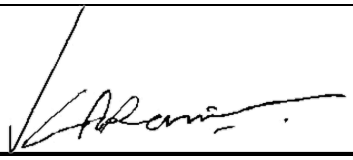
Validation report for Renewal of Crediting Period
GS project activity

BASIC INFORMATION	
Title of the project activity	Improved Jikos – Better Living for Rural Population
GS reference number of the project	GS ID: 2457 TN P-No.: 8003025828-20/139
Version number of the validation report	01.1
Completion date of the validation report	23/11/2021
Version number of the PDD to which this report applies	7.0
Date when PDD was uploaded for global stakeholder consultation	N/A
Certification Pathway (Project Certification/Impact Statements & Products)	Impact Statements & Products
Activity Requirements applied:	Community Services Activity Requirements
Project participants	Fastenopfer
Host Party	Kenya
Applied methodologies and standardized baselines	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) version 3.1.
Mandatory sectoral scopes	3
Product Requirements applied:	GHG Emission Reductions & Sequestration Project Requirements
Regular/Retroactive:	Regular
Estimated amount of annual average GHG emission reductions or GHG removals by sinks	**51,205 tCO_2e**
Name and UNFCCC reference number of the DOE	TÜV NORD CERT GmbH (E-0022)
Name, position and signature of the approver of the validation report	Kunal Rami Final Approver 

SECTION A. Executive summary

Fastenopfer has commissioned the TÜV NORD JI/CDM Certification Program (CP) to carry out the design certification renewal (DCR) of the Project Activity:

"Improved Jikos – Better Living for Rural Population"

with regard to the relevant requirements for GS project activities.

The project was registered on 27/05/2015 under GS registration No. 2457. The PPs chose a 7-year crediting period, which is now due for renewal.

The objective of this validation is the review by an independent entity whether the project is still compliant with the applicable requirements of:

- the GG4GG Principles and Requirements/GSPR/;
- the GG4GG Safeguarding Principles & Requirements/GSSPR/;
- the GG4GG Community Services Activity Requirements/GSCSA/;
- the GG4GG GHG Emission Reductions & Sequestration Product Requirements/GSSPR/;
- GS Gender Equality Guidelines and Requirements/GSG/;
- The GS4GG_Stakeholder Consultation Requirements/GSSCR/
- the applied GS Methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption-Version 3.1/METH/;
- Any other decision taken by the Technical Advisory Committee of GS (GS-TAC); and
- other relevant rules, including the host country legislation.

As per the requirements of the GG4GG Principles and Requirements/GSPR/, the validation is based on

- the GS4GG PDD/PDD/;
- the emission reduction calculation spread sheet/XLS/;
- BS/PS Reports
- KPT updates
- further supporting documents made available to the validator as well as; and
- information collected through performing interviews.

Furthermore, publicly available information, such as the host country legislation, was considered as far as available and required.

The project reduces GHG emissions by providing subsidized fuel-efficient improved wood cook stoves (ICS) to mainly rural households in 4 counties of Kitui, Nyeri, Machakos, and Laikipia in Kenya, which takes place at end users' kitchens and contributes to the reduction of GHG emissions by replacing inefficient traditional three-stone cook stoves. Thus, wood fuel consumption can be substantially reduced as a result of implementing the project.

The project applies the approved Gold Standard methodology *Technologies and Practices to Displace Decentralized Thermal Energy Consumption, version 3.1*. The project is a large-scale end-use energy efficiency project as it will result in realized energy savings estimated as **224.29 GWh_{th}** if implemented as per the PP proposed schedule, which is more than the **180 GWh_{th}** threshold for SSC project activities defined for CDM/JI project activities. Estimated emission reductions over the course of the second 7-year crediting period is estimated at **358,435 tCO_2e**.

The proposed project started to install the first stove on 20/09/2013 which is confirmed via checking the registered and GS issued project documents from the CPI. In the first crediting period, approximately **16,303** stoves were installed.

Details of the project location are given in table A-1 below:

Table A-1: Project Party, PP and Project Participant of PoA

Characteristic	Party	Project Participants	PP
Non-Annex 1 Country	Kenya	Fastenopfer	X

Details of the project location are given in table A-2 below:

Table A-2: Project Location

No.	Project Location		
Host Country	Kenya		
Region:	Nyeri, Kitui, Machakos, & Laikipia Counties		
Project location address:	Office address: Alpenquai 4, 6002, Luzern, Switzerland		
Kitui			
Latitude:	1° 22' 0" South	Longitude:	38° 1' 0" East
Nyeri			
Latitude:	0° 25' 0" South	Longitude:	36° 57' 0" East
Machakos			
Latitude:	1° 131 0″ South	Longitude:	37° 16′ 0″ East
Laikipia			
Latitude:	0° 19′ 0″ North	Longitude:	36° 30′ 0″ East

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection[1]	Interview(s)	Validation findings
1.	Team Leader/ETE	EI	Lubanga	David	-	x	-	x	x

B.2. Technical reviewer and approver

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer/Approver	IR	Rami	Kunal	TÜV NORD CERT GmbH

[1] https://globalgoals.goldstandard.org/ru-2020-covid-19-interim-measures-update/

SECTION C. Means of validation

C.1. Desk/document review

During the desk review all documents initially provided by the client and publicly available documents relevant for the validation were reviewed. The main documents are listed below:

- Draft PDD/PDD/;
- Supporting documents demonstrating the additionality;
- Expected emission reductions/XLS/;
- Local stakeholders' consultations/LSC/;

Other supporting documents, such as publicly available information on the GS website and background information were also reviewed.

C.2. On-site inspection

Duration of Audit: N/A				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**

The on-site inspection did not take place as it is not mandatory as well as exempted due to the COVID-19 global pandemic[2]. On the contrary, alternative measures were employed to validate and verify information provided, that allowed for reasonable assessments and conclusions during the renewal of the crediting period.

During the desk review, the relevant documents, including the registered PDD/PDD/ and corresponding validation report and the monitoring and verification reports for the previous monitoring periods were checked.

The validation team has carried out a zoom meeting (videoconference) on 15/12/2020 with members of staff and representatives of the project as outlined in section C.3 below in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the project with the relevant criteria. During the meeting, it was confirmed that no changes have occurred with regards to the project design or the monitoring plan since the last validation/verification.
Besides the Zoom meeting, there were email exchanges of documents, and clarifications carried out.

Moreover, the validation team conducted direct telephone interviews with three end-users of the project stoves to confirm the project implementation status, as well as SDG impacts, compliance of safeguarding principles and general feedback.

The Validation team can therefore confirm the project design, implementation, operation as explained in the latest approved PDD have not been changed.

C.3. Interviews

No.	**Interviewee**			**Date**	**Subject**	**Team member**
	Last name	**First name**	**Affiliation**			
1.	Jander	Leon	Fastenopfer (Programme Manager-Kenya) /IM01/	15/12/2020	Implementation Status Project description Registered PDD, Updated	David Lubanga
2.	Knecht	David	Fastenopfer (Project Officer) /IM01/			

[2] https://globalgoals.goldstandard.org/ru-2020-covid-19-interim-measures-update/

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
3.	Mwangangi	James	Caritas Kitui (Project Officer)/IM01/		PDD, ER calculations. Project history, technology, monitoring data, methodology applicability, User agreements (carbon rights) Stakeholder Process BS/PS Studies KPT Studies Roles and Responsibilities Organizational Structure	
4.	James	Emmanual	Caritas Kitui (Project Officer) /IM01/			
5.	Mwende	Peninah	Caritas Kitui (Project Coordinator) /IM02/			
7.	Ndeti	Florence	Caritas Kitui (Director) /IM02/			
8.	Saitoti	Peter	Caritas Kitui /IM02/			
				09/07/2021	Experience of the stove Benefits Any concerns Engagement with PP	David Lubanga
9.	Muasya	Nthambi	Kwa Muli (Stove ID: K/KVS/00121)			
10.	Nzila	Peninah	Kanyangi (Stove ID: K/MSB/00029)			
11.	Kitundu	Mary	Kitheka (Stove ID: K/KWB/00099)			

C.4. Sampling approach

C.4.1 Sampling during validation

☒	No sampling approach has been used by the PP to determine the monitored parameters
☐	A sampling approach has been taken for the following monitored parameter(s):

Parameter	Sampling approach [1)]	Sampling Type [2)]	Population	Sample Size

[1)] *Sampling Approaches:*

SiRS: Simple Random Sampling
StRS: Stratified Random Sampling
SS: Systematic Sampling
CS: Cluster Sampling
MSS: Multi-stage Sampling

[2)] *Sampling Types:*

PS: Parameter Sampling

C.4.2 Sampling approaches during validation

☒	No sampling approach has been used by the VT to verify the monitored parameters
☐	A sampling approach has been applied by the VT for the following monitored parameter(s):

Parameter	Sampling approach [1)]	Sampling Type [2)]	Population	Sample Size

[1)] *Sampling Approaches:*

SiRS: *Simple Random Sampling*
StRS: *Stratified Random Sampling*
SS: *Systematic Sampling*
CS: *Cluster Sampling*
MSS: *Multi-stage Sampling*

[2)] *Sampling Types:*

AS: *Acceptance Sampling*
PS: *Parameter Sampling*
COM: *Full data check at higher data aggregation levels and sampling at original data levels*

During the remote validation, no sampling approach has been used by the validation team since there is one site. The monitored parameters as listed in section B.7.1 of the revised PDD are verified against the applied methodology and registered PDD for correctness.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	0	4	0
Application and selection of methodologies and standardized baselines	0	0	0
Validity of original baseline or its update	1	0	0
Estimated emission reductions or net anthropogenic removals	3	2	0
Validity of monitoring plan	0	0	0
Crediting period	0	0	0
Project participants	0	0	0
Post-registration changes	0	0	0
Others (please specify) - LSC	5	3	1
Total	**9**	**9**	**1**

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	A draft revised PDD was submitted to the validation team by the project participant. By means of the GS website it has been checked whether the latest applicable PDD template PDD has been used. Further, it has been checked whether the latest instructions for filling out the PDD template have been followed. Every section has been checked against the respective guidance. The following sources of information have been used in this context: • /PDD/ • /PDD-F/ • /gs/	
Findings	☒	The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the PDD.
	☐	The latest instructions for filling out the PDD have been followed. No adverse finding has been identified in the course of this validation.

