Validation report form for CDM programme of activities

(Version 03.0)

BASIC INFORMATION	
Title of the programme of activities (PoA)	Improved cookstove programme for climate & community impact by SDG 13 Ventures
Version number of the validation report	05.0
Completion date of the validation report	24/05/2021
Version number of PoA-DD to which this validation report applies	05
Date when PoA-DD was uploaded for global stakeholder consultation	23/05/2020-21/06/2020[1]
Coordinating/managing entity (CME)	SDG 13 Ventures Pte Ltd
Host Parties	Rwanda[2]
Applied methodologies and standardized baselines	**Applied Methodology:**AMS-II.G.- "Energy efficiency measures in thermal applications of non-renewable biomass", Version 11.1. **Standardized Baseline:**N/A
Mandatory sectoral scopes	03- Energy Demand
Conditional sectoral scopes, if applicable	N/A
Name and UNFCCC reference number of the DOE	KBS Certification Services Pvt. Ltd. (KBS) E-0051
Name, position and signature of the approver of the validation report	Mr. Kaushal Goyal Managing Director

[1]https://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/IFWQVBZJ4Z8NUU0CL4EJ9L5OS5AU0W/view.html
[2]Host Parties Kenya and Zimbabwe were removed voluntarily from the PoA.

SECTION A. Executive summary

>> KBS Certification Services Pvt. Ltd. has been contracted by 'SDG 13 Ventures Pte Ltd' to perform a validation of the PoA:
PoA Title: "Improved cookstove programme for climate & community impact by SDG 13 Ventures"
Host Party: Rwanda[3]
The validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism PoAs, Validation and Verification Standard 2.0 and host country criteria, as well as criteria given to provide for consistent PoA operations, monitoring and reporting.
The proposed Programme of Activities will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change. In our opinion, the PoA meets all relevant UNFCCC, CDM criteria and all relevant host country criteria.
The PoA correctly applies methodology AMS-II.G version 11.1 /16/. It is demonstrated that the PoA is not a likely baseline scenario. The emission reductions attributable to the PoA are hence additional to any that would occur in the absence of the programme of activities.
The review of the PoA design documentation/2/ and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the PoA/2/ meets all applicable UNFCCC requirements for the CDM.

☒ Will be recommended to the CDM Executive Board with a request for registration
☐ Is not recommended for registration

SECTION B. Validation team, technical reviewer and approver

B.1. Validationteam members

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/documentrevi ew	On-site inspection	Interview(s)	Validation findings
1.	Team Leader, Technical Expert (3.1)	IR	Kandari	Sanjay	Central Office	✓	Remote audit	✓	✓
2.	Team Leader-Trainee	IR	Sharma	Shikha	Central Office	✓	Remote audit	✓	✓
5.	Local Expert(Rwanda)	EI	Lubanga	David	Central Office	✓	Remote audit	✓	

B.2. Technical reviewer and approver of the validation report

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 (3.1)	IR	Badaya	Rohit	Central Office
2.	Additional Technical	IR	Chaudhari	Tushar	Central Office

[3]In the PoA-DD published for Global stakeholder consultation, there were three host parties i.e Kenya, Zimbabwe and Rwanda. However, CME has voluntarily removed host parties Kenya and Zimbabwe from the PoA.

	reviewer (3.1)				
3.	Manager T & C	IR	Chaudhari	Tushar	Central Office
4.	Approver	IR	Goyal	Kaushal	Central Office

SECTION C. Means of validation

C.1. Desk/documentreview

>>The validation is performed primarily as a document review of the publicly available PoA-DD version 01 dated 20/05/2020/1/ and the intermediate versions up to final version 05 dated 23/04/2021/2/. The cross checks between information provided in the PoA DD/2/ and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

C.2. On-site inspection

As a result of the COVID-19 pandemic, taking into account the CDM Executive Board announcement to relax mandatory site visits till 31 December 2020 /27/, rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the DOE and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), a DOE may postpone site visits for onsite inspections required by the "CDM validation and verification standard for programme of activities (version 02.0) (VVS-PoA)/13/".

If the site visits cannot be postponed, a proper justification should be provided by the DOE why the site visits cannot be postponed, including the demonstration of a significant impact of delaying the site visits on the DOE, or project participants or coordinating/ managing entity (e.g. commitment/ timeline as per the validation or verification contract, CER delivery commitment by project participants) reliance on applicable force majeure provisions in the validation or verification contracts, if needed.

For this programme of activity, CME has made commitment/timeline as per the validation contract /5/. Hence, the site visit could not be postponed for this PoA.

As per para 184 of CDM validation and verification standard for programmes of activities version 02/13/, Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation of the PoA. Along with desk review, audit team has conducted remote audit interview corresponding to the PoAas follows:

- A complete desk review of the PoA-DD, as well as all applicable country legal requirement and supportive evidences have been checked by the validation team.

- Validation team has performed Skype interview with SDG 13 Ventures Pte Ltd(CME) in order to check implementation, current situation, management system of the PoA, project technology, location, start date etc.

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

Details of interviewees, topics covered and additional information presented in the below section "C.3 Interviews".

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Juneja	Neha	CME	13/07/2020(Skype interview) 05/11/2020(Skype interview)	Approval of PoA from Host Party and approval of participation of Project Participant(s). PoA (Technology, Location and Implementation), Public Funding of the PoA Baseline, PoA design, eligibility, start date etc. Removal of host countries Kenya and Rwanda fNRB, additionality Local stakeholder consultation, baseline fuel, baseline scenario etc.	Sanjay Kandari (Team Leader, Technical Expert (3.1)) Shikha Sharma (Team leader-Trainee) DavidLubanga (Local Expert)
2.	Mathur	Ankit	CME			
3.	Chand	Phool	CDM Consultant			

C.4. Sampling approach

>>As confirmed during the Skype interview, the distribution of ICS by CME has not been inititated. Therefore, no sampling approach has been applied at the validation stage.

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

Areas of validation of compliance	No. of CL	No. of CAR	No. of FAR
Programme of activities	-	-	-
Identification of programme type	-	-	-
Description of PoA	CL 03	-	-
Management system	CL 01	CAR 05	-
Demonstration of additionality of PoA	-	CAR 04	-
Start date and duration of PoA	-	-	-
Environmental impacts	-	-	-
Socio-economic impacts	-	-	-
Local stakeholder consultation	-	-	-
Sustainable development co-benefits	-	-	-
Approval	-	CAR 03	-
Authorization	-	CAR 03	-
Modalities of communication	-	CAR 03	-

Global stakeholder consultation	-	-	-
Generic component project activities	-	-	-
General description of generic CPA	-	-	-
Selection of methodologies and standardized baselines	-	-	-
• Deviation from methodologies and/or methodological tools	-	-	-
• Clarification on applicability of methodology, tool and/or standardized baseline	-	-	-
Application of methodologies and standardized baselines	-	-	-
• General	-	CAR 01, CAR 02	-
• Project boundary, sources and GHGs	-	-	-
• Baseline scenario	CL 01	-	-
• Estimation of emission reductions or net anthropogenic removals	CL 02	-	-
• Monitoring plan	-	CAR 06	-
Crediting period type and duration	-	-	-
Eligibility criteria for inclusion of CPAs	-	CAR 07	-
Others (Prior consideration, cover page, supportives)	CL 01	CAR 01	-
Total	03	07	00

SECTION D. Validation findings

D.1. Programme of activities

D.1.1. Identification of programme type

Means of validation	SDG 13 Ventures Pte Ltd (CME) identified this voluntary PoA and the key role in the development of CPAs and will oversee the inclusion of CPAs under the PoA. Through a technical review, the CME will assess the competence of potential CPA implementers/Designated Operators to ensure that they fulfil technical and eligibility aspects of the potential CPAs and to plan technical as well as administrative processes to meet PoA requirements. The representatives of CME were interviewed by the assessment team to confirm the information provided in the PoA DD/2/. PoA will include only small-scale non-A/R CPAs as verified from the remote audit (Skype) interviews.
Findings	No findings were raised.
Conclusion	The assessment team confirms that CME identified the type of CDM PoA in accordance with the para 31 of “CDM project standard for programme of activities”, Version 02/14/ and includes only small scale non-A/R CPAs.

D.1.2. Description of PoA

Means of validation	This PoA involves replacement of inefficient cooking devices (such as three stone firing cooking practice or other inefficient cooking stoves) with the improved cook stoves (ICS) and improved efficiencies to be tested in national laboratory. As confirmed by the CME representatives during the remote interviews, the traditional biomass based cookstoves shall be replaced by improved biomass-based stoves and the improved charcoal stoves shall replace traditional charcoal based stoves, to ensure that the baseline fuel remains the same.

