ALIMA	MKULIMA	~~Handwritten signature~~
70	YOHANA NDIMIA	SHIMBALE	MKULIMA	~~Handwritten signature~~
71	JAPHETH MASANJA	BUSESE	MASON	~~Handwritten signature~~
72	JOSEPH SADI	KASOLI	MKULIMA	~~Handwritten signature~~
73	NEEMA LUCAS	KASOLI	AFISA KULIMO	~~Handwritten signature~~
74	JOSEPH MASUNGA	IBULU	MKULIMA	~~Handwritten signature~~
75	Immanuel-Kuzenza	BUGATU	MKULIMA	~~Handwritten signature~~
76	MUSSA PAUL	BAGHAYA	MKULIMA	~~Handwritten signature~~
77	CHARLES OLON	CHANDULU	MKULIMA	~~Handwritten signature~~
78	MBUZA MATONDO	IBULU	FUNDI	~~Handwritten signature~~
79	RICHARD WILUWA	MWAMLAPA	MKULIMA	~~Handwritten signature~~
80	ELIKANA MATIAS	MWAMLAPA	MKULIMA	~~Handwritten signature~~
81	THOMAS SHWA	CHANDULU	MKULIMA	~~Handwritten signature~~

82	SIMONI KUPELWA	SALAMA	MKULIMA	~~Handwritten signature~~
83	BALUYA 'L' MATHUMA	SALAMA	MKULIMA	~~Handwritten signature~~
84	MUSA KANIGIM	MISTI	MKULIMA	~~Handwritten signature~~
85				

#	Name of Participant	Gender (M/F)	Affiliation/Name of Organization	Contact info. (Phone number, email, or physical address)	Signature
1.	JOYCE JOEL CHALE	F	DIVISION OFFICER-ILEJE ^{DC}	0713167613	
2	KISANGA FLORE	M	ENVIRONMENTAL OFFICER (ILEJE)	047685201	
3	JOSIA LAMECK MSHAN	M	DIVISION OFFICER ILEJE DC	0742478096	
4	RAPHAEL SAMSON	M	FOREST OFFICER SONGWE DC	0763009826	
5.	IRENEA KAHURAMBA	M	ENVIRONMENTAL OFFICER SONGWE DC	0767850574	
6.	BRIGHTON KINGDOM MWAMBALASWA	M	AFUP TARAFA IGAMBA-MBOZI	075998682	
7.	GODWIN M. KALINDA	M	DIVISION OFFICER SONGWE	Kamfanyegumit.com 0765792895	
8	CHESKO MBILINYI	M	DIVISION OFFICER KUSIMBA	0757763403	
9.	RAKATO F. MWATOSYA	M	REGIONAL NATURAL RESOURCES OFFICER	0755-658990	
10.	FRED JOHN MBIBA	M	Ag. NRO - TUNDUMA	0767556302	
11	VERONICA DOMINIC MSEMWA	F	CBO TUNDUMA	0756570114	
12.	Mario Joseph Rini	M	ETO-TUNDUMA	0767235052	
13	DAMSON Y. MWAMAHONJE	M	NDALAMBA-MOMBA DIVISION OFFICER	0759080991	
14	RODRICK R. BENGELA	M	ILEJE DC COMMUNITY DEVELOPMENT	0766208888	
15	MILEDI D. MASELO	M	DEND-MOMBA DIVISION OFFICER	0752439061 0715900388	
16	VERONICA .M. KOMANYA	F	MSANGANO-MOMBA	0743429663	
17.	EDUARDO C. LUPAPO	M	ATLA TARAFA ITULA-MBOZI	0742202987 0713-089701	
18	JOSIA E. NEMONYA	M	KAN. KATIAI TUNDUMA	0764601712	
19	MARY A. R. KAPEYU	M	RAS-SONGWE	0762949078	
20	JOSEPH MAGOZI	M	DO-TUNDUMA	0765881015	
21	HAMIS P. NUNDA	M	AF-MARIMARA-MB2	0759511770	
22.	RASHID MWAMBALA	M	DO-ITAKA	0757680438	
23	TEODORO NDUNGURU	F	Ag. MACHOLEOTA-JAMU	0762628271	
24.	PAULO-N. LEMOMO	M	A/MUITU-MBOZI	0742142090	
25.	LAZARO J. MELCHIEDE	M	RAS-SONGWE	0754-741670	
26	SALOME KITTA	F	RS SONGWE	0786547952	
27	ANTON B. MILAMBO	M	AG. DO-KAMSAMBA	0764782655	