	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		CL 05, CAR 01, CAR 02, CAR 03, CAR 04, CAR 05, CAR 08
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	In line with the requirements of the project standard only the sections of the registered PDD relating to the applicability of methodology, baseline, estimated GHG emission reductions and the monitoring plan have been updated. All other sections have basically only been migrated to this version. It has further been checked whether the information included in the PDD sections and appendices that have not been part of the registered PDD are in line with the valid version of GS-PDD template and in compliance with the project standard. The project participants used a later valid version of the PDD form version 1.1 for the updated PDD than the version of the PDD form of the registered PDD. The validation team can confirm after relevant corrections, the information transferred to the later version of the PDD form is materially the same as that in the registered PDD.	

D.2. Description of Project Activity

Means of validation	**Technical Project Description:** The project activity involves the construction and installation of subsidized efficient cook stoves to replace inefficient 3-stone fires used in households in rural communities in Nyeri, Kitui, Machakos and Laikipia Counties, Kenya. The use of improved rocket stove results in savings of non-renewable woody biomass (firewood) thereby reducing GHG emissions from thermal energy consumption. The project is supervised by Fastenopfer, a charitable foundation in accordance with Swiss law, and implemented by local partner organizations. **Technology Measures:** The project technology implemented is a brick-type rocket stove for cooking made of bricks, mud, water, cement and sand. Construction is done on site and the materials are sourced locally. The stove is fixed and installed in households. **Scale of PA:** As per 3.1.2 of the Community-Services-Activity-Requirements, v1.2, GS project activities using a GS methodology are not differentiated by scale, except for micro-scale project activities that do not exceed 10,000 tCO_2e per annum emission reductions. However, the PA results in approximately **224.29 GWh_{th}** energy savings per year, which s above the SSC threshold of 180 GWh_{th}, if implemented as per the schedule. **Project Participants:** The project participant is described as Fastenopfer in cover page and Appendix 1 of revised PDD. **Public Funding / ODA:** The project does not receive public funding, and therefore, no ODA. Funding sources include non-governmental organizations such as Fastenopfer, Caritas Kitui and subsidized construction and labour costs from the beneficiary households **General Eligibility Criteria:** **Project Category: End-use energy efficiency:** The project reduces energy requirements as compared to baseline scenario without affecting the level and quality of services or products, where the end-user is the rural household **Location of Project:** The project is located in the republic of Kenya **Project Area and Project Boundary:** The project boundary is defined as per the applied methodology. The project boundary is the physical, geographical sites of the project technologies. It also includes the baseline and project fuel collection areas.

	Project Additionality: Additionality is not required to be re-assessed for the PA during project design certification renewal. However, according to GS4GG principle and requirements paragraph 3.5.2.3, the PA had to demonstrate in section B.5 of PDD the **Ongoing Financial Need** by demonstrating that carbon finance is still required in order to make the stoves affordable and the project sustainable. The PA is a transition project renewing their crediting period under GS4GG following the crediting period renewal guidelines as defined under GS4GG notably the requirements to demonstrate Ongoing Financial Needs (OFN) and review baseline, if applicable. Since this is a transition project and the project follows the "Community Services Activity Requirements" for additionality demonstration, the PP has justified how the project meets all the Eligibility Criteria of §4.1.9 of the "Community Services Activity Requirements". The project is deemed additional as it is in the positive list, in line with §1.1.3 of the Appendix B of the Gold Standard for The Global Goals "Community Services Activity Requirements" The following sources of information have been used in this context: • /PDD/ • /GS4GG/	
Findings	☐	The respective requirements have widely been complied
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		CL 04, CAR 01, CAR 02, CAR 03, & CAR 04
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	In line with the requirements of the applied methodology all sections have been basically migrated from the registered PDD with some editorial and updated to reflect the updated methodology and GS4GG PDD template applied. It has further been checked whether the information included in the updated PDD sections and appendices that were not part of the registered PDD are correct. With editorial corrections and updated information, the validation can confirm the PDD is updated accordingly to meet all the requirements of the GS4GG and the PDD template version 1.1. The description of the project activity provides a clear understanding with no change in the general GS4GG eligibility criteria.	

D.3. Application and selection of methodologies and standardized baselines

D.2.1 Methodology Compliance

Means of validation	By means of comparison of the PDD with (i) the applied GS methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline the validation team has checked whether the PDD is in compliance with the requirements of the applied methodology/guidelines. The following sources of information have been used in this context: • /PDD/ • /TPDDTEC/ • /TOOL/ • /UA/ Compliance with each applicability criterion as listed in the applied GS methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" Version 3.1 has been demonstrated.

	The assessment was carried out for each applicability criterion and included, among others, the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures. This assessment also included the review of secondary sources, which attest that applicability conditions are complied with. The methodology specific check list on applicability criteria is included below. It documents the assessment process and also includes the steps taken to validate the same. *This methodology is applicable to programmes or activities introducing technologies and/or practices that reduce or displace greenhouse gas (GHG) emissions from the thermal energy consumption of households and non-domestic premises:* The project introduces the Hifadhi rocket improved cookstove which is more efficient and leads to the reduction in household wood fuel use, while meeting the same thermal energy needs. The PDD, monitoring reports and GE assessments have been checked to confirm the same at the renewal of the crediting period *The project boundary needs to be clearly identified, and the technologies counted in the project are not included in any other voluntary market or CDM project activity (i.e. no double counting takes place):* The project boundary has clearly been defined. It includes the place of the kitchens where the project stoves are applied and the place of fuel collection in the defined project area within the host country. Double counting has been checked and minimized through unique identification, and thorough reference to the CDM, GS, VCS registries. Users also cede carbon rights by signing the user agreements, to the PP to ensure the same is not claimed through other projects *The technologies each have continuous useful energy outputs of less than 150kW per unit (defined as the total useful energy delivered from start to end of operation of a unit divided by time of operation). For technologies or practices that do not deliver thermal energy in the project scenario but only displace thermal energy supplied in the baseline scenario, the 150kW threshold applies to the displaced baseline technology:* The project stove uses 1.64 tons of fuel wood per year (PFT 2019). Fuel wood has energy content of 0.015TJ/t. Thus, the maximum energy in a day is 0.000068TJ (1.64t x 0.015TJ/t/365). Using a conversion factor of 3.6 TJ=1GWh, the daily maximum energy output can be expressed as 0.000019GWh/day = 18.8 kWh/day based on a conservative 30 min cooking time for each meal-day. Therefore, the power rating of the project stove is estimated at 12.51 kW, which is far lower than the threshold of 150kW for thermal power output *Using the baseline technology as a backup or auxiliary technology in parallel with the improved technology introduced by the project activity is permitted as long as a mechanism is put into place to encourage the removal of the old technology (e.g., discounted price for the improved technology) and the definitive discontinuity of its use. The project documentation must provide a clear description of the approach chosen and the monitoring plan must allow for a good understanding of the extent to which the baseline technology is still in use after the introduction of the improved technology:* Annual monitoring and usage surveys implemented by the project proponent will capture data on continued use of the baseline stove, and the same discounted in the emission reduction calculations. The PP has also purposed continuous user education on the benefits of the project stove and this effort will lead to discontinued use of the three-stone fire *The project proponent must clearly communicate to all project participants the entity that is claiming ownership rights of and selling the emission reductions resulting from the project activity. For technology producers and the retailers of the improved technology or the renewable fuel in use, this must be communicated by contract or clear written assertions in the transaction paperwork. If the claimants are not the project technology end users, the end users will need to be informed and notified that they cannot claim for emission reductions from the project:* Only two parties are involved besides the project implementer (project proponent) *1.* Stove users sign a purchase agreement where they agree to cede all carbon rights to the project implementer and subsequently to the project owner. The validation team has

	seen sample user agreements to confirm the same[UA]. 2. The artisans are engaged directly by the end-user households. The project proponent trains the artisans who work voluntarily, and then subsidizes the cost of stove construction by providing part of the construction materials. The household then pays the artisans directly. Therefore, there is no direct contractual relationship between the PP and the artisans. Therefore, the VVB can confirm that this applicability condition is duly met. *Project activities making use of a new biomass feedstock in the project situation (e.g., shift from non-renewable to green charcoal, plant oil or renewable biomass briquettes) must comply with relevant Gold Standard specific requirements for biomass related project activities, as defined in the latest version of the Gold Standard rules. If the biomass feedstock is sourced from a dedicated plantation, the criteria must apply to both plantations established for the project activity AND existing plantations that were established in the context of other activities but will supply biomass feedstock:* Baseline and project fuel is the same – woody biomass, therefore this is not applicable. *Adequate evidence is supplied to demonstrate that indoor air pollution (IAP) levels are not worsened compared to the baseline, and greenhouse gases (as listed in section 2.1) emitted by the project fuel/stove combination are estimated with adequate precision. The project fuel/stove combination may include instances in which the project stove is a baseline stove:* In line with the monitoring plan, also approved during the first crediting period, the project will determine improvements in the indoor air quality through qualitative assessments. A question on user perception of indoor air quality after implementation of the project activity will determine whether the same is improved, worsened or remained the same. From the first crediting period reports, the project stove leads to improvements in indoor air quality *Records of renewable fuel sales may not be used as sole parameters for emission reduction calculation, but may be used as data informing the equations in section 2.0 of this methodology. These records need to be correlated to data on distribution9 and results of field tests and surveys confirming (a) actual use of the renewable fuel and usage patterns (such as average fraction of non-renewable fuels used in mixed combustion or seasonal variation of fuel types), (b) GHG emissions, (c) evidence of CO levels not deteriorating (d) any further factors effecting emission reductions significantly:* This is an end-user energy efficiency program that uses non-renewable biomass. Therefore, this condition is not applicable			
Findings	☒	The PDD is completely in accordance with the approved methodology applicable for the GS project		
	☒	The breakdown of PDD accordance of the referenced tools is as follows:		
		1	Title (of the tool)	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC)
			Version	3.1
			PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A (for MP)
	☒	2	Title (of the tool)	Assessment of the validity of the original/current baseline and to update the baseline at the renewal of a crediting period
			Version	3.0.1
			PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A (for MP)
			Title (of the tool)	Calculation of the fraction of non-renewable biomass
			Version	2.0.0

			PDD compliance	☒ full compliance ☐ findings have been raised ☐ N/A (for MP)
	☒	In this context the following CARs, CLs, FARs have been raised:		
		CAR 05		
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.		
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.		
	The validation team confirms that the project complies with all conditions and provisions of the applied methodology and tools			

D.2.2 Deviation from methodology and/or methodological tool

Means of validation	By means of comparison of the PDD with the applied GS methodology and methodological tools, it has been checked whether any deviation from applied methodology have been effected or requested. The following sources of information have been used in this context: • /PDD/ • /TPDDTEC/ • /GS/	
Findings	☒	No deviation from the selected methodology has been approved by the GS for the proposed project activity.
	☐	A deviation from the methodology is to be requested and approved.
	☐	In this context the following CARs, CLs, FARs have been raised:
		- N/A
Conclusion	☒	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☐	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	The Validation Team concludes that no deviation from the selected methodology and tool has been requested or approved by the GS for the proposed project activity.	