The PoA involves the 'Rwanda'as host country, which has been confirmed from the letter of approval /3/. Previously the host countries Kenya and Zimbabwe were also included in the PoA, however they were voluntarily removed by the CME. This was confirmed by the validation team during the remote audit (Skype interview).

Key revisions between the final PoA-DD against the first version published for the international stakeholder consultation		
PoA-DD Section no.	**Brief description of the changes**	**Indicate relevant finding**
All sections	*CME voluntarily removed host parties Kenya and Zimbabwe from the PoA. Therefore, information in PoA-DD was revised.*	-
All sections	*The version of the applied methodology has been revised.*	CAR#01
I.6	*Inconsistent value of $EF_{projected_fossilfuel}$ was revised*	CAR#02
I.7	*Revision in approach for monitoring the efficiency of ICS* *Addition of sampling requirements for parameters μ_Y and N_{dHH}* *Measurement methods for monitoring parameter μ_Y were revised.*	CAR#06
I.6.2, I.7	*Parametersη_{old}, Life span and $NCV_{biomass}$ were shifted from ex-ante parameters to ex-post parameters, as they are monitoring parametersaccording to the methodology.*	-

The efficiencies of each type of cook stove shall be tested in the national laboratory of the host country (Rwanda)in accordance with the procedure stipulated in the applied methodology AMS-II.G., version 11.1/16/.

The main objective of PoA is the dissemination of the high thermal efficiency and low greenhouse gas emittingimproved cook stoves to the rural and urban(low-income) households of 'Rwanda', resulting in the reduction of firewood consumption across the households of the host country, leading to climate change mitigation in a sustainable manner.

The individual households at the time of distribution of ICS will sign a beneficiary agreement with the CME, acknowledging the inclusion of their stove into CPAs under this PoA.As confirmed during the remote audit (Skype video confrencing), information collected through the beneficiary agreement would be compiled in the distribution records. The distribution records would be inclusive of information related to the user name, identification no., address/location, unique stove distribution date and serial code.The sample beneficiary agreements/11/ were validated by the assessment team for the cook stoves for each type of technology (charcoal and woody biomass) and found in line with the PoA DD/2/. The PoA is undertaken voluntarily by the CME in the host country of 'Rwanda'. The voluntary nature of the PoA has been confirmed from the review of national energy policies of the 'Rwanda'/9/, which confirms that there are no mandatory laws, policies or requirements mandating the use of ICS.

The physical and geographical boundary of PoAincludesthe entire host countryi.e. Rwandaas validated during the Skype discussionwith the top management of CME.

	The PoA has not received any public funding as confirmed by interviewing the CMErepresentative (Skype video conferencing)and from the declaration of no ODA (Official Development Assistance)signed by CME/26/. Generic CPA part inPoA-DD/2/ has been prepared as per the above stated objective of PoA and in accordance with the relevant requirements in the "CDM project standard for programmes of activities", Version 02/14/.
Findings	CL#03 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The validation team has conducted document review and Skype interviewsfor the validation of the PoA-DD/2/. Based on the remote audit (Skype interviews) and document review, the validation team confirms that the PoA-DD/2/ contains a clear description of the project and provides a clear understanding of the precise nature of the PoA. This description is also found to be accurate and complete.

D.1.3. Management system

Means of validation	The management system is designed as per the 'CDM Project Standard for PoA, version 02/14/'. SDG 13 Ventures Pte Ltd (CME) will manage the PoA and will have a key role in the development of CPAs, and will oversee the inclusion of CPAs under the PoA. Through a technical review, the CME will assess the competence of potential CPA/CPA implementers to ensure that they fulfil technical and eligibility aspects of potential CPAs and to plan technical and administrative processes to meet PoA requirements. The representatives of CME were interviewed by the assessment team to confirm the information provided in the PoA DD/2/. CME will also utilise dedicated professionals (through tie-ups with local NGOs, women's groups &organisations) and team of people in host countries, having anindepth knowledge and extensive capabilities in survey and sampling to get quality and reliable data for emission reduction calculation for CPAs. SDG 13 Ventures Pte Ltd has the desired expertise to implement the 'Management System' reported in the PoA-DD/2/.
Findings	CL#01, CAR#05 were raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The programme of activity consists of the replacement of traditional cook stoves in domestic households by improved cook stoves with higher efficiency in which 'SDG 13 Ventures Pte Ltd' will coordinate the Programme of Activities (PoA) and will also involve in implementing the 'Component Project Activities (CPAs)' in 'Rwanda' while acting as the focal point for all CDM related activities. The CME has developed teams for the operation, management and verification of the PoA as detailed in the PoA DD/2/ and has clearly defined roles and responsibilities of the personnel involved in the complete process. It has further divided the personnel involved into teams for operation and maintenance of the PoA. The validation team has assessed the process and competencies of the CME team while carrying out interviews and considers the same to be adequate and in line with the requirements of "CDM Project standard for PoAs, version 02"/14/ and "CDM VVS for CDM PoAs, version 02"/13/.

D.1.4. Demonstration of additionality of PoA

Means of validation	**<u>Prior consideration of the clean development mechanism:</u>** The start date for PoA is considered as 14/04/2020, the date when the CME has

	intimated the UNFCCC and DNA for the CDM prior consideration of PoA. The same has been confirmed from the UNFCCC website and email communication with host party DNA/12/.It complies with the requirement of CDM PCP version 02/15/ and PS for PoAs, version 02/14/. **<u>Additionality of the PoA:</u>** The PoA consists of one or more small-scale projects as CPAs, the eligibility criteria for the demonstration of additionality were based on the Option 3 as per the para 22 (section 5.2.3) of the methodology AMS-II.G, Version 11.1/16/. The additionality of each CPA is demonstrated by complying with the eligibility criterion mentioned in (Each ICS units contained in the CPAs aims to achieve energy savings at a scale of no more than 1% small scale threshold i.e. 600 MWh/year, which is equivalent to 1,800 MWh_{th} of annual energy savings per appliance)throughout the CPA's crediting period. In line with paragraph 12(b) of Tool 19 EB 101 Annex-15/20/, CPAs under this PoA will solely composed of isolated units where the users of the technology/measure will be households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit will not be larger than 600MWh thresholds (which is less than the specified limit of 20GWh per year). As the PoA is in LDC and ICS will be used by individual household/SME and each ICS size will be less than 600MWh, hence project is automatically additional. Validation team confirms that the country i.e Rwanda included in the geographical boundary of PoA falls under LDC and therefore, the PoA complies with para 12 (a) of tool 19/20/. In compliance with para 14 of Tool 19 EB101 Annex-15 /20/, CPAs apply microscale thresholds at the unit level rather than at the aggregate level of the CPA. Also, CPA is exempted from bundling check as per para 15 of the Tool 19 /20/, which states that *"If each of the units contained in the CPA satisfies the condition to qualify as a 'microscale CDM unit', then the coordinating/managing entity is not required to demonstrate compliance of the CPA with the microscale or small-scale thresholds at the aggregate level of the CPA. In such cases, the requirements related to de-bundling stated in paragraph 6 above do not apply"*. As a result, it can be confirmed that the requirements of the "Standard for demonstration of additionality, development of eligibility criteria and application of methodologies for programme of activities" with respect to the demonstration of additionality are fully met.
Findings	CAR#04 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The validation team can confirm that the requirements of the "Project Standard for PoA, version 02' /14/ with regard to the additionality of CDM PoA have been met which is in accordance with para 45 of the VVS for PoA, Version 02/13/.

D.1.5. Start date and duration of PoA

Means of validation	**Starting date of PoA**	**Expected duration of PoA**
	Start date of PoA – 14/04/2020. CME has chosen the date of publication of the prior considerationof CDM at UNFCCC/12/ as the start date of PoA which isin line with theGlossary of CDM terms, Version 10/19/. The same has been verified from the email communication /12/	28 years, 00 months

	(dated 14 April 2020) submitted to UNFCCC andhost country DNA, followed by email confirmation from UNFCCC (dated 23/04/2020) and DNA of Rwanda (dated 05/06/2020) /12/.	
Findings	No findings were raised.	
Conclusion	Based on the remote audit (skypevideo conferencing) and document review, the validation team confirms that the PoA-DD/2/ contains a clear description of the project, that provides a clear understanding of the precise nature of the PoA. This description is also found to be accurate and complete. The PoA-DD satisfies the requirements of VVS, version 02/13/ for CDM PoAs in addition to CDM Project standard, version 02/14/ for CDM PoAs.	