28	BRUNO LAURENT PUNTE	M	CHASSE-WATER-TZ	0765325123	B. Punte
29	ATHUMA JUMA SIMTANDA	M	CHASSE-WATER-TZ	0710293341	A. Simtanda
30	LEONARD JOHN SIMLEUSE	M	CHASSE-WATER-TZ	0679384225	~~Simleuse~~ !!
31	PATRICK L. NDOUMAND	M	WEO IGAMBA	0769-660391	~~Patrick~~
32	ELIMELINDI TESTA	M	WEO DISTRICT COUNCIL	0763926269	~~Elimelindi~~
33	MUSA JOEL THOMS		WEO-ISAUSA	0762288974	M. Thoms
34	ELESTIN SAMWY LUMBAND	M	WEO-SHIWINGA	0769 274590	E. Lumband
35	RIZIKI ALLY CHOKA	M	WEO-KIMPIMBI	0716 528462	R. Choka
36	DEVOTHA CHECHA	F	AFISA TANALU-RS	0759 344249	D. Checha
37	ELISON N. MWAMBA	M	RS-SONGWE	0756 354326 elisonnick347@gmail.com	E. Mwamba
38	AISHA M. SHABANI	F	WEO-ITUMPI	0758-555501 aishamshabanibgm@gmail.com	A. Shabani
39	ATUSUNGUKWE DZONBE	F	RCD-RS SONGWE	0756 210080 dzonbeatw2006@gmail.com	A. Dzonbe
40	PATRICK MIKETA	M	WEO-SHALUNGU	0762303491	P. Miketa
41	BENARD G. MWAKISETE	M	WEO-MAGAMBA	0736 019073	B. Mwakisete
42	SADOK SOSTENES	M	WEO-MSIA	0716 330569	S. Sostenes
43	MARIA SAMSON MUAMBARA	F	C-QUEST CAPITAL-TZ	0682 368170	M. Samson
44	GABRIEL MIMALO	M	C-QUEST CAPITAL-TZ	0665 850996	G. Mimalo

APPENDIX B: SCOPE 3 EMISSION STATEMENT



Public Notice for VCS Project 4157

Installation of High Efficiency Wood Burning Cookstoves in Tanzania – Project 3

This is to bring to your kind notice that C-Quest Capital CR Stoves Private Limited is implementing a grouped project titled, "Installation of High Efficiency Wood Burning Cookstoves in Tanzania – Project 3" (VCS ID 4157). It involves distribution of improved cook stoves (ICS) to households in Republic of Tanzania. For this purpose, we are procuring TLC-CQC Rocket Stove metal parts from Ener-G-Africa (EGA). We have also involved Choose Water, Alliance Ginners, and Digital Mobile Africa (DMA) as implementation partner for distribution of project stoves in Republic of Tanzania.

Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals for which C-Quest Capital CR Stoves Private Limited will be claiming carbon credits under VERRA. The ownership of these credits lies exclusively with C-Quest Capital CR Stoves Private Limited.

This notice intends to apprise you about the project, to avoid any potential risk of double claiming of Scope 3 emissions under this grouped project.

Public notice published to avoid double claiming of Scope 3 emissions

Notice: 4157 Scope 3 Tanzania- EGA



Jacquelyn Sagasta
To: Catherine Almeida
Cc: Sarah Stever

 Reply
  Reply All
  Forward
 

Sat 3/25/2023 1:06 AM

Dear Catherine,

This is to bring to your kind notice that C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited is implementing a grouped project titled, "Installation of High Efficiency Wood Burning Cookstoves in Tanzania – Project 3" (VCS ID 4157). It involves distribution of improved cook stoves (ICS) to households in Republic of Tanzania. For this purpose, we are procuring TLC-CQC Rocket Stove from your manufacturing unit.

Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals for which C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited will be claiming carbon credits under VERRA. The ownership of these credits lies exclusively with C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited. This mail intends to apprise you about the project, to avoid any potential risk of double claiming of Scope 3 emissions under the grouped project.

Regards,

Best,
Jacquelyn Sagasta
Operations Specialist
C-Quest Capital LLC
1015 18th Street NW Suite 730
Washington, DC 20036
Phone +1 716-725-7733
E-mail jsagasta@cquestcapital.com
Website www.cquestcapital.com

E-mail sent to stove manufacturer (Ener-G-Africa)

Notice: 4157 Scope 3 Tanzania- Alliance Gineries



Jacquelyn Sagasta
To: Boaz Ogola (TZ)
Cc: Sarah Stever

 Reply
  Reply All
  Forward
 

Sat 3/25/2023 1:04 AM

Dear Mr. Ogola,

This is to bring to your kind notice that C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited is implementing a grouped project titled, "Installation of High Efficiency Wood Burning Cookstoves in Tanzania - Project 3" (VCS ID 4157). It involves distribution of improved cook stoves (ICS) to households in Republic of Tanzania. For this purpose, we have involved your organization for distribution of project stoves in Republic of Tanzania.

Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals for which C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited will be claiming carbon credits under VERRA. The ownership of these credits lies exclusively with C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited. This mail intends to apprise you about the project, to avoid any potential risk of double claiming of Scope 3 emissions under the grouped project.

Regards,

Jacquelyn Sagasta
Operations Specialist
C-Quest Capital LLC
1015 18th Street NW Suite 730
Washington, DC 20036
Phone +1 716-725-7733
E-mail jsagasta@cquestcapital.com
Website www.cquestcapital.com

E-mail sent to implementation partner (Alliance Gineries)

Notice 4157 Scope 3 Tanzania - Choosewater

 Sarah Stever
To:  Jacob Eubanks;  choosejaco@gmail.com

  Reply  Reply All  Forward 

Tue 3/28/2023 2:28 AM

Dear Jacob and Jaco,

This is to bring to your kind notice that C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited is implementing a grouped project titled, "Installation of High Efficiency Wood Burning Cookstoves in Tanzania - Project 3" (VCS ID 4157). It involves distribution of improved cook stoves (ICS) to households in the Republic of Tanzania. For this purpose, we have involved your organization for distribution of project stoves in Republic of Tanzania.

Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals for which C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited will be claiming carbon credits under VERRA. The ownership of these credits lies exclusively with C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited. This mail intends to apprise you about the project, to avoid any potential risk of double claiming of Scope 3 emissions under the grouped project.

Regards,
Sarah

Sarah Stever
Country Director – Ghana, Tanzania, The Gambia, Zimbabwe
C-Quest Capital LLC
E-mail: sstever@cquestcapital.com
Website: www.cquestcapital.com

E-mail sent to implementation partner (Choose Water)

Notice: 4157 Scope 3 Tanzania- DMA

 Jacquelyn Sagasta
To:  Lawrence Tendayi Rusere;  Rob Ashley Madziva
Cc:  Sarah Stever

  Reply  Reply All  Forward 

Sat 3/25/2023 1:05 AM

Dear Lawrence and Rob,

This is to bring to your kind notice that C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited is implementing a grouped project titled, "Installation of High Efficiency Wood Burning Cookstoves in Tanzania - Project 3" (VCS ID 4157). It involves distribution of improved cook stoves (ICS) to households in Republic of Tanzania. For this purpose, we have involved your organization for distribution of project stoves in Republic of Tanzania.

Verified Carbon Units (VCUs) may be issued for the greenhouse gas emission reductions and removals for which C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited will be claiming carbon credits under VERRA. The ownership of these credits lies exclusively with C-Quest Capital CR Stoves Private Limited and C-Quest Capital Stoves Asia Limited. This mail intends to apprise you about the project, to avoid any potential risk of double claiming of Scope 3 emissions under the grouped project.

Regards,

Jacquelyn Sagasta
Operations Specialist
C-Quest Capital LLC
1015 18th Street NW Suite 730
Washington, DC 20036
Phone: +1 716-725-7733
E-mail: jsagasta@cquestcapital.com
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E-mail sent to implementation partner (Digital Mobile Africa)