D.4. Validity of original baseline or its update

Means of validation	In order to check the validity of the original baseline or its updates the validation team has applied the following stepwise approach: *Step 1:* Check of Applicability of a Standardized Baseline *Step 2:* Check of Baseline Scenario *Step 3:* Compliance check of the baseline with relevant policies *Step 4:* Assessment of impact of circumstances *Step 5:* Assessment of likeliness of investments *Step 6:* Validity check of ex-ante determined parameters. All necessary documentation has been either provided by the client or the validation team has acquired appropriate information required for assessment independently. For a detailed list of reviewed documentation please refer to appendix 3. The following sources of information have been used in this context: • /PDD/ • /METH/ • /ER/ • /TL/

	• /unfccc/ • /gs/
Findings	*Step 1: Applicability of a Standardized Baseline:* No standardized baseline is applicable to the project activity. This has been checked by an analysis of the current list of valid standardized baselines. The validity of the current baseline is assessed using the following Sub-steps: Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies The baseline scenario as defined by the applied methodology has not been changed during the second crediting period and is in compliance with all the relevant mandatory national and / or sectorial policies. The validation team has checked the Kenya Energy Policy Papers, and publications in the Ministry of Energy and the DNA, , there are no major policy changes for manufacture and use of traditional or improved cookstoves. Step 1.2: Assess the impact of circumstances The circumstances existing at the time of requesting renewal of crediting period are the same as existing at the initial validation stage of the PA. According to observations from documents review online, the baseline scenario identified at the validation of the PA and defined by both methodology remains the same and circumstances have not changed significantly to alter the baseline practice. At the time of requesting renewal of the crediting period, the conditions used to determine the baseline scenario in the previous crediting period are still valid. Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested This is a greenfield project, there is no baseline equipment which is to be exchanged. Furthermore, no other reasons for a possible investment – other than possible legal requirements – have been identified. Thus, the validation team confirms the conclusion that no changes to the baseline are required due to the likeliness of investments in equipment, which impacts the baseline. Step 1.4: Assessment of the validity of the data and parameters The assessment team has reviewed the calculations against the data provided and requirements of the tool and can confirm that the baseline factors as applied are correct and conservatively determined.
	Step 2: Check of the update to the current baseline and the data and parameters *Step 2.1: Check of the update to the current baseline* As per the check in step 1 above, it is confirmed that the current baseline does not need to be re-assessed but the baseline values have been updated. The new baseline values are as follows: -

Parameter	Description	Applied value	Means of validation
EF_{b,CO_2}	CO_2 emission factor arising from use of wood-fuel in baseline scenario	1.7472 tCO_2/t wood	The values have been calculated in accordance with the methodology and applied tool
$EF_{b,non\text{-}CO_2}$	Non-CO_2 emission factor arising from use of wood-fuel in baseline scenario	0.1476 tCO_2eq/t wood	
EF_{p,CO_2}	CO_2 emission factor arising from use of wood-fuel in project scenario	1.7472 tCO_2/t wood	
$EF_{p,non\text{-}CO_2}$	Non-CO_2 emission factor arising from use of wood-fuel in project scenario	0.1476 tCO_2eq/t wood	
$P_{b,y}$	Quantity of woody	3.20 t wood/year	

			biomass consumed in the baseline scenario in year y and per day in year y	and 0.0088 t wood/day	
	Step 2.2: Check of the update to the data and parameters As per above				
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:			
		CL 02, CL 06, & CAR 06			
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.			
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.			
	The original baseline scenario of the project as per the registered PDD is still valid for the 2nd crediting period. The fixed parameters have been updated in line with the requirement. The validation team's assessment concludes that the updated fixed parameters have been updated in accordance with the tool, using reasonable assumptions, reliable sources and appropriate approaches.				

D.5. Estimated emission reductions or net anthropogenic removals

Means of validation	For validation of the estimated GHG emission reductions the project proponent has provided the validation team with the following documentation: - Updated PDD - ER spreadsheet Further, the validation team has downloaded from the GS website the applicable version of the methodology and all referenced methodological tools. The ER calculations have been duly checked, including the application of the selected equation (1), the applied fixed and monitored parameters, GWPs, conversion as well as default factors. Further, it has been checked whether the results have been correctly transferred to the updated PDD for determination of ex-ante ER. The validation team has further checked the updated PDD against the latest versions of the applicable methodology the referenced methodological tools for consistency. Special focus was laid on any changes against the previous crediting period. The following sources of information have been used in this context: • /PDD/ • /METH/ • /ER/ • /VER/ • /unfccc/ • /gs/	
Findings	☒	The calculation of ERs is done as per the applied methodology. The calculation in the Excel spreadsheet and the corresponding calculation tables in the PDD have been checked and no mistakes have been identified. The estimation of emission reductions for the 2nd crediting period is deemed plausible and conservative.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		CL 07, CAR 07, & CAR 08
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.

	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	The calculation in the ER spreadsheet and the corresponding calculation tables in the updated PDD have been checked. Estimations of emission reductions for the 2nd crediting period (CPII) are deemed to be correct, plausible and conservative.	

D.6. Validity of monitoring plan

Means of validation	The validation team has checked the monitoring plan of the updated PDD against the required changes due to the update of the baseline and other methodological changes. Further, changes due to editorial updates of the applicable templates have been checked. In detail all parameters, ex-ante values and applicable formulae have been checked to determine the required changes for the next crediting period. Besides, based on documents review and interviews with related personnel the validation team has assessed the feasibility of the required changes. The following sources of information have been used in this context: • /PDD/ • /METH/ • /VER/ • /gs/	
Findings	☒	**Ex-Ante Parameters:** The ex-ante parameters described in section B.6.3 are compared with the original registered PDD and updated to be compliance with the revised GS methodology v3.1, and GS4GG requirements as described in Section B.6.3 of revised PDD. **Ex-Post Parameters:** The ex-post monitored parameters as described in section B.7.1 of revised PDD and there are no changes with the exception of the inclusion of SDG requirements. The monitoring plan in the PDD has been updated to comply with the latest applicable versions of the monitoring methodology. The basic changes from the current crediting period can be summarized as follows: The data / parameter representations largely remain unchanged and are in accordance with the requirements of TPDDTECC.

Parameter	Description	Applied value	Means of validation
$f_{NRB,i,y}$	Non-renewability status of woody biomass fuel in scenario i during year y	82.3%	Calculated using most recent publicly available data, following the steps outlined in CDM methodological TOOL30 as a prescribed option in the methodology. It is a fixed parameter updated only at the renewal of crediting periods. However, as per the methodology, project proponent may at any time over the course of a project activity choose to re-examine renewability by conducting a new NRB assessment. Hence, it is

					under monitored parameters. The validation team has checked and validated as correct, the applied data, and steps followed in the calculation of his parameter
		$P_{p,y}$	Quantity of fuel that is consumed in project scenario p during in year y	1.64 t wood/year and 0.0045t wood/day	Value is measured biennially and used in the calculation of $P_{p,b,y}$. The PFT value was updated in September 2019 and still valid at the design certification renewal time. The validation team has checked the procedure outlined in the PDD, data, and sampling approach. No issue has been raised
		$U_{p,y}$	Usage rate in project scenario p during year y	82.40%	Derived from annual usage monitoring surveys. The value is monitored ex-post taking into consideration the different age groups of the installed units and then weighted, in line with the applied methodology. The validation team has assessed the survey methodology and calculations. No issues have been raised
		$N_{p,y}$	Technologies in the project database for project scenario p through year y	-	The value is recorded continuously and will be determined at monitoring according to the implementation schedule in the stove database
		$LE_{p,y}$	Leakage in project scenario p during year y	0 tCO_2e	Leakage effects have been assessed in the PDD. Potential sources of leakage have bene analysed. It has been determined that leakage effects are insignificant. However, the same will be monitored every two years in line with the methodology
		Similar cook	List of similar cook	-	This does not have a

		stove project activities in the project area	stove projects and an assessment of how (e.g., target population, cook stove type, etc.) and to what degree overlap occurs		value as only different registries are checked. However, it is used to determine and avoid possible double counting
		Incentive scheme to abandon baseline technology (3-stone fires)	Percentage of households that use the baseline technology (3-stone fires) regularly (every day use) in addition to the project stove	-	Part of the annual monitoring surveys and does not have an ex-ante value. However, it is used to discount the presence of baseline stoves in project HHs, and to promote the adoption of the project stove
		$P_{p,b,y}$	Specific fuel savings for an individual technology of project p against an individual technology of baseline b in year y, in tons/day, as derived from the statistical analysis of the data collected from the field tests	1.56 t wood/year and 0.0043t wood/day	This is a calculated value on fuel savings derived from the difference between BFT ($P_{b,y}$) and PFT ($P_{p,y}$) (KPTs). The $P_{b,y}$ value was updated in 2020 and fixed since the baseline is fixed. The $P_{p,y}$ value will be monitored every two years in line with the methodology. Both KPT studies were conducted during the dry season in Septermber 2020 and 2019 respectively. Therefore, the values are conservative and arrived at in line with the applied methodology guidelines.
		SDG 7	*Number of households using efficient cook stoves at end of the crediting period*	-	Project technologies credited. This is measured *continuously* and recorded in the project database and will be adjusted for usage rate
			Average weekly time and money savings on purchase or collection of firewood of households	-	This is estimated during annual monitoring surveys
		SDG5	Gender Equality	45%	Approximately 45% of trained and active artisans are women
		SDG13	Climate Action	358,435 tCO_2e	The value is calculated using fixed and monitored data as