D.1.6. Environmental impacts

Means of validation	It has been indicated in section E of the PoA-DD/2/ that the PoA will be implemented in the host country Rwanda and the environmental impact analysis would be undertaken at CPA level, which is acceptable to the validation team based on the skype discussion with the management of PP.
Findings	No findings were raised.
Conclusion	The validation team confirms that, in accordance with the paragraph 44 of PS for PoAs /14/, the environmental impact assessment for the PoA will be carried out at the CPA level. Thus, the requirement stated in VVS, version 02/13/and CDM PS for PoAs, version 02/14/ have been complied with.

D.1.7. Socio-economic impacts

Means of validation	Not applicable for this PoA.
Findings	Refer above
Conclusion	Refer above

D.1.8. Local stakeholder consultation

Means of validation	It has been indicated in section F of the PoA-DD/2/that the local stakeholder consultation would be undertaken at CPA level, which is acceptable to the validation team based on the skype discussion with the management of CME.
Findings	No findings were raised.
Conclusion	The validation team confirms that, in accordance with the paragraph 51 of PS for PoAs/14/, the local stakeholder consultation for the PoA will be carried out at the CPA level. Thus, the requirement stated in VVS, version 02/13/and CDM PS for PoAs, version 02/14/ have been complied with.

D.1.9. Sustainable development co-benefits

Means of validation	Not Applicable
Findings	Refer above
Conclusion	Refer above

D.1.10. Approval

<table>
<tr><td>Means of validation</td><td>
The host Partyof PoA is Rwanda andthe party ratified the Kyoto protocoland established a DNA,Rwanda Environment Management Authority (REMA) as the participating requirements for CDM under the Kyoto Protocol.
The information of the DNA has been confirmed by the validation team against the relevant information on the UNFCCC CDM website (http://cdm.unfccc.int/DNA/index.html).

The table given below summarizes the CME and party involved, as per the LoA/3/.
<table>
<tr><td>CME</td><td>SDG 13 Ventures Pte Ltd</td></tr>
<tr><td>Party involved</td><td>Rwanda</td></tr>
<tr><td>PoA title</td><td>Improved cookstove programme for climate & community impact by SDG 13 Ventures</td></tr>
<tr><td>Approval</td><td>Yes</td></tr>
<tr><td>LoA received</td><td>Yes</td></tr>
<tr><td>Date of LoA</td><td>29/10/2020</td></tr>
<tr><td>Reference of document</td><td>N°1604/DCCIO/2020</td></tr>
<tr><td>LoA received from</td><td>CME (SDG 13 Ventures Pte Ltd)/3/</td></tr>
<tr><td>Validation of authenticity</td><td>The assessment team has reviewed other LoAs issued by the DNA of Rwandaand confirmed the authenticity of signature and content of the LoA. The assessment team does not doubt the authenticity of the LoA.</td></tr>
<tr><td>Validity of LoA</td><td>Valid</td></tr>
<tr><td colspan="2">Authorization -</td></tr>
<tr><td>Party is party to Kyoto Protocol</td><td>Yes. Rwanda has ratified the Kyoto protocol on 22nd July 2004.</td></tr>
<tr><td>Voluntary participation</td><td>Yes, as confirmed from LoA/3/.</td></tr>
<tr><td>Diversion of official development aid towards host country</td><td>No, there is no Annex I country involved.</td></tr>
<tr><td>Project’s contribution to sustainable development</td><td>Yes, as confirmed from LoA/3/.</td></tr>
</table>

The Host Party for the proposed programme of activities is “Rwanda”, which fulfils the participation requirements, having ratified the Kyoto Protocol and established (Rwanda Environment Management Authority), as itsDNA/3/. This has been confirmed from the UNFCCC website.
</td></tr>
<tr><td>Findings</td><td>CAR#03 was raised and closed satisfactorily. Refer to Appendix-4 for further details.</td></tr>
<tr><td>Conclusion</td><td>
The letter of approval (LoA)/3/ has been verified to be unconditional with respect to all the above confirmed aspects. The validation team confirms that the LoA hasmet the requirements of the VVS V02/13/.

a) Rwandais party to the Kyoto protocol;
b) CDM is a voluntary participation;
c) The PoA under validation will contribute to the sustainable development of Rwanda.
d) The PoA title is in line with the title mentioned under section A.1 of the PoA DD.
</td></tr>
</table>

	e) The participation of CME has been approved/ authorized by the DNA of host Party. f) The participation has been confirmed in the LoA itself, which contains the name of the CME to which it is issued g) The information is consistent within the project documentation viz., PoA DD, LoA/3/ and signed MoC/4/. h) Validation team doesn't have any doubt on the authenticity of LoA/3/.

D.1.11. Authorization

Means of validation	The Host party(Rwanda) for thePoAhave ratified the Kyoto Protocol, and ishence allowed to participate in CDM PoA. The same has been verified from the Host Country Approval /3/ (N°1604/DCCIO/2020, dated 29/10/2020) issued by DNA of Rwanda to the CME. CME is authorized by the host party and the same was validated by reviewing the LoA/3/.
Findings	CAR#03 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The validation team confirms following; a) The LoA was received as referenced above; b) The LoA received from the CME directly; c) The provided LoA is in accordance with para 69 of VVS, version 02 of CDM PoAs/13/. d) The provided LoA is unconditional. CME is authorized by the host party to coordinate in PoA. Therefore, it complies with para 76 of VVS, V 02 for PoAs/13/.

D.1.12. Modalities of communication

Means of validation	The Modalities of Communication (MoC)/4/, signed on 31/10/2020, was received from the CME (i.e. SDG 13 Ventures Pte Ltd). SDG 13 Ventures Pte Ltd(CME) have authorized 'Mr.AnkitMathur'as the primary authorized signatory in the MoC/4/. The personal identity, specimen signature, contact details and employment status of the focal point have been checked by the corresponding evidence which can be considered as authentic and are found consistent with the MoC/4/. Moreover, the name of the CME mentioned in the LoA/3/ is also same in the MoC/4/. The same has also been confirmed by reviewing the corporate identity of authorized signatory (during remote audit), as mentioned in MoC. The CME has correctly completed the latest version of form F-CDM-MOC including its Annex 1 with the details consistent with PoA-DD/2/ and the evidence provided for identity check. The given MoC statement/4/ complies with all relevant forms and requirements.
Findings	CAR#03 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The assessment confirms that: a) It has performed due diligence on the MoC statement in accordance with the requirements established in VVS V02/13/ b) The MoC statement complies with all relevant forms and requirements. The validation of MoC has been done on the basis of § 82-85 of VVS V02/13/ and validation team confirms that the proposed PoA meets the requirement of VVS, version 02 for CDM PoAs/13/.

D.1.13. Global stakeholder consultation

Means of validation	In accordance with CDM modalities and procedures and PCP for CDM PoAs/15/, *"The PoA DD of a proposed CDM programme of activities shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available."* The PoA DD/1/ for this PoA was made available and was open for comments from 23/05/2020-21/06/2020on UNFCCC website[4].
Findings	No findings were raised.
Conclusion	No comments received.

D.2. Generic component project activities

D.2.1. General description ofgeneric CPA

Means of validation	The validation team validated that the PoA-DD/2/ is based on the currently valid CDM-PoA-DD template, version 09/17/ and is correctly applied in accordance with the guidelinesgiven in the form. The description includes all points to be incorporated in the specific CPA DDs in accordance with the purpose of PoA, its technical aspects and level of services. Validation team interviewed the managementof CME during remote audit(Skypevideo conferencing) and concluded that the information provided in generic CPA DD is in accordance with the description of PoA.
Findings	No findings were raised.
Conclusion	The validation team confirms that the proposed PoA meets the requirement of PS V02 for CDM PoAs/14/.ThePoA DD/2/ is completed using the latest version of the PoA-DD form/17/ appropriate to the type of programme of activity.

D.2.2. Selection of methodologies and standardized baselines

D.2.2.1. Deviation from methodologies and/or methodological tools

Means of validation	No deviation is applied/sought.
Findings	No findings were raised.
Conclusion	Not applicable

D.2.2.2. Clarification on applicability of methodology, tool and/or standardized baseline

Means of validation	No clarification was sought by CME on applicability of methodology, tool and/or standardized baseline.
Findings	No findings were raised.
Conclusion	The validation team confirms that no clarification on the selected methodology, tool was applied in the validation of the proposed CDM PoA.

D.2.3. Application of methodologies and standardized baselines

D.2.3.1. General

Means of validation	Applicability criteria for the applied methodology in the PoA-DD/2/ against these criteria are assessed by the validation team by means of document review and interviews. Thus, the validation team confirms that the PoA participant has correctly applied the approved methodology/16/ for the proposed PoA and that the selected

[4] https://cdm.unfccc.int/ProgrammeOfActivities/Validation/DB/IFWQVBZJ4Z8NUU0CL4EJ9L5OS5AU0W/view.html

version of the methodology/16/ is valid at the time of submission of the proposed PoA for registration.