					validated in the PDD
		Indoor Air Pollution	Positive comments from stove users on air quality	90%	Determined during the annual monitoring surveys. A qualitative survey is designed and a random sample is used to determine improvements in indoor air condition
		The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the baseline. The validation team has concluded that - all necessary changes have been appropriately reflected in the updated PDD - the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, - the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design.			
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:			
		CL 02, CL 06, CL 08, CAR 07, & CAR 09			
Conclusion	☐	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.			
	☒	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.			
		Data monitored for CDM purposes will be aggregated, summarized, calculated and recorded until two years after the end of the crediting period. Therefore, the monitoring plan can be implemented and all monitoring arrangements are feasible within the project design. After appropriate corrections, the monitoring of the parameters data, measurement, QA/QC procedures are considered appropriate and in compliance to the applied methodology. Based on TÜV NORD's local and sectoral knowledge, the monitoring methods, reporting, and recording procedures described in the monitoring plan can fully meet the requirements of the applied GS baseline and monitoring methodology.			

D.7. Crediting period

Means of validation	The PA was registered on 19/05/2015 and the first 7-year renewable crediting period is from 01/01/2014 to 31/12/2020, both dates inclusive. As per the section 5.1.45 of the GS4GG Principles-Requirements v1.2 guidelines, the start date of the renewed crediting period is defined as the first day after the end date of the previous crediting period, provided the application for a renewal of the crediting period is submitted to Gold Standard prior to the end of the previous crediting period. the new crediting period shall start on the day immediately after the expiration of the current crediting period regardless of the date when the crediting period is deemed renewed. However, due to COVID-19 pandemic and consequent restrictions by the host country government, the project proponent asked for a deviations from this requirement as re-validation documents could not be submitted by the end of the CPI. The approvals were granted/DEV/. Therefore, the 2nd crediting period starts on 01/01/2021 until 31/12/2027. The following sources of information have been used in this context: • /PDD/ • /gs/ • /GS4GG/ • /DEV/

Findings	☒	As the respective requirements are met, the project's 2nd crediting period may start immediately after the expiration of the 1st one, given that all other applicable criteria are met. It is further confirmed that the start date 01/01/2021 and the length of the crediting period (7 years) are in compliance with the project standard.
	☐	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
Conclusion	☒	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☐	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	It is confirmed that the start date and the length of the 2nd crediting period (7 years) are correct.	

D.8. Project participants

Means of validation	The validation team has checked the revised PDD and GS website whether the listed project participants have been changed. The following sources of information have been used in this context: • /PDD/ • /gs/	
Findings	☒	The names of the project participants as listed in the revised PDD (sections A.4. and appendix 1) are consistent with those listed on the dedicated UNFCCC project website as well as in the last version of the modalities of communication.
	☐	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
Conclusion	☒	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☐	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	It can be confirmed that the name of the participant (Fastenopfer) is consistent with the names at registration. No changes have been observed or requested.	

D.9. Local Stakeholder Consultation Process

Means of validation	According to GS4GG Stakeholder Consultation & Engagement Procedures, Requirements and Guidelines version 1.1, the Project participant is required to conduct Stakeholder Consultation process shall comprise of a minimum two rounds of consultation. The first round of Stakeholder Consultation shall include a physical meeting. Where necessary, other means shall also be used to reach out to stakeholders who may not be physically present. The second consultation is the Stakeholder Feedback Round. This covers all issues raised in the 1st round of consultation meeting and how due account was taken of all stakeholders' comments and suggestions. It may also include a physical meeting although this is not mandatory. In this aspect, the PP needs not to conduct the stakeholders 'consultation and adopt GS4GG stakeholder consultation requirements.	
Findings	☐	The respective requirements have widely been complied with
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:

		CL 01 & CL 09
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	No new stakeholder consultation conducted since this is not mandatory. The PP will conduct an LSC process before actual implementation starts in the other counties not yet covered. A grievance mechanism is in place to facilitate continuous stakeholder engagement	

D.10. Sustainable Development Goals

Means of validation	Sustainable development goals are described in Section B.6.1 & B.6.4 of revised PDD. The PP has selected 3 SDGs for the 2nd CP as follows: SDG 5: Gender Equality target 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life The project will train local artisans and lead artisans on how to construct the efficient rocket stoves. Women will also be encouraged to take part in trainings, leadership roles, and will be the main beneficiaries in time and money savings SDG7: Affordable and Clean Energy target 7.3: By 2030, double the global rate of improvement in energy efficiency The project aims to construct 18,200 new energy efficient stoves by the end of the CPII. All constructed and installed cookstoves will lead to energy, time and money savings. SDG13: Climate Action target 13.3: Improve education, awareness-raising and **human and institutional capacity on climate change mitigation**, adaptation, impact reduction and early warning The estimated emission reductions from the PA over the 7 years is approx. **358,435 tCO_2e** with an annual average of **51,205 tCO_2e**. These three SDG Impact parameters are ex-post monitored.	
Findings	☒	The sustainability indicators are in compliance with the revised GSPDD.
	☒	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:
		CL 05, CL 08, & CAR 01
Conclusion	☐	No CARs / CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	☒	The raised CARs / CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details, please refer to Appendix 4.
	After corrections, it could be concluded that the revised sustainability indicators that will be implemented during the 2nd CP are appropriate and in accordance with GS4GG as well as the PDD template.	

D.11. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline	N/A	-	-
Corrections	N/A	-	-
Inclusion of a monitoring plan to a registered project activity	N/A	-	-
Permanent changes from registered monitoring plan,	N/A	-	-

monitoring methodology or standardized baseline			
Changes to the project design of a registered project activity	N/A	-	-
Types of changes specific to afforestation and reforestation project activities	N/A	-	-

SECTION E. Internal quality control

Before the submission of the final VAL RCP report a technical review of the whole validation procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the validation team and thus not involved in the decision-making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may have been confirmed or revised. Furthermore, reporting improvements might have been achieved.

After the successful technical review an overall (esp. procedural) assessment of the complete validation has been carried out by a senior assessor located in the accredited premises of TÜV NORD.
After this step the submission for requesting the renewal of crediting period is conducted.

SECTION F. Validation opinion

Fastenopfer has commissioned the TÜV NORD JI/CDM Certification Program to validate the GS project:

"Improved Jikos – Better Living for Rural Population"

with regard to the relevant requirements of the GS4GG for project activities, as well as criteria for consistent project operations, monitoring and reporting. The GS4GG design documents and supporting documents were reviewed against the criteria as set out in the GS4GG requirements and guidelines, and the respective Annexes as applicable.

The subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM Certification Program with sufficient evidence to validate the fulfilment of the stated criteria applicable for validation.

In detail the conclusions can be summarized as follows:

- The project meets all eligibility criteria set by the GS.
- The project does not result in negative social, environmental and/or economic impacts.
- The project contribution to Sustainable Development is determined.
- The project additionality is sufficiently justified in the PDD.
- The project does not result in diversion of ODA.
- Conservative assumptions were applied in the project description.
- The monitoring plan of SDG parameters is transparent and adequate.
- The project meets the stakeholder consultation requirements.
- The calculated emission reductions of **358,435 tCO_2e** are most likely to be achieved within the 2nd renewable crediting period of 7 years.

The conclusions of this report show, that the project, as described in the project documentation, is in line with all criteria applicable for the certification renewal.

Nairobi, 23/11/2021

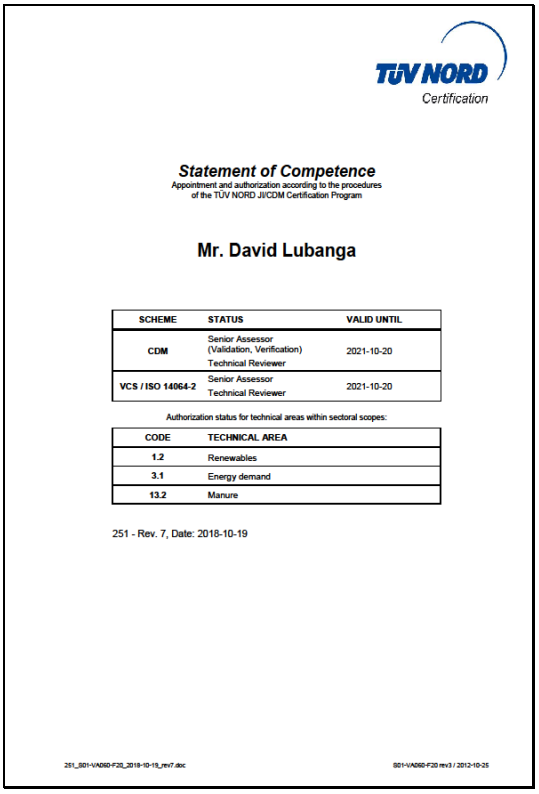
David Lubanga
TÜV NORD JI/CDM Certification Program
Team Leader

Appendix 1. Abbreviations

Abbreviations	Full Texts
BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CM	Combined Margin
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COP/MOP	Conference of Parties / Meeting of Parties
CP	Certification Program
CPA	Component Project Activity
CPI	First Crediting Period
CPII	Second Crediting Period
CSA	Community Service Activities
DNA	Designated National Authority
DRB	Demonstrably Renewable wood Biomass
CPA	Component Project Activity
FAR	Forward Action Request
FTs	Field Performance Tests
GHG	Greenhouse gas(es)
GT	Glossary of Terms
GS4GG	Gold Standard for the Global Goals
HH	Household
ICS	Improved Cookstove
IPCC	Intergovernmental Panel on Climate Change
KNBS	Kenya National Bureau of Statistics
KPT/KT	Kitchen Performance Test
LSC	Local Stakeholder Consultation
LoA	Letter of Approval
MAI	Mean Annual Increment of woody biomass per hectare
MoC	Modalities of Communication
MP	Monitoring Plan
NRB	Non-Renewable Biomass
ODA	Official Development Assistance
PA	Project Activity
PP	Project Participant(s)/Project Proponent(s)
QA/QC	Quality Assurance/Quality Control
SD	Sustainable Development
SDG	Sustainable Development Goal
SSC	Small-scale
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction
VT	Validation/Verification team

VVB	Validation/Verification Body

Appendix 2. Competence of team members and technical reviewers



TÜV NORD Certification

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

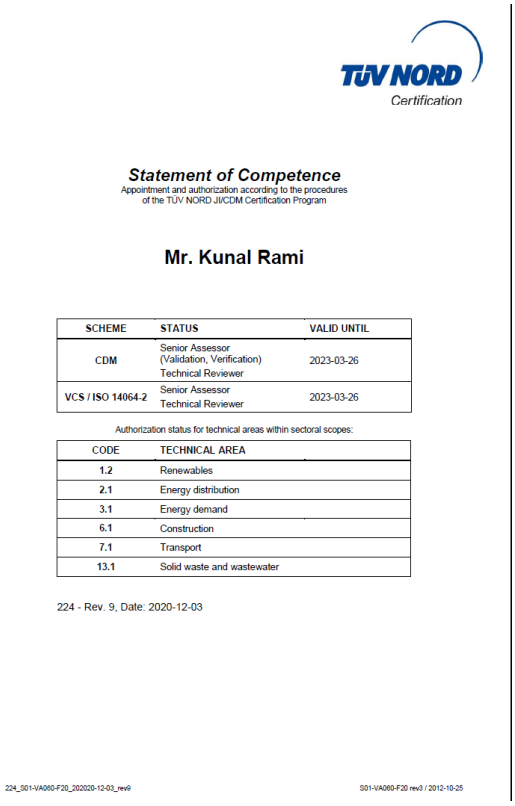
SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2021-10-20
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2021-10-20

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.2	Manure

251 - Rev. 7, Date: 2018-10-19

251_S01-VA060-F20_2018-10-19_rev7.doc S01-VA060-F20 rev3 / 2012-10-25



TÜV NORD Certification

Statement of Competence
Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Kunal Rami

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2023-03-26
VCS / ISO 14064-2	Senior Assessor Technical Reviewer	2023-03-26

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
6.1	Construction
7.1	Transport
13.1	Solid waste and wastewater

224 - Rev. 9, Date: 2020-12-03

224_S01-VA060-F20_202020-12-03_rev9 S01-VA060-F20 rev3 / 2012-10-25

Appendix 3. Documents reviewed or referenced

No.	Reference	Author	Title	References to the document	Provider
1.	**/GGPR/**	GS	GS Principles and Requirements, version 1.2	https://www.goldstandard.org/project-developers/standard-documents	Other
2.	**/GSSPR/**	GS	Gold Standard for the Global Goals Safeguarding Principles & Requirements	https://www.goldstandard.org/project-developers/standard-documents	Other
3.	**/GSPR/**	GS	GS4GG Emission Reduction & Sequestration Product Requirements	https://www.goldstandard.org/project-developers/standard-documents	Other
4.	**/GSCSA/**	GS	Gold Standard for the Global Goals Community Services Activity Requirements,	https://www.goldstandard.org/project-developers/standard-documents	Other
5.	**/GSG/**	GS	Gold Standard Gender Equality Guidelines and Requirements,	https://www.goldstandard.org/project-developers/standard-documents	Other
6.	**/PDD-F/**	GS	GS Key Project Information & Project Design Document (PDD), versión 1.1	https://www.goldstandard.org/project-developers/standard-documents	Other
7.	**/GSSCR/**	GS	The GS4GG_Stakeholder Consultation Requirements	https://www.goldstandard.org/project-developers/standard-documents	Other
8.	**/SAMPLE/**	UNFCCC	Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities	https://cdm.unfccc.int/Reference/old_reg.html	Other
9.	**/CPM/**	TUV NORD	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)	https://cdm.unfccc.int/Reference/old_reg.html	Other
10.	**/GOT/**	UNFCCC	Glossary "CDM terms" – version 10.0	https://cdm.unfccc.int/Reference/old_reg.html	Other
11.	**/IPCC/**	IPCC	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	www.ipcc-nggip.iges.or.jp	Other
12.	**/KP/**	UNFCCC	Kyoto Protocol (1997)	http://unfccc.int/kyoto_protocol/items/2830.php	Other
13.	**/MA/**	UNFCCC	Decision 3/CMP. 1 (Marrakesh – Accords)	http://cdm.unfccc.int/Reference/COPMOP/index.html	Other
14.	**/METH/**	GS	Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 3.1	N/A	Other

15.	**/TOOL/**	UNFCCC	CDM Methodological TOOL 30: calculation of the fraction of non-renewable biomass, version 2.0 CDM Methodological Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, versión 3.0.1	http://cdm.unfccc.int/Reference/tools/index.html	Other
16.	**/PDD/**	PP	- Improved Jikos – Better Living for Rural Population, version 3.2, 04/09/2015 - Improved Jikos – Better Living for Rural Population, version 4.0, 03/12/2020 - Improved Jikos – Better Living for Rural Population, version 5.0, 20/01/2021 - Improved Jikos – Better Living for Rural Population, version 6.0, 22/02/2021 - Improved Jikos – Better Living for Rural Population, version 7.0, 12/08/2021	PP	PP
17.	**/XLS/**	PP	- 20201123_GS2457_ER_calculation_FINAL - 20210113_GS2457_ER_calculation_FINAL - 20210222_GS2457_ER_calculation_FINAL - 20210811_GS2457_ER_calculation_FINAL	PP	PP
18.	**/GSPrR/**	GS	GS Preliminary Review	PP	PP
19.	**/fNRB/**	PP	20201123_GS2457_ER_calculation_FINAL 20210113_GS2457_ER_calculation_FINAL 20210222_GS2457_ER_calculation_FINAL 20210811_GS2457_ER_calculation_FINAL	PP	PP
20.	**/LSC/**	PP	131113_LSC REPORT V_4 - GS2457	PP	PP
21.	**/BS-PS/**	PP	- GS2457_BS_PS_Report_FINAL20201203 - GS2467_BS-PS_Report_Annex_Data_Analysis - GS2467_BS-PS_Report_Annex_Sampling - GS2457_BS_PS_Report_FINAL_v02_20210120_cleaned	PP	PP
22.	**/KPT/**	PP	*KPT_Baseline_Update_2020* - 20201030_KPT_Baseline_Update_GS2457_V01_FINAL - Annex_KPT2020_Data_analysis_FINAL20201029_for_report - Annex_KPT2020_Sampling_Final20200708_for_report *KPT_Update_2019* - 20190823_final_sampling - 20190925_KPT_Data_File_2019 - 20191016_KPT_Update_GS2457_V01	PP	PP
23.	**/DB/**	PP	Database_20200615	PP	PP
24.	**/AE/**	PP	- Artisan_evolution_2020 - Artisan_Training_2020_Participants_li	PP	PP

			st - Artisan_Training_2020_Report		
25.	**/UA/**		Sample User Agreements - Sample_Purchase_Agreement_KKCo 1146 - Sample_Purchase_Agreement_KKVS P00054 - Sample_Purchase_Agreement_KKYG 00550	PP	PP
26.	**/DEV/**		Deviation_Request_1_Approved Deviation_Request_2_Approved	PP	PP
27.	**/VER/**		Previous Verification Documents	GS Registry	Other
28.	**/PCP/**		CDM project cycle procedure, version 02.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
29.	**/PS/**		CDM project standard, version 02.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
30.	**/VVS/**		CDM Validation and Verification Standard, Version 02.0	http://cdm.unfccc.int/Reference/Standards/index.html	Other
31.	**/unfccc/**		UNFCCC	http://cdm.unfccc.int	UNFCCC
32.	**/ipcc/**		IPCC publications	www.ipcc-nggip.iges.or.jp	IPCC
33.	**/gs/**		https://www.goldstandard.org/	GS	Other

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	01	**Section no.**	A.8	**Date**	15/12/2020
Description of CL					
PDD version 4.0, Section A.8, Please clarify why the LSC was conducted only in Kitui County, and justify how representative this meeting was in the implemented project area.					
Project participant response (1st round)				**Date**	22/01/2021

The statement of CL 01 is not correct.

In 2013, the LSC was conducted in the Counties of Nyeri and Kitui at the start of the project, according to Gold Standard rules. The project follows a phased approach, with activities starting in Nyeri and Kitui Counties, and extension planned into Machakos and Laikipia Counties at a later stage. Accordingly, a Local Stakeholder Consultation will be organized in these latter two areas prior to any other project activity, as stated in the LSC review FAR #2.

The LSC meeting in Kitui and Nyeri was representative. During the LSC, not only have representatives from the Ministry of Public Service, Youth and Gender Affairs, the Gender and Social Development Department of Kitui and Nyeri Counties and independent gender and development experts been invited and participated in the physical meeting, but also representatives of the target group and other NGO and civil society organisations. 30 of the 89 participants, which is 34%, in the LSC were women. The meetings in Kitui and Nyeri gathered a great variety of stakeholders representing multi-sectoral interests relevant to the project, ranging from possible end-users and local civil-society organizations, to government agencies, ministries and national and international NGOs. These people have been invited personally by e-mail or letter. The public was invited through announcements in the radio, publicly placed posters, distribution of flyers and strategically placed banners in Nyeri and Kitui town. Given this variety of directly contacted stakeholders and the various means of public invitation, also in Kiswahili, the meeting was representative and inclusive.