Sl. No.	CDM Methodology Requirement	Project Justification	Means of Validation
01	This methodology comprises efficiency improvements in thermal applications of non- renewable biomass. Examples of applicable technologies and measures include the introduction of high efficiency biomass fired project devices (cook stoves or ovens or dryers) to replace the existing devices and/or energy efficiency improvements in existing biomass fired cook stoves or ovens or dryers	The proposed CPA will distribute high efficiency single or multi-pot improved cook stove for thermal application of the renewable biomass, which will replace inefficient traditional cookstove e.g. 3-stone fires leading to saving of non-renewable biomass. The wood based ICS will replace traditional wood based stove and charcoal based ICS will replace traditional charcoal stoves; therefore, no greenfield installations are included. This criterion will be checked from data recorded on the baseline stove used prior to ICS installation.	The validation team by means of remote audit interviews confirms that the CPA will distribute high efficiency single or multi-pot improved cook stoves and the distributed wood based ICS will replace existing wood based stoves and similarly, charcoal based ICS will replace charcoal based stoves; therefore, no greenfield installations are included. Hence, the criteria is applicable.
02	In the case of cook stoves, the methodology is applicable to introduction of single pot or multi pot portable or in-situ cook stoves with rated efficiency of at least 20 per cent.	The single pot or multi-pot portable or in-situ improved cooking stoves will have a specified efficiency of at least 20% as per water boiling test or compliance with Tier II and above as per ISO requiremnets, tested and certified by third party. Every ICS model implemented in the CPA will present a certificate issued by manufacturer or an appropriate certifying agent at the time of CPA inclusion proving the thermal efficiency as required by the	The validation team by means of remote audit interviews confirms that the CPA will distribute high efficiency single or multi-pot improved cook stoves having a specified efficiency of at least 20%. Hence, the mentioned criteria is applicable.

			CDM methodology. The Water Boiling Test (WBT) method shall be used to test the efficiency of the cookstove to meet this eligibility requirement, following the requirements indicated in “Data / Parameter table 12” which details the options for testing and certification as well as supporting documentation (e.g. certificate issued by third party or test results) that needs to be presented to the validating DOE.	
	03	The aggregate energy savings of a single project activity shall not exceed the equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input.	The CPA to be included will be a type II category CPA. The General Guidelines for SSC methodologies, version 23, paragraph 4.17 and para 51 of AMS II.G Version-11.1, states the following: In the case of CPAs solely composed of “microscale CDM units”, the coordinating/managing entity is not required to demonstrate compliance with the small-scale CDM thresholds at the aggregate level of the CPA. In such cases: The definition of ‘microscale CDM units’ provided under Tool 19, “Demonstration of additionality of microscale project activities” version 9.0, section 6, para 14 and 15, shall apply;	The validation team by means of remote audit interviews confirms that the CPA will distribute high efficiency single or multi-pot improved cook stoves and shall not exceed the equivalent of 60 GWh per year or 180 GWh thermal per year in fuel input. Hence, the criteria is applicable.

			For CPAs applying microscale thresholds at the unit level rather than at the aggregate level of the CPA, the term 'project activities' in paragraphs 4 and 11- 13 above shall be read as 'units'. If each of the units contained in the CPA satisfies the condition to qualify as a 'microscale CDM unit', then the coordinating/managing entity is not required to demonstrate compliance of the CPA with the microscale or small-scale thresholds at the aggregate level of the CPA. In such cases, the requirements related to de-bundling stated in paragraphs 6 above do not apply. The annual energy savings of each project device to be included under the CPA(s) will not be more than 1% of the small-scale CDM thresholds and satisfy the condition to qualify as a micro-scale CDM unit i.e. energy savings of each project device shall not exceed 1800 MWh_{th}/yr as per Tool 19 "Demonstration of additionality of micro-scale project activities" V 09.0. Therefore, demonstration of a compliance of the CPA with the small-scale thresholds at the aggregate level of the CPA is no longer required.	
	04	Non-renewable biomass has been	Statistics from the Forest department show that forests were	The validation team has confirmed the use of

		used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	estimated to cover 659,000 ha in 1960, which has reduced to 240746 ha in 2007[5]. This reflects a loss of approximately 64 per cent of forests in between 1960 and 2007, which is more than 1.3 per cent per year. The Wood remains the main source of domestic energy for more than 90 per cent of Rwandans, where in firewood in mainly used by rural areas and charcoal in urban areas. Further the study conducted in June 2009 in various districts of Rwanda reveals that 98% of rural households uses wood fuels as their main source of energy for cooking, which consist 92% firewood, 5% charcoal and 3% other residue[6]. A recent study conducted by Ministry of Land and Forestry, Rwanda in 2017[7], reveals that wood demand and supply ratio is 2:1 and the shortage is projected to increase until in future unless alternative sources of wood energy are sought. The consumption of fuelwood for Rwandan households is estimated at 2.7 million tonnes per year and charcoal making	Non-renewable biomass through the Biomass Energy Strategy report/10/ which reviews the existing use/consumption pattern of wood and charcoal in the urban, peri urban and rural areas of Rwanda. Page 16 and 17 of the BEST report/10/ lays emphasis on the survey based studies carried out in the past (held in the year 1999-2000 and 2005-2006) that concluded a total of 96% of the Rwandese population to be dependent on biomass for daily energy supply. The use of biomass has also been cross checked from the UN household Fuelwood and charcoal consumption data/7/ available from 1990 onwards. The same was also confirmed through the means of remote audit interviews. Hence, the criteria is applicable.

[5] https://www.rema.gov.rw/soe/chap6.pdf

[6] https://www.cleancookingalliance.org/binary-data/RESOURCE/file/000/000/36-1.pdf

[7] https://www.climateinvestmentfunds.org/sites/cif_enc/files/fip_final_rwanda.pdf

			accounts for about 50% of total fuelwood used. The Business as Usual scenario on wood supply/demand, estimates the deficit between wood supply and demand to be 4.3 million tonnes (oven dry weight) in 2017, which is projected to increase to 7.5million tonnes by 2026. This is due to a high increase demand for fire wood and wood for charcoal. This must imply over-exploitation of already low stocked forests. The analysis also shows that 93% of total wood demand mentioned above is for cooking purpose (57% firewood and 36% charcoal). It can therefore be concluded that non-renewable biomass has been used in Rwanda since long back before 31st December 1989.	
	05	For cases where the biomass is sourced from renewable sources, the project participants should use a corresponding Type I methodology.	Not applicable.	The validation team by means of remote audit interviews confirms that the CPA to be included will be a type II category CPA. Hence, the criteria is not applicable.
	06	If the project device requires a specific fuel for this device (e.g. briquettes, pellets, woodchips), the consumption of the fuel should be monitored during the crediting period.	There is no change in fuel type used than baseline scenario, the PoA is improvement in energy efficiency of the appliance.	The validation team by means of remote audit interviews confirms that the ICS doesn't require any other fuel than wood/charcoal, as mentioned in the baseline/2/. Hence, the criteria is not applicable.
	07	The CDM-PDD or CDM-PoA-DD/CPA-DD shall explain the proposed method for distribution of project	A record keeping system and unique identification of the project device will be used. This will include	The validation team by means of remote audit interviews confirms that the proposed method for distribution of project

		devices including the method to avoid double counting of emission reductions such as unique identifications of product and end-user locations (e.g. programme logo).	user name, identification number and address/location of the user's house, stove unique serial code and distribution date. The record keeping system will ensure that each ICS can be traced to one specific CPA to avoid double counting.	devices includes the method to avoid double counting of emission reductions such as unique identifications of product, end-user details (name, address etc) and unique GPS referenced location (if available). Therefore, the validation team confirms that the record keeping system will eliminate double counting.
	08	The CDM-PDD or CDM-PoA-DD/CPA-DD shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices.	The CME/CPA implementor will sign an end user agreement with individual household/user to ensure only CME can claim the emission reduction. A default distribution agreement for end users including the provision that emission reductions generated by the stove are owned by the CME will be provided for each CPA.	The validation team by means of remote audit interviews and the review of sample beneficiary (end-user) agreement/11/confirms that theproposed procedures prevent double counting of emission reductions.
	09	The use of this methodology in a project activity under a programme of activities is legitimate if the following leakages are estimated and accounted for, as required on a sample basis using a 90/30 precision for the selection of samples: a) Use of non-renewable woody biomass saved under the project activity to justify the baseline of other CDM project activities can also be	The CME chooses to account for all leakage in the project activity by applying the adjustment factor of 0.95 to the $B_{old,i,j}$. For more details see specific CPA-DD.	The validation team by means of remote audit interviews confirms that leakages are estimated and accounted for using option c) i.e. multiplying $B_{old,i,j}$ with the adjustment factor of 0.95 , as required on a sample basis using a 90/30 precision for the selection of samples.