Documentation provided by project participant (1st round)			
☒	Changes in the PDD	Section(s): A.8	New version No.: 5.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section A.8,

The PP has clarified that LSC physical meetings were conducted on both Nyeri and Kiui counties, which are the first phases of project implementation. The comments from Nyeri stakeholders have been re-inclused into the revised PDD.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	02	**Section no.**	B.4	**Date**	15/12/2020

Description of CL

PDD version 4.0, Section B.4,

1. Please clarify references to production and transport of fuel in the baseline and project case.
2. Table 3 (point c): Leakage Assessment: The PP states that "There is no known CDM or VER project activity in the project area and thus no likelihood the project will affect another CDM or VER project activity for its NRB fraction ". However, the NRB fraction calculated is national not regional value. Therefore, all the projects including PoAs that operate in the same area and could affect the fNRB value.
3. Table 3: Please clarify the consideration of project emissions. As per equation 1, no PEy are to be considered as the baseline and project fuel is the same

Project participant response (1st round)	**Date**	22/01/2021

1. Fuel is either collected in the vicinity of the homes or bought at local markets. Household members, mostly women and girls, then transport the fuelwood to their homes. The fuel collection area is defined in section B.3.c) of the PDD.

2. The project's NRB fraction is calculated for the national level, because sufficient scientific and accurate data is not available to allow for a regional or local analysis. The geographic area of this project (section A.4.4 in the PDD) includes the counties of Laikipia, Machakos, Nyeri and Kitui. In other words, the implementation area of this project is in a maximum of 4 out of 47 counties of Kenya. Therefore, we can safely assume that the project activity will not significantly impact the national NRB fraction. In other words, the planned construction of the 18'200 energy efficient stoves (see dissemination plan in section A.5.D) will most likely not alter the national NRB fraction. In that sense, we conclude that this project will not affect the NRB fraction of CDM or VER projects active in Kenya.

   On the other hand, as mentioned, there are no known CDM or VER projects exclusively active in the areas foreseen by GS2457 as per its definition of geographic area (A.4.4). Such projects could potentially have calculated an NRB fraction exclusively for this area and which could therefore be impacted by the project activities of GS2457. Since this is not the case, we conclude that there is no risk for this type of leakage. See adjusted table 3 (point c).

3. The information on project emissions (table 3, line f) has been deleted as requested. Accordingly, the sheet "Emissions_brick_prod_and_transp" in the Excel file 20210113_GS2457_ER_calculation_FINAL.xlsx has been deleted.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): B.4	New version No.: 5.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section B.4,

1. PP has clarified that there is no production or transportation of fuel in the baseline and project cases. The baseline and project fuel is the same. References to the same have been removed

2. The validator has checked and confirmed that there are no other carbon projects operating specifically in the defined GS2457 project boundary, and that have calculated the NRB fraction specifically for the project area. Hence, this project activity has minimal impact on the overall host country NRB fraction, and can reasonably conclude that there is no leakage

3. Project emission reductions are calculated using equation 1 of the applied methodology since the baseline and project fuel is the same. Therefore, no separate PEy is required, and therefore, revised accordingly

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	03	**Section no.**	B.4	**Date**	15/12/2020

Description of CL

PDD version 4.0, Section B.4,

The following is observed from the KPT (PFT) calculations and shall be clarified

1. The report indicates the BFT was carried out in July/August 2014. Please clarify if this is the dry season in the project boundary.

2. The values of BFT of 2014 (7.69) is used to calculate fuel savings (BFT2014-PFT2019). Clarify the applicability of the BFT2014 data, and the role of the BFT2020

3. Does the BFT value applicable in all the counties within the project boundary

Project participant response (1st round)	**Date**	22/01/2021

1. The initial BFT was carried out in July/August 2014. The updated PFT and BFT was carried out in September 2019, respectively September 2020. Weather diagrams indicate that the period from June to September is particularly dry in Kitui, Nyeri, Laikipia and Machakos.[3] This is confirmed by experiences on the ground.
2. The fuel savings in the PDD version 5.0 are calculated using the PFT 2019 data and the updated BFT 2020 data. The BFT 2014 data is not used. Please refer to the file "20201123_GS2457_ER_calculation_FINAL.xlsx", spreadsheet "ER_per Stove". The BFT 2020 Update report mentions the initial BFT 2014 only once, but does not include any data from it.
3. Yes, the BFT value is applicable in the complete geographic area (defined in A.4.4) of this project.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): B.4	New version No.: 5.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section B.4,

1. Confirmed that the initial BFT was conducted within the dry periods during 2014, 2019 and 2020
2. The validation team can confirm that fuel savings are calculated using updated 2020 BFT values hence this is up-to-date and correct
3. The BFT value is applicable to all counties in the project boundaries. The communities are homogeneous in terms of types of foods cooked and cooking habits

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	04	**Section no.**	B.5	**Date**	15/12/2020

Description of CL

PDD version 4.0, Section B.5,

The registered project activity is already deemed additional at initial validation. However, ongoing financial need has not been demonstrated as required by Principle 5 b) of the Gold Standard Principles and Requirements, version 1.2, for all projects undergoing design certification renewal

Project participant response (1st round)	**Date**	22/01/2021

The demonstration of ongoing financial need has been included in the relevant section:

The project generates no income. Therefore, the cost of training stove artisans, distributing production materials (subsidies), quality control, marketing and sensitization activities about the utility and utilization of the improved stoves cannot be covered without carbon financing. It is the specific design of the project to sell stoves at a price that is affordable to all rural households. However, the price per stove is directly paid by the family to the constructing artisan (who is working independently). On the other hand, the project subsidizes stove construction materials, such as cement and red oxide, amounting to around 1,000 KES. The subsidy constitutes around 25% of the total stove installation costs. All in all, households can purchase the stoves receiving a discount of approximately 25% of total stove installation cost. The need for subsidizing efficient cook stoves becomes clear, when we look at the poverty and income level of the target populations. According to the last Kenya Integrated Household Budget Survey (KIHBS) 2015-2016, Basic Report on Well-Being, poverty level in the project area stands at 47.5% in Kitui, 19.3% in Nyeri, 45.9% in Laikipia and 23.3% in Machakos. The population weighted average poverty rate over the whole project area is equal to 32.9%, in rural. The national poverty rate is at 36.1% (for rural areas this climbs to 40.1%). This shows that on average, still a considerable part of the population in the project area faces financial hurdles for the purchase of an improved cookstove to retail at approximately USD 40 without carbon finance subsidies. The share of people living in rural areas is 95% in Kitui County and 71% in Machakos County main source of income of rural communities is (subsistence-) farming, agriculture and casual labour. A study on Kitui found, that 12.1% earn income through peasant farming, 34.5% from casual labour, whereas 37.6% declare not having a formal job. Minimum wages for unskilled labour in Kenya is USD 67. Average annual income in Kenya is USD 730 or USD 61 per month, while most of the people earn less than 1 USD per day, or less than 30 USD per month. In rural areas mean monthly income of an adult person is reported to be KES 1,739 (around USD 20).

High poverty levels, low-income levels and low levels of wage employment (low levels of secured regular income) strongly influence the target population's ability to pay for efficient cook stoves at market prices.

Thus, carbon credits play an important role in the financing of this project activity and subsidizing stove construction. In the first two years, the project was entirely financed through pre-payment for future carbon credits for project start-up. The pre-payment for carbon credits cannot be paid back by other means than by carbon credits, since the project does not generate income. Once first carbon credits generate income for the project activity, it will be fully financed through revenues from carbon credits. This clearly shows that carbon funds are critical for implementing this project activity. A significant part of the project investment is provided upfront by Fastenopfer (a Swiss Foundation working in international cooperation) as a pre-payment for expected GS VERs. Until the end of the first crediting cycle, the project is not yet sustaining itself and yearly pre-financing by Fastenopfer is still required. This is an objective demonstration (as per CDM Guidelines for Objective Demonstration of Assessment of Barriers (Version 01), page 4/5, Guideline 6, Example 2) that the GS actually enabled the financing of the project. This is an objective means to demonstrate the investment/financial barrier.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): B.5	New version No.: 5.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section B.5,

The project generates no separate income aside from the realized emission reductions. The subsidized price of constructing the rocket stoves is paid directly by households to stove artisans and materials provided by the HHs themselves. Therefore, carbon finance is used to subsidize and sustain operations of the project. Furthermore, Fastenopfer is a registered NGO in Switzerland. Appropriate information is now included in the PDD in line with the requirements of 4.1.52 of the GS4GG Principles-Requirements, v1.2

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	05	**Section no.**	B.6.1	**Date**	11/12/2020

Description of CL

PDD version 04, Section B.6.1,

This section shall be revised to comply with the general requirements of the GS4GG Principles and Requirements and the PDD template requirements on SDGs

Project participant response (1st round)			Date	22/01/2021
Following the live discussions on 15 Dec 2020, the entire section B.6.1 has been revised in order to better comply with the Principles and Requirements (vers. 1.2, October 2019), section 4.1.2 (b) and to focus the project (and thus the PDD). Only SDGs 13 Climate Action (mandatory), SDG 7 Affordable and Clean Energy and SDG 5 Gender Equality are considered in the new PDD version.				
Documentation provided by project participant (1st round)				
☒	Changes in the PDD	Section(s):	New version No.: 5.0	
☐	Changes in MR	Section(s):	New version No.:	
☐	Changes in XLS	Worksheet(s):	New version No.:	
☐	Other:			
DOE assessment (1st round)			**Date**	05/02/2021
PDD version 5.0, Section B.6.1, SDGs have been reduced to three in line with the template and their respective targets have also revised according to the link provided by the template				
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed			