		a potential source of leakage. If this leakage assessment quantifies a portion of non-renewable woody biomass saved under the project activity that is then used as the baseline of other CDM project activities then $B_{old,i,j}$ is adjusted to account for the quantified leakage; b) Increase in the use of non-renewable woody biomass outside the project boundary to create non-renewable woody biomass baselines can also be a potential source of leakage. If this leakage assessment quantifies an increase in the use of non-renewable woody biomass outside the project boundary then $B_{old,i,j}$ is adjusted to account for the quantified leakage; c) As an alternative to subparagraphs (a) and (b) $B_{old,,}$can be multiplied by a net to gross adjustment factor of 0.95 to account for both leakages, in which case surveys are not required.		
	10	To determine the value of the fraction of non-renewable biomass (fNRB) to be applied in a component project activity (CPA) of a POA, use one of the two options as follows: (a)Conduct local own	The CME has selected option (b) use default national values approved by the Board. The value is fixed at PoA level. The value has been sourced from ASB0041-2018, wherein the fNRB value is 77% calculated based on	The validation team by means of remote audit interviews and review of the standardized baseline ASB0041-2018 /6/, confirms that determined value of the fraction of non-renewable biomass (fNRB) to be applied in component project activity (CPA) of POA is

	studies to determine the local *f*NRB value (sub national values); or (b)Use default national values approved by the Board. The choice of which option to use shall be made ex ante. However, a switch from a national value of fNRB (i.e. option (b)) to sub-national values (i.e. option (a)) is permitted, under the condition that the selected approach is consistently applied to all CPAs.	data provided by DNA in PSB0045.	valid till 19 December 2021 and is in accordance with TOOL30: Calculation of the fraction of non-renewable biomass"; Version-02, EB 102, Annex 7/25/.
11	Monitoring approaches for $B_{y,savings,i,j}$ and values for parameters fNRB (when Option (a) in paragraph 48(c) is chosen) and the quantity of woody biomass $B_{old,i,j}$ may be determined either at the CPA level before the inclusion of the CPA or at the PoA level before the registration of the PoA-DD	The CME choses to determine the parameter $B_{old,i,j}$ and $B_{y,savings,i,j}$ on the CPA level before the inclusion of the CPA in the POA.	The validation team by means of remote audit interviews and document reviewconfirms that the parameter $B_{old,i,j}$ and $B_{y,savings,i,j}$ will be calculated before the inclusion of CPA.

Small scale CPA applies following methodology and tools:
Methodology: AMS-II.G. "Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass", Version 11.1/16/, is correctly mentioned in the relevant section of generic CPA DD.
Tools:
"TOOL21: Demonstration of additionality of small-scale project activities" Version-13, EB105 Annex 4
"TOOL19: Demonstration of additionality of microscale project activities" Version-9, EB101 Annex 15
"TOOL30: Calculation of the fraction of non-renewable biomass"; Version-02, EB 102, Annex 7

Findings	CAR#01, CAR#02 were raised and closed satisfactorily. Refer to Appendix-4 for further details.

Conclusion	The selected methodology/16/ is applicable to the PoA and is valid at the time of submission for registration. For each of the applicability condition listed in the methodology AMS-II.G. Version 11.1/16/ the steps taken to assess the relevant information contained in the PoA-DD/2/ has been clearly described. Thus, it can be concluded that the proposed CDM PoA falls under the small scale projects category and the PoA-DD/2/ justifies the applicability criteria of the applied methodology AMS-II.G, Version 11.1/16/ satisfactorily.

D.2.3.2. Project boundary, sources and GHGs

Means of validation

The validation team was able to confirm that all the identified emission sources which are impacted by the programme of activity are addressed by the approved methodology AMS II.G, version 11.1/16/ and can be seen in the table below.

Source		GHG	Included in CPA	Explanation
Baseline	Combustion ofnon-renewable biomass for cooking	CO_2	Yes	Main source of emission
		CH_4	No	Not considered as per the methodology. Exclusion is conservative.
		N_2O	No	Not considered as per the methodology. Exclusion is conservative.
	Use and production of charcoal for cooking	CO_2	Yes	Main source of emission
		CH_4	No	Not considered as per the methodology. Exclusion is conservative.
		N_2O	No	Not considered as per the methodology. Exclusion is conservative.
Project activity	Combustion ofnon-renewable biomass for cooking	CO_2	Yes	Main source of emission
		CH_4	No	Not considered as per the methodology for simplification.
		N_2O	No	Not considered as per the methodology for simplification.
	Use and production of charcoal for cooking	CO_2	Yes	Main source of emission
		CH_4	No	Not considered as per the methodology for simplification.
		N_2O	No	Not considered as per the methodology for simplification.

Findings	No findings were raised.
Conclusion	The GHG emission reduction occurring within the project boundary is CO_2 and no

	other gases are involved during the programme of activity. The same has been verified during the course of validation. This has been validated in accordance with VVS V02 for CDM PoAs/13/.

D.2.3.3. Baseline scenario

Means of validation	The assessment team has performed the following steps to assess the requirements for baseline identification: • Initial desk review • Remote audit (Skype interview) • Background information/ knowledge from similar projects and/ or technologies • Baseline fuel (charcoal and woody biomass) consumption report /10/ The baseline scenario is in accordance with para 23 of the applied methodology AMS-II.G, Version 11.1/16/ i.e. *It is assumed that in the absence of the project activity, the baseline scenario would be the projected use of fossil fuels to meet similar thermal energy needs as those provided by the project devices.*
Findings	CL#01 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The validation team confirms the following statements: a) All the assumptions and data used by the CME are listed in the PoA-DD/2/, including their references and sources; b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PoA-DD/2/; c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence, and can be deemed reasonable; d) Relevant national and/or sectoral policies and circumstances/9/ are considered and listed in the PoA-DD/2/; e) The approved baseline methodology/16/ has been correctly applied to identify the most reasonable baseline scenario, and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM PoA. The PoA-DD/2/ provides a description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed programme of activity.

D.2.3.4. Estimation of emission reductions or net anthropogenic removals

Means of validation

Parameter	Value	Unit	Source/Justification
$B_{old,HH}$ Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices	To be determined at CPA level	tonnes/household/year	As confirmed during the remote audit (skype interviews) historical data or survey of local usage will be conducted for each target consumer group included in a given CPA. The value shall be determined at CPA level.

$B_{old,i,j}$ Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type *i*and batch *j*	To be determined at CPA level	tonne/year	As confirmed during the remote audit (skype interviews) historical data or survey of local usage will be conducted for each target consumer group included in a given CPA. In cases where only one ICS is distributed per household, then value of $B_{old,i,j}$ will be considered equal to value of $B_{old,HH}$. Otherwise, the value will be calculated as **$B_{old,i,j}$ = $B_{old,HH}$ /$N_{d,HH}$** The value shall be determined at CPA level.
$B_{old,c,HH}$ Annual quantity of charcoal that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type *I* and batch *j*	To be determined at CPA level	tonne/year	As confirmed during the remote audit (skype interviews) historical data or survey of local usage will be conducted for each target consumer group included in a given CPA. The value shall be determined at CPA level.
$C_{C,W}$ The conversion factor from charcoal to wood	6	kgwood /kg charcoal	The validation team confirms that the applicability of the parameter is only during the use of charcoal based stove in the CPA and the applied value is consistent with the paragraph 35 of the applied methodology AMS-II.G version 11.1/16/.
$NCV_{biomass}$ Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices	0.0156 (for non-renewable woody biomass and charcoal)	TJ/tonne	Validation team confirms that the default value as specified in methodology AMS-II.G version 11.1/16/ has been used for non renewable woody biomass and charcoal. It has also been confirmed that processed biomass will not be used.
$EF_{projected_fossilfuel}$	73.2	tCO_2/TJ	The validation team confirms that the value is

Emission factor for the substitution of non--renewable woody biomass by similarconsumers			found to be consistent with the applied methodology AMS-II.G version 11.1 (table 2, para 25)/16/.
Ly Leakage adjustment factor	0.95	Fraction	The validation team confirms that the value is found to be consistent with the applied methodology AMS-II.G version 11.1/16/.
f_{NRB,y_Rwanda} Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass	0.77	Fraction	Validation team confirms that the determined value of fraction of non-renewable biomass (fNRB) to be applied in component project activity (CPA) has been taken from standardized baseline ASB0041-2018 /6/, which is in accordance with TOOL30: Calculation of the fraction of non-renewable biomass"; Version-1.0, based on data provided by DNA in PSB0045. It has been checked that the standardized baseline is valid till 19 December 2021 and therefore, the applied value is acceptable to the validation team. The valid version of Standardized baseline available at the time of CPA inclusion shall be used in accordance with paragraph 266 of EB 108(Annex 3), in case Standardized baseline not available, the fNRB value shall be established as per the latest available version of the tool TOOL30 by CME/CPA implementor.

The above parameters are in accordance with the applied methodology and shall be used in the specific CPA DD for the ER calculation in addition to the ex-post monitoring parameters.

The emission reductions shall be calculated in accordance with below formula sourced from the applied methodology:

$ER_y = B_{y,saving,i,j} \times N_{y,i,i} \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossilfuel}$

Where:

	$B_{y,saving,i,j}$ = Quantity of woody biomass that is saved in tonnes per cook stove device of type *i*and batch *j* during year *y* $f_{NRB,y}$ = Fraction of woody biomass that can be established as non-renewable biomass (f_{NRB}) $NCV_{biomass}$ = Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried') $EF_{projected_fossilfuel}$ = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers. Use default regional specific value of 73.2 t CO2/TJ $N_{y,i,j}$ = Number of project devices of type i and batch j operating during year y Sample calculations have been demonstrated by CME in thePoA DD and have been assessed adequately by the validation team based on the assumptions provided therein.
Findings	CL#02 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The assessment team confirms that all estimates of the baseline emissions, project emissions and Leakage emissions can be replicated using the data and parameter values provided in the generic CPA DD.

D.2.3.5. Monitoring plan

Means of validation	The operational and management structure has been clearly described in Section B under "Management System" of the PoA DD and is in compliance with the envisioned situation. The responsibilities, roles and institutional arrangements for data capturing and archiving has been mentioned elaborately and found acceptable. The information provided in the PoA DD has been found in compliance during the remote audit (video conferencing), while interviewing with the concerned people and the same was re-affirmed through the documentary evidence. The monitoring plan described is in compliance with the applied methodology/16/. The assessment team has reviewed all the parameters in the monitoring plan against the requirements of the applied methodology and confirmed that no deviation was observed. The procedures have been reviewed by the assessment team through document review and interviews with the respective department's personnel. The information provided has allowed the assessment team to confirm that the proposed monitoring plan is feasible within the project design. The relevant points of monitoring plan have been discussed with the CME. Specifically, these points include the monitoring methodology, data management, and the quality assurance and quality control procedures to be implemented in the context of the project. Therefore, the CME will be able to implement the monitoring plan and the achieved emission reductions can be reported ex-post and verified. The parameters that are to be monitored ex-post are:

Parameter	Unit	Source/Justification
$N_{y,i,j}$ Number of project	Number	The value will be checked from the Stove distribution database and monitoring survey records as verified

	devices of type *i*and batch *j* operating during year *y*		from the remote audit (Skype video conferencing). The surveys will be conducted at least once every two years (biennial). The number of operating stoves for each device i and batch j shall be determined on a sampling basis through a sampling survey.
	Date of commissioning of batch j To establish the date of commissioning, the Project Participant may opt to group the devices in "batches" and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch	date	The date will be checked from the Distribution record of ICSas verified from the remote audit (Skype video conferencing). It will be recorded at the time of commissioning/distribution of first ICS of the batchICSas verified from the remote audit (Skype video conferencing).
	η_{old} Efficiency of the system being replaced (Traditional Cooking Stoves)	0.1 for wood based ICS 0.2 for charcoal based ICS	The validation team confirms that the approach is found to be in line with the applied methodology AMS-II.G version 11.1/16/.The default value of 0.1 or 0.2 shall be applicable as the target beneficiaries with pre-project device type shall be classified as conventional three-stone fire users or a conventional device with no improved combustion air supply or flue gas ventilation, i.e. without a grate or a chimney, to be replaced by each CPA. The value will be fixed for each individual household when included in the database as confirmed by the validation team through remote audit interviews. Hence, it was found to be acceptable by the validation team.
	$NCV_{biomass}$ Net calorific value of the non-renewable woody biomass that is substituted	Non-renewable woody biomass-0.0156 TJ/tonne(fixed ex-ante)	The validation team confirms that the value is found to be consistent with the applied methodology AMS-II.G version 11.1/16/. It has also been confirmed that processed biomass will not be used in the CPAs.

$\eta_{new,i,j}$ Efficiency of the device of each type i and batch j implemented as part of the project activity	%	The value will be checked from the Manufacturer's Specification or/and Certification by a national standards body or an appropriate certifying agent recognized by that body as verified from the remote audit (Skypevideo conferencing). In case of WBT test based sampling, the sampling test shall be conducted following a 95/10 precision in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities"/23/. Three sample tests will be carried out on three stoves by PP or stove manufacturers to meet the 95/10 requirement for the efficiency to be determined acceptable, otherwise more sample tests would be required until 95/10 precision is met. If any sample stove is found to be operating below the 20% efficiency, the proportionate number of stoves of that type included in the CPA will be considered to be non-operational and not accounted for ER calculationas verified from the remote audit (Skype video conferencing). The value will be recorded at the time of commissioning/distribution and will be adjusted for loss of efficiency as per para 37 c) and d) of the applied methodology AMS-II.G version 11.0.
μ_Y Adjustment to account for any continued use of pre-project devices during the year y	Fraction	The number of stoves still operating will be determined based on ICS distribution database and Sample Survey Records. The surveys would capture information related to cooking habits and stove usage of the region. The total number of pre project operational stoves shall be calculated as the fraction of stoves of type *i*found operational in the sampling survey multiplied by the main equation of ER calculation as an adjustment factor. The CME confirmed through interviews that the monitoring will be done once in two years (biennial) and CME will apply

		one of the below methods for monitoring as per the applied methodology: 1. If the pre-project devices are decommissioned and no longer used, as determined by the monitoring survey its value is 1.0. 2. Similarly, in case of 3 pre-project devices, if use of one device continues during the crediting period, conservative adjustment factor of 0.66 will be applied. 3. A 95/10 confidence/ margin of error shall be achieved for the sampling parameter irrespective of monitoring frequency as per para 23 of Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 08.0/23/. In case of failure to achieve the desire 95/10, lower bound values shall be used to ensure conservativeness.
$N_{d,HH}$ Number of project devices distributed per household	Number	The value will be checked from the Distribution record of ICSand will be crosschecked with user details having number of ICS(i.ethe beneficiary agreements signed between the end-user and the CME at the time of distribution of ICS) as verified from the remote audit (Skype video conferencing).
Life span The operating lifetime of the project device (i.e. ICS)	Number of years	The value shall be taken from a test report conducted for specific ICS type at the time of CPA inclusion/distribution/commissioningand will be fixed ex-ante.

<u>Sampling</u>

The PoA-DD/2/ indicates a sampling plan as per the recommendation outlined in section 6 of Guideline for Sampling and Surveys for CDM Project Activities and Programme of Activities, version 04/19/ and contains amongst others information related to sampling design, data to be collected and implementation plan. Further, as per the requirements of paragraph 14 of "Tool19: Demonstration of additionality of microscale project activities", (Version 09.0), the CPA is a “microscale CDM unit”, and hence, the sampling plan is designed on the requirements of the methodology AMS-II.G version 11.1 and standard (Sampling and surveys for CDM project activities and programmes of activities, version 08.0). Thus, the survey will be conducted to achieve 95/10 confidence/precision for annual and biennial sampling across CPAs in line with paragraph 23 of Sampling and surveys for CDM project activities and programmes of activities, version 08.0 .