CL ID	06	Section no.	B.6.3	Date	11/12/2020
Description of CL					
PDD version 4.0, Section B.6.3, The PP shall justify the observed increase of $P_{b,y}$ from initial 2.81 t/unit/year in the CPI to 3.20 t/unit/year in the BFT 2020 applied in the ex-ante estimations for CPII					
Project participant response (1st round)				**Date**	22/01/2021
The increase in the quantity of woody biomass consumed in the baseline scenario in year y and per day in year y ($P_{b,y}$) is due to an increase in the number of people fed per meal as compared to the initial baseline scenario. During the initial BFT in 2014, the average meal fed 4.52 persons. During the updated baseline FT in 2020, this value increased to 5.38 persons, which is an increase of +19%. This tendency of bigger household sizes is confirmed by the annual monitoring surveys. In the years 2016 to 2019, the average household size has been fluctuating between 5.4 and 6.3 persons per household. This clearly reflects a general increase in household size compared to 2014, the baseline year of the first crediting period. In parallel, the $P_{b,y}$ increased from 2.81t/stove/year in the BFT 2014 to 3.20 t/stove/year in the updated BFT 2020, which is an increase of +14%. Hence, the quantity of woody biomass consumed in the BFT increased less than the increase in household size. We therefore conclude that the increase of $P_{b,y}$ is reasonably justified and follows a general increase in the number of people living in a household.					
Documentation provided by project participant (1st round)					
☒	Changes in the PDD	Section(s): B.6.3	New version No.: 5.0		
☐	Changes in MR	Section(s):	New version No.:		
☐	Changes in XLS	Worksheet(s):	New version No.:		
☐	Other:				
DOE assessment (1st round)				**Date**	05/02/2021

PDD version 5.0, Section B.6.3,

The 2014 BFT family size can be confirmed via different published literature showing average HH size to be between 4 and 4.4 persons/HH. Further studies in 2019 and 2020 show gradual drop from 4 to between 3.6 and 3.9 in 2020[4][5][6][7] in the host country. It is not clear why the population per HH has increased or fluctuated above official published data including recent census data in the project area

Analysis from the recent census data (2019) on average family size in the project boundary by the Kenya National Bureau of Statistics: -

- Nyeri: 3.0
- Kitui: 4.3
- Laikipia: 3.4
- Machakos: 3.5

Project participant response (2nd round)	**Date**	22/02/2020

We are giving further explanations in order to show the correctness of our P b,y value:

1.) The household sizes, measured in the Annual Monitoring Survey through a representative and random sample, are consistent over the last years:

	2020	**2019**	**2018**	**2017**	**2016**	**2015**	**2014**
Average HH size (Monitoring Survey)	5.4	5.4	5.6	6.3	6.2	4.8	4.5

The household size has been confirmed through another, independent random sample during the Baseline Field Test update in 2020.

It has also to be taken into account, that the census data is an average value for the entire county. However, it has to be taken into account that the project is working outside of urban settlements and thus household sizes are likely to be bigger than the county average.

The given size is the reality in the project area.

2.) Independently of the above mentioned, our P b,y value is more conservative than the CDM Standardised Baseline woody biomass consumption for household cookstoves in Kenya. Even when applying the 2019 census value of the average rural household (4.4 family members – calculated from table 2.2a page 12) and applying the value for rural areas from the CDM standardised baseline (0.76 t/person/year), we would find an estimated average consumption per household of 3.344t fuel wood per household per year (= 4.4*0.76). We find that the standardised baseline value would be above our baseline finding. We conclude that our baseline finding of 3.2t fuel wood per year per household is in line with expected fuel wood consumption.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): B.6.3	New version No.: 6.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (2nd round)	**Date**	25/02/2021

PDD version 6.0, Section B.6.3,

This explanation is now accepted as rural HH sizes are much larger than urban households and the published national average values do not represent the focus areas of the project. Furthermore, the value can be deemed as conservative since the approved CDM standardized baseline *ASB0035 Baseline woody biomass consumption for household cookstoves in Kenya_v1.0*, reports a value of 0.76 t/p/y for rural areas, which translates to a Pb,y value of 3.344 t/HH/y against the PP reported BFT lower value of 3.2 t/HH/y

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

[4] https://www.businessdailyafrica.com/bd/news/average-family-size-has-dropped-to-4-in-decade-2269542
[5] https://www.un.org/en/development/desa/population/publications/pdf/ageing/household_size_and_composition_technical_report.pdf
[6] https://www.un.org/en/development/desa/population/publications/pdf/ageing/household_size_and_composition_around_the_world_2017_data_booklet.pdf
[7] https://www.kenyans.co.ke/news/50010-census-2019-all-details-released-knbs

CL ID	07	Section no.	B.6.4	Date	11/12/2020

Description of CL

PDD version 4.0, Section B.6.4,

PP shall clarify how the 21 days lag time is accounted for in the estimated ex-ante emission reduction calculations

Project participant response (1st round)	Date	22/01/2021

In the ex-ante emission reduction calculation, there has not been a specific consideration of the 21 days lag time, as the difference is insignificant. However, this has been added in the file "20201123_GS2457_ER_calculation_FINAL.xlsx", sheet Project_ER_per Year, cells Q51-65 and P70 and P72. As shown in the table, the difference between the calculated emission reduction without the consideration of the 21-day lag time (360'887 tCO_2e) and the ER with the consideration of the 21-day lag tie (350'133 tCO_2) is only -2.98%. For simplicity and clarity, we therefore neglect the 21-days lag in the ex-ante emission reduction calculations presented in the PDD, section B.6.5 and B.6.4.

In any case, for each verification, the updated database at the time of verification is used as source to calculate the ER of the project. For the ER calculation, the starting date counted for the days in use of the stoves is not the construction date, but the construction date + 21 days in order to account for the real emission reduction calculations. This has been confirmed by the VVB during the two verifications in 2016 and 2018. Hence, on the side of the verified ER, the 21-day lag is always factored in.

Documentation provided by project participant (1st round)

☒	Changes in the PDD	Section(s): B.6.4	New version No.: 5.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment (1st round)	Date	05/02/2021

PDD version 5.0, Section B.6.4,

The project proponent has explained sufficiently why the 21-day lag time is not significant at validation stage. The ex-ante emission reductions will be estimated without the 21-day lag time, however, the same will be considered at validation using actual implementation dates. Therefore, for a phased implementation and for simplicity, this approach is accepted.

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	08	Section no.	B.7.1	Date	11/12/2020

Description of CL

PDD version 04, Section B.7.1,

The project proponent shall clarify how the description and monitoring of the SDG 2 addresses the target of "hunger", in line with the UN sustainable development goals

Project participant response (1st round)	Date	22/01/2021

In order to better comply with the Principles and Requirements (vers. 1.2, October 2019), section 4.1.2 (b) and to focus the project (and thus the PDD), the SDGs have been rearranged. Only SDGs 13 Climate Action (mandatory), SDG 7 Affordable and Clean Energy and SDG 5 Gender Equality are considered.

Therefore, SDG 2 will not be addressed and the respective parts in the PDD have been deleted.

Documentation provided by project participant (1st round)

☒	Changes in the PDD	Section(s): B.7.1	New version No.: 5.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment (1st round)	Date	05/02/2021

PDD version 5.0, Section B.7.1,

The SDG2 has been excluded from the monitoring plan

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CL ID	09	**Section no.**	E.3	**Date**	11/12/2020
Description of CL					
PDD version 4.0, Section E.3, Comments from Nyeri stakeholders included in section E.1 of the registered GS passport version 2.2 have now been excluded from the table in section E.3. Please include a justification or clarify if the PP intends to repeat the LSC and SFR in the second Crediting period (CPII)					
Project participant response (1st round)				**Date**	22/01/2021
The comments from Nyeri have been excluded in the updated PDD due to a misunderstanding with regards to how to present the LSC section. As the LSC is still valid, we have included the comments from the Nyeri LSC back into the PDD.					
Documentation provided by project participant (1st round)					
☒	Changes in the PDD	Section(s): E.3		New version No.: 5.0	
☐	Changes in MR	Section(s):		New version No.:	
☐	Changes in XLS	Worksheet(s):		New version No.:	
☐	Other:				
DOE assessment (1st round)				**Date**	05/02/2021
PDD version 5.0, Section E.3, The initial LSC process in Nyeri and Kitui is still valid for the subsequent crediting periods. Therefore, comments from Nyeri stakeholders have now been reinstated.					
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed				

Table 2. CAR from this validation

CAR ID	01	**Section no.**	Title Page	**Date**	15/12/2020
Description of CAR					
PDD version 4.0, Section Title Page, The following shall be corrected 1. The project implementation date 2. The project duration 3. The project certification pathway 4. Product requirements applied 5. The GS methodology title and version 6. The titles of the SDG impacts 7. The estimated amount of SDG Impact Certified					
Project participant response (1st round)				**Date**	22/01/2021
The requested corrections have been made in the title page.					
Documentation provided by project participant (1st round)					
☒	Changes in the PDD	Section(s): Title Page		New version No.: 5.0	
☐	Changes in MR	Section(s):		New version No.:	
☐	Changes in XLS	Worksheet(s):		New version No.:	
☐	Other:				
DOE assessment (1st round)				**Date**	05/02/2021

PDD version 5.0, Section Title Page,

1. The project implementation date has been revised from 01/01/2021 to 20/09/2013
2. The project duration has been corrected to 21 years, to correspond to the three crediting periods
3. The certification pathway has been revised to Project Design Certification Renewal. However, this is incorrect
4. Product requirements applied has been correctly revised to *GHG Emissions Reduction & Sequestration Product Requirements*
5. The methodology has been corrected to Technologies and Practices to Displace Decentralized Thermal Energy Consumption (vers.3.1, August 2017)
6. The titles of the SDG impacts have been revised
7. The estimated amount of SDG Impact Certified is corrected and consistent with the spreadsheet
8. The applied GS PDD template shall not be altered

Project participant response (2nd round)	**Date**	22/02/2021

The requested corrections have been made in the title page, with regards to points 3 and 8 mentioned above.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): Title Page	New version No.: 6.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (2nd round)	**Date**	25/02/2021

PDD version 6.0, Section Title Page,

3. The certification pathway has been revised to "Impact Statements & Products"
8. The template is now restored

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	02	**Section no.**	A.2	**Date**	15/12/2020

Description of CAR

PDD version 4.0, Section A.2,

The PP shall complete this section including the relevant activity requirements, and the scale of the existing project activity

Please see points e) to h) of the GS4GG ***101_V1.2_PAR_Principles-Requirements***

Project participant response (1st round)	**Date**	22/01/2021

The information for points e) to h) has been added.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): A.2	New version No.: 5.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section A.2,

Section A.2 on project eligibility has been updated to include the scale of the project (large-scale), the legal ownership, other rights, and ODA status. No public funding or ODA is diverted.