Parameter	Sampling approach
$N_{y,i,j}$ Number of project devices of type *i* and batch *j* operating during year *y*	The proportional parameter will be estimated through simple random sampling survey. In case of annual/biennial sampling, a 95 per cent confidence level, and a 10 per cent margin of error shall be used. To estimate the sample size for this parameter the following equation will be used: $$n \geq \frac{1.96^2 \text{ N x p (1-p)}}{\text{(N -1) x } 0.1^2 \text{ x } p^2 + 1.96^2 \text{ x p (1- p)}}$$ Where: n = Sample size N = Population size (Total number of households/ICS) p = Expected proportion 1.96 = Represents the 95% confidence required 0.1 = Represents the 10% relative precision If the required confidence/precision is not met then CME will randomly select an additional sample and collect further data from this sample to ensure the pooled data meet or exceed the required thresholds, as verified from the remote audit (video conferencing). In case the resulting sample size to achieve the desired confidence/precision levels is smaller than 30 ICS, a minimum sample size of 30 shall be chosen (for proportion parameter) in accordance with para 14 of Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 08.
Date of commissioning of batch j	No sampling approach will be used.
$\eta_{new,i,j}$ Efficiency of the device of each type i and batch j implemented as part of the project activity	The mean value parameter will be estimated through simple random sampling tests to validate the measurement procedures with the manufacturer's specifications, management system, or saucepan capacity. Sample size for this parameter will be estimated by the use of following equation: $$n \geq \frac{1.96^2 \text{ NV}}{\text{(N -1) x } 0.1^2 + 1.96^2 \text{ x V}}$$ Where, V = $(SD/mean)^2$ n = Sample size N = Population size (Total number of households/ICS) Mean= Expected mean of ICS thermal efficiency SD = Expected standard deviation 1.96 = Represents the 95% confidence required

	0.1 = Represents the 10% relative precision In case of survey test based sampling, the sample mean value will be considered if required precision is met (95/10 for annual or biennial sampling as may be considered); however if the required confidence/precision is not met then CME will randomly select an additional sample and collect further data from this sample to ensure the pooled data meet or exceed the required thresholds, as verified from the remote audit (video conferencing). In case the resulting sample size to achieve the desired confidence/precision levels is smaller than 30 ICS, Student's t-distribution shall be used (for numeric mean value parameter) in accordance with para 14 of Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 08.
$\mu_{y,i,j}$ Adjustment to account for any continued use of pre-project devices during the year y	The proportional parameter will be estimated through simple random sampling survey.In case of annual/biennial sampling, a 95 per cent confidence level, and a 10 per cent margin of error shall be used. To estimate the sample size for this parameter the following equation will be used: $n \geq \frac{1.96^2 \text{ N x p (1-p)}}{\text{(N -1) x } 0.1^2 \text{ x } p^2 + 1.96^2 \text{ x p (1- p)}}$ Where: n = Sample size N = Population size (Total number of households/ICS) p = Expected proportion 1.96 = Represents the 95% confidence required 0.1 = Represents the 10% relative precision If the required confidence/precision is not met then CME will randomly select an additional sample and collect further data from this sample to ensure the pooled data meet or exceed the required thresholds, as verified from the remote audit (video conferencing). In case the resulting sample size to achieve the desired confidence/precision levels is smaller than 30 ICS, a minimum sample size of 30 shall be chosen (for proportion parameter) in accordance with para 14 of Standard: Sampling and surveys for CDM project activities and programmes of activities, Version 08.
$N_{d,HH}$ Number of project devices distributed per household	No sampling approach will be used.

Assessment team confirms that the sampling method (simple random sampling) is clearly described and is in line with the description of the population. The sampling

	plan transparently describes how the samples are selected and that the use of random number generators ensures a random selection.
Findings	CAR#06 was raised and closed satisfactorily. Refer to Appendix-4 for further details.
Conclusion	The validation team confirms that: a) All the values used from official sources and the authenticity of sources has been verified by the validation team and confirms that all relevant parameters to calculate the GHG emissions reductions of the project have been sufficiently considered and the value of the ex-ante fixed parameter used for emission reduction calculation has been determined conservatively and the estimation of ex-post parameters are reasonable. The validation team considers that the monitoring plan has complied with the requirements in the approved methodology/16/. b) The monitoring plan based on the approved monitoring methodology/16/, is included in the PoA-DD/2/ and is correctly applied to the CDM PoA. The monitoring plan has been found to be in compliance with the requirements of the applied methodology/16/. The monitoring plan will give opportunity for real measurements of achieved emission reductions. c) The validation team considers that monitoring arrangements described in the monitoring plan is feasible within the project design and the CMEwill be capable to implement the monitoring plan. d) The DOE by assessing EB86, Annex 04 (Guidelines for sampling and surveys for CDM project activities and programme of activities)/19/ and EB105, Annex 1 (Standard: Sampling and surveys for CDM project activities and programme of activities)/24/ confirms that the sampling plan is appropriate and plausible and is following the applicable requirements. Sampling objective, sampling size, sampling target, sampling frame, sampling method, field measurements, QA/QC procedures and implementation plan are deemed to be appropriate and plausible according to the sectoral expertise of the DOE and have been further confirmed and substantiated in skypeinterviews with the CME.

D.2.4. Crediting period type and duration

Means of validation	The PoA DD proposes a fixed crediting period of 10 yearsin accordance with para 187 of CDM PS, version 02 for PoAs/14/. This shall be ensured in the PoA.
Findings	No findings were raised.
Conclusion	The crediting period type has been validated and found to be correct and comply with para 135 of CDM VVS for PoA, version 02/13/.

D.2.5. Eligibility criteria for inclusion of CPAs

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
1	The geographical boundary of the CPA including any time- induced boundary consistent with the geographical boundary set in the PoA	Location and boundary specified in the specific CPA- DD stating that the ICS location is limited to a region ofRwanda (as mentioned in project boundary section) and is supported by Distribution records of ICS.	Nil	The project boundary is validated by conducting the remote audit and desk review.It was confirmed by the CME during the skypeinterview that the CPAs will be distributed within the country.
2	Conditions that avoid double counting of emission reductions like unique identification of product and end-user locations	A unique numbering system for ICS will be applied during the CPAinclusion , assigning a unique number to each ICS and allowing to clearly identify for each ICS to which CPA it belongs.	Nil	The unique numbering will be provided by the CME and the same would be recorded in the database of CME. The format prepared for PoA database was evidenced and it was found that each ICS is to be included with a unique numbering plate in addition to agreement signed between the CME and end user. The beneficiary agreement shall be also recorded in the database of CME.
3	The specifications of technology/measure including the level and type of service, performance specifications including compliance with testing/certifications	Technical details of the ICS (including thermal efficiency) will be provided in the specific CPA. **Key Design Features** –CPAs under this PoA will consist of the distribution of ICS with a thermal efficiency of at least 20% efficiency as per water boiling test or compliance with Tier II and above as per ISOto household users cooking with	Nil	The thermal efficiency of the ICS distributed in each CPAs shall have efficiency of more than 20% in compliance with the applied methodology. Technical details of the ICS (including thermal efficiency) will be checked at the CPA level to verifiy the same.

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
		non- renewable biomass or charcoal in the baseline scenario. **Type -**The CPA consists of replacement of conventional firewood cook-stoves for biomass fired ICS as defined in the PoA-DD. Stove types replaced and implemented will be defined in the CPA-DD, and hence appliances involving the efficiency improvements in the thermal applications of non-renewable biomass as per AMS-II.G. **Capacity** - The rated annual thermal energy savings of ICS included under the CPAs shall not be more than 20GWh/year.		

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
4	Conditions to check the start date of the CPA through documentary evidence	Records of beneficiary agreement /registration details/ installation report etc. for the first ICS installed in the CPA.	Nil	The CPA start date shall be after the start date of PoA i.e.14/04/2020. The records of beneficiary agreement/ installation report etc. for the first ICS installed will be checked to verifiy the same.
5	Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs	CPA-DD shall apply AMS II. G. Version 11.1.	Nil	AMS-II.G. Version 11.1/16/ of the methodology will beapplied to the CPA-DD. The applicability of methodology at CPA level has already been demonstrated in section I.2 of the PoA-DD /2/ and verified by the assessment team.
6	The conditions that ensure that the CPA meets the requirements pertaining to the demonstration of additionality	The additionality has been demonstrated at PoA level as per the provision of option 3, para 22 (section 5.2.3) of the applied methodology AMS. II. G, version 11.1 The CPA under the PoA is deemed additional as per para 12 of the Tool 19 “Demonstration ofadditionality of microscale project activities” /21/. Additionally, the requirements listed below are proven to define the CPA as automatically additional.The specific CPA is eligible when all evidences are documented: The	Nil	The additionality of the CPAs will be demonstrated in line with the “Methodological tool 19: Demonstrating additionality of microscale project activities”. The criterion stipulated is in compliance with CDM PS for PoAs, version 02 /14/. As demonstrated under the Additionality section C of the PoA DD, CPA is exempted from performing the de-bundling check If each of the units contained in the CPA satisfies the condition to qualify as a ‘microscale CDM unit’,as per para 15 of

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
		project is located in LDC 1) The project activities are solely composed of isolated units where the users of the technology/measure are households: CPA-DD to show description of the technology and specifies target population, and; 2) Where the size of each unit is no larger than 600MWh of the small-scale CDM thresholds: CPA-DD to show energy saved by the ICS is less than 600MWh/year or1.80GWh$_{th}$ /year based on design specifications of stoves.		Tool 19 /20/. Thus, the annual energy savings of each project device included under the CPAs will not be more than 20 GWh/year and hence satisfy the condition to qualify as a micro-scale CDM unit as per Tool 19 and deemed additional.

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
7	The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis	The local stakeholder consultation and environmental impact analysis will be conducted at the CPA level.	Nil	Local stakeholder consultation will be conducted at the time of CPA inclusion along with the EIA as confirmed by the validation team during the remote auditing (Skype video conferencing) with CME.
8	Funding from Annex I Parties Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance	No public funding or diversion of ODA involved.	Nil	There is no diversion of ODA and there is no public funding as verified by the assessment team through remote auditing (Skype video conferencing).The declaration/26/ provided by the CME has also been checked to confirm the same.
9	Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation)	Distribution mechanisms have been specified in the PoA-DD by means of the “General operating and implementing framework of PoA” at the PoA level. The distribution mechanism is the direct distribution of ICS to the households through the CME or regional partners. The target group is households.	Nil	The selected distribution mechanisms included in each CPA are distinguished in PoA. The beneficiary agreements signed with ICS users will confirm that traditional wood stoves were used for cooking in the baseline situation. The same has been verified by cross checking the sample beneficiary agreement/11/ and through remote auditing/ Interview (Skype video conferencing).
10	Where applicable, the conditions related to sampling requirements for the PoA in accordance with the “Standard for sampling and surveys for CDM project activities and	Monitoring of all CPAs will adhere to all requirements related to sampling for a PoA in accordance with the sampling guidelines including all annexes	Nil	Specification of the sampling methods are applied and compliance with the sampling requirements established at the PoA-DD leveland verified by

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
	programme of activities”	and amendments till EB 86 Annex 04.		the assessment team through remote auditing/interview (Skype video conferencing).

No.	Eligibility criterion - Category/Required condition	Means of validation	Findings	Conclusion
11	Approval of CPA by CME	The CME approves each CPA to be included into its registered PoA.	Nil	Statement of CME giving approval for the CPA will beincluded into its registered PoAand same has beenconfirmedby the assessment team through remote auditing (Skype video conferencing).
12	CER ownership Each CPA will assure ownership of the CERs is secured by the CME.	A default distribution agreement for end users including the provision that emission reductions generated by the stove are owned by the CME will be provided for each CPA.	Nil	A default distribution agreement for end users including the provision that emission reductions generated by the stove are owned by the CME and the documents will be provided for each CPA at the level of CPA inclusion.
13	Awareness and agreement of those operating a CPA on PoA subscription	Contractual provisions to ensure that those operating the CPA are aware and have agreed that their activity is being subscribed to the PoA.	Nil	A declaration from CPA implementers, stating that they are aware and have agreed that their activity is being subscribed to the PoA will be provided for each CPAas verified by the assessment team through remote auditing (Skype video conferencing).
14	Exclusiveness of CPA	The CPA shall not be previously: 1. Registered as a CDM project activity 2. Included as a CPA in any other registered PoA, or deregistered as a CPA of a PoA	Nil	The CPA has not been registered anywhere before this date. Same has been confirmed from the CME during the remote audit/ Skype Interview and verified by the assessment team , through the review of registered projects on UNFCCC Website .

SECTION E. Internal quality control

>> Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer. TR

reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and CDM decisions. The TR either is qualified for the technical area within the CDM sectoral scope(s) applicable to project activity or is supported by qualified independent technical expert at this stage.

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and CMEmust resolve them within agreed timeline.
The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Managing Director on behalf of KBS as final validation opinion. The Technical Reviewer and Manager T&C may be same person.

SECTION F. Validation opinion

>>SDG 13 Ventures Pte Ltd (CME) has commissioned KBS Certification Services Pvt. Ltd. to perform the validation of the proposed CDM programme of activities:

PoATitle:	Improved cookstove programme for climate & community impact by SDG 13 Ventures
Methodology Applied:	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass --- Version 11.1/16/
Sectoral Scopes:	03- Energy Demand
Validity of methodology/ies (for Ref):	Valid from 28/11/2019 onwards

The scope of the validation is defined as an independent and objective review of the PoA DD/2/, the PoA's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the latest version of CDM Validation and Verification standard /13/, Kyoto Protocol requirements and UNFCCC rules.

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

The review of the PoA documentation and the subsequent follow-up remote Audit/ Skype interviews has provided KBS with sufficient evidence to determine the PoA's fulfilment of all the stated criteria. In our opinion, the PoA meets all applicable UNFCCC requirements for the CDM.

Appendix 1. Abbreviations

Abbreviations	Full Texts
AMS	Approved Methodology for Small-scale
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification request
COP	Conference of Parties
CPA	Component Project Activity
CME	Coordinating/Managing Entity
DD	Design Document
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
DRB	Demonstrably renewable woody biomass
EB	Executive Board
EF	Emission Factor
EIA	Environmental Impact Assessment
ERs	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GSC	Global Stakeholder Consultation
HCA	Host Country Approval
ICS	Improved Cook Stove
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LSC	Local Stakeholder Consultation
LE	Leakage Emissions
LoA	Letter of Approval/Authorization
LPG	Liquefied Petroleum Gas
MOP	Meeting of Parties
MoC	Modalities of Communication
MoV	Means of Validation
MP	Monitoring Plan
MW	Mega Watt
NCV	Net Calorific Value
NGO	Non-Governmental Organisation
NRB	Non-renewable Woody Biomass
ODA	Official Development Assistance
PoA	Programme of Activities
PE	PoA Emissions
QA/QC	Quality Assurance/Quality Control
RfR	Request for Registration
SD	Sustainable Development
T&C	Technical & Certification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard
WBT	Water Boiling Test

Appendix 2. Competence of team member and technical reviewers

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

Personnel Name:		**Ms. Shikha Sharma**	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	14/01/2019		

Personnel Name:		**David Lubanga**	
Qualified to work as:			
Team Leader	☐	Technical Expert	☐
Validator/Verifier	☐	Financial Expert	☐
Technical Reviewer	☐	Local Expert (Rwanda)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
NA	NA		

Approved by	Manager Competency & Training
Approval date:	13/02/2020

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

Personnel Name:		**Tushar Eknath Chaudhari**	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☒
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope		**Technical Area**	
Energy Industries (renewable/non-renewable sources)		TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
Energy industries (renewable/non-renewable sources)		TA 1.2: Energy generation from renewable energy sources	
Energy demand		TA 3.1. Energy Demand	
Waste Handling and Disposal		TA 13.1 Solid waste and wastewater	
Approved by		Manager Competency & Training	
Approval date:		02/09/2020	

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	SDG 13 Ventures Pte Ltd	PoA DD [for global stakeholder commenting]	version 01 dated 20/05/2020	SDG 13 Ventures Pte Ltd
2.	SDG 13 Ventures Pte Ltd	PoA DD [Final] ER sheet corresponding to the Final PoA DD	version 05 dated 23/04/2021 Dated 17/02/2021	SDG 13 Ventures Pte Ltd
3.	Rwanda Environment Management Authority	Letter of Approval from DNA of Rwanda	N°1604/DCCIO/2020, dated 29/10/2020	SDG 13 Ventures Pte Ltd
4.	SDG 13 Ventures Pte Ltd	Modalities of Communication (Personal identity and employment status of the focal point (s) as mentioned in the MoC statement)	Dated 31/10/2020	SDG 13 Ventures Pte Ltd
5.	SDG 13 Ventures Pte Ltd	Validation contract in between KBS Certification Services Pvt. Ltd. and SDG 13 Ventures Pte Ltd.	Dated 18/05/2020	SDG 13 Ventures Pte Ltd
6.	UNFCCC	fNRB value of 0.77, sourced from standardized baseline ASB0041-2018 https://cdm.unfccc.int/filestorage/e/x/t/extfile-20181221113304559-ASB0041-2018_PSB0045.pdf/ASB0041-2018_PSB0045.pdf?t=aEt8cXBxbWR2fDB3b3hGxVBbUzo8LuWQxvI_	Valid till 19/12/2021	Publically available
7.	UN/ World Bank	Fuelwood consumption data for Rwanda: http://data.un.org/Data.aspx?d=EDATA&f=cmID%3aFW Charcoal consumption data for Rwanda: http://data.un.org/Data.aspx?d=EDATA&f=cmID%3aCH Population Data: https://data.worldbank.org/country/rwanda?view=chart	2001, 2018	Publicly Available
8.	FAO	Global Forest Resource Assessment 2015	-	Publicly Available

		http://www.fao.org/3/a-i4808e.pdf Country Report Rwanda Assessment 2015 EVALUATION DES RESSOURCES FORESTIÈRES MONDIALES 2015	-	
9.	Ministry of Infrastructure Rwanda Energy Group [REG]	National Energy Policies of Rwanda: National Energy