The project complies with all the *Principles Requirements* and therefore still eligible for the second crediting period

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	03	Section no.	A.5	Date	15/12/2020

Description of CAR

PDD version 4.0, Section A.5,

The PDD does not include the implementation status since 20/09/2013 and up to the end of CPI. And at the time of submission of project documents to the GS-VVB for recertification

Project participant response (1st round)	Date	22/01/2021

Table 1 has been modified and now includes information on the stove construction during CPI and the CPII information.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): A.5	New version No.: 5.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (1st round)	Date	05/02/2021

PDD version 5.0, Section A.5,

Table 1 has been updated to include project implementation status and future planned installations during the course of the second monitoring period (CPII). The same will be confirmed during verification as it is a continuous process largely out of PP control. However, the PP has not furnished the validation team with the installation database for the CPI

Project participant response (2nd round)	Date	22/02/2021

The installation database as of 15/06/2020 (used for the preparation of the PDD update), is now attached. The full 2020 data is currently under revision and will be ready for the verification in early 2021.

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): A.5	New version No.: 6.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (2nd round)	Date	05/02/2021

PDD version 6.0, Section A.5,

Installation database is incomplete. However, it shows that 13,265 stoves had been installed at the time of the draft revision of the PDD. The same is found to be reasonable, in line with the project implementaton schedule

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	04	Section no.	A.6	Date	15/12/2020

Description of CAR

PDD version 4.0, Section A.6,

The scale of the project is not defined and not demonstrated as per the relevant GS4GG guidelines

Project participant response (1st round)	Date	22/01/2021

The project is a large-scale project, because it will create more than 180 GWh_{th} of energy efficiency improvement. The demonstration has now been included in the section. Also, a section was added to the excel file "20201123_GS2457_ER_calculation_FINAL.xlsx" in spreadsheet "UPDATED2020_energy_output".

Documentation provided by project participant (1st round)		
☒ Changes in the PDD	Section(s): A.6	New version No.: 5.0
☐ Changes in MR	Section(s):	New version No.:
☐ Changes in XLS	Worksheet(s):	New version No.:
☐ Other:		

DOE assessment (1st round)	Date	05/02/2021

PDD version 5.0, Section A.6,

The project applies the GS methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption version 3.1. Therefore, in line with Chapter 5.1.4 of the GHG Emissions Reduction & Sequestration Product Requirements, version 1.2, and chapter 3.1.2 of the 201_V1.2_AR_Community-Services-Activity-Requirements, the scale is the same except when VERs are 10,000 tCO_2e or less, whereby it is defined as micro-scale. Therefore, for this project activity, the PP does not need to demonstrate compliance with the 180 GWh_{th} SSC threshold

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	05	**Section no.**	B.2	**Date**	15/12/2020

Description of CAR

PDD version 4.0, Section B.2,

All the methodology applicability conditions shall be updated to align with the new methodology version

Project participant response (1st round)	**Date**	22/01/2021

The methodology applicability conditions have been updated to align with the new methodology version 3.1, August 2017. The methodology applicability conditions a) and b) have been added and discussed.

Documentation provided by project participant (1st round)

☒	Changes in the PDD	Section(s): B.2	New version No.: 5.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section B.2,

The PP has included all the applicability conditions of the latest version of the methodology applied. The project is still compliant with all relevant applicability conditions for the second crediting period, and discussed in this report

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	06	**Section no.**	B.4	**Date**	15/12/2020

Description of CAR

PDD version 4.0, Section B.4,

The following has been identified from the BS/PS result

1. The PDD indicates 53% spend more than 5 hours/week collecting firewood in the baseline case. However, the excel spreadsheet and the BS/PS survey report 51%
2. The PDD and the excel spreadsheet indicate 18% spend 5 hours/week or more collecting firewood in the project case. However, the BS/PS survey report show 8%
3. It is indicated that an average of 23 sticks are used in the project case. Same confirmed by the excel spreadsheet. However, the BS/PS survey report indicates 34%

Project participant response (1st round)	**Date**	22/01/2021

There have been transcription errors between the Excel data sheet, the BS/PS report and the PDD. This has been checked and corrected.

1. 52% is correct.
2. 8% is correct. The Excel sheet also indicates 8%. The last line in the table indicates "less than 1 hour per week", which might be confusing.
3. 23 sticks is correct.

Documentation provided by project participant (1st round)

☒	Changes in the PDD	Section(s): B.4	New version No.: 5.0

☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section B.4,

1. The PDD has been revised from 53% to 52% consistent with the spreadsheet and report
2. The PDD has been revised from 18% to 8% consistent with the spreadsheet and report
3. The BS/PS has been revised from 34 sticks to 23 sticks consistent with the spreadsheet and report

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	07	**Section no.**	B.6.4	**Date**	15/12/2020

Description of CAR

PDD version 04, Section B.6.4,

Excel Spreadsheet "*20201123_GS2457_ER_calculation_FINAL*"

1. Tab "*Emissions_brick_prod_and_transp*: Cell E5 shall be corrected with the correct values
2. Tab '*fNRB_Calculation'*: TOOL30 valid version applied can only be version 2.0 or version 3.0
3. Tab '*fNRB_Calculation'*: Reference of section A3.1 shall be revised

Project participant response (1st round)	**Date**	22/01/2021

1. Following the CL ID 02 above, information on project emissions (table 3, line f) has been deleted as requested. Accordingly, the sheet "Emissions_brick_prod_and_transp" in the Excel file 20210113_GS2457_ER_calculation_FINAL.xlsx has been deleted.
2. Version 2.0 of TOOL30 has been used, as indicated in the header of the Tab "fNRB_Calculation".
3. In our understanding the tab '*fNRB_Calculation'* correctly references section 1.3 of the Annex 1 "Non-Renewable Biomass Assessment of Impact Methodology TPDDTEC vers. 3.1 August 2017". If not, the DOE shall clarify the CAR 07.3.

Documentation provided by project participant (1st round)

☒	Changes in the PDD	Section(s): B.6.4	New version No.: 5.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		

DOE assessment (1st round)	**Date**	05/02/2021

PDD version 5.0, Section B.6.4,

1. The PDD applies equation 1 of the methodology therefore there is no separate Pey considered. The same is now eliminated from the excel spreadsheet
2. A valid version 2.0 of the CDM Methodological TOOL30 has been applied
3. The reference is corrected and therefore the finding is null

Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed

CAR ID	08	**Section no.**	B.6.5	**Date**	15/12/2020

Description of CAR

PDD version 4.0, Section B.6.5,

The summary of ex-ante emission reductions is not consistent with the spreadsheet

Project participant response (1st round)	**Date**	22/01/2021

The section B.6.5 has been adjusted in order to ensure coherence between the PDD and Excel Spreadsheet "*20210113_GS2457_ER_calculation_FINAL*".			
Documentation provided by project participant (1st round)			
☒	Changes in the PDD	Section(s): B.6.5	New version No.: 5.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		
DOE assessment (1st round)		**Date**	05/02/2021
PDD version 5.0, Section B.6.5, Section B..6.5 has been revised indicating updated values after corrections. However, the same is not reflected in the spreadsheet "*20210113_GS2457_ER_calculation_FINAL*". Please also consult the Tab "ER_per_stove and make the necessary corrections to the Summary Table (Cell A80:D90)			
Project participant response (2nd round)		**Date**	22/02/2021
The table in the spreadsheet "20210222_GS2457_ER_calculation_FINAL.xlsx" has been adjusted. In order to increase clarity, the table in the tab "ER_per_stove" has been deleted and a new tab "overview BE_PE_ER estimations" has been added including the discussed table.			
Documentation provided by project participant (1st round)			
☒	Changes in the PDD	Section(s): B.6.5	New version No.: 6.0
☐	Changes in MR	Section(s):	New version No.:
☐	Changes in XLS	Worksheet(s):	New version No.:
☐	Other:		
DOE assessment (2nd round)		**Date**	25/02/2021
PDD version 6.0, Section B.6.5, The summary of ex-ante emission reductions is now consistent with the ER spreadsheet			
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed		

CAR ID	09	**Section no.**	B.7.1	**Date**	15/12/2020
Description of CAR					
PDD version 04, Section B.7.1 1. The description of the parameter $P_{p,y}$ is not as per the applied baseline and monitoring methodology 2. The description of the parameter $P_{p,b,y}$ is not as per the applied baseline and monitoring methodology					
Project participant response (1st round)				**Date**	22/01/2021
1. The description of $P_{p,y}$ has been adapted according to the applied methodology, vers. 3.1, August 2017. 2. The description of the parameter $P_{p,b,y}$ has been adapted according to the applied methodology, vers. 3.1 (from equation 1).					
Documentation provided by project participant (1st round)					
☒	Changes in the PDD		Section(s): B.7.1		New version No.: 5.0
☐	Changes in MR		Section(s):		New version No.:
☐	Changes in XLS		Worksheet(s):		New version No.:
☐	Other:				
DOE assessment (1st round)				**Date**	05/02/2021
PDD version 5.0, Section B.7.1, 1. The description of the parameter $P_{p,y}$ is now aligned with the applied GS baseline and monitoring methodology 2. The description of the parameter $P_{p,b,y}$ has been revised in line with the applied methodology					
Conclusion *Tick the appropriate checkbox*	☐ Additional action should be taken (finding remains open) ☒ The finding is closed				

Table 3. FAR from this validation

FAR ID	01	**Section no.**	E	**Date:** 16/08/2021
Description of FAR				
The verifying VVB(s) shall refer to the FAR#3 on page 21 of the MPII verification and certification report, and ensure the same is addressed accordingly, when applicable				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY

Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for project activities" (CDM-EB93-A05-STAN) and version 02.0 of the "CDM project cycle procedure for project activities" (CDM-EB93-A06-PROC); • Make editorial improvements.
02.0	31 October 2017	Revision to align with the requirements of the "CDM validation and verification standard for project activities" (version 01.0).
01.0	23 March 2015	Initial publication.

Decision Class: Regulatory
Document Type: Form
Business Function: Renewal of crediting period
Keywords: crediting period, project activities, validation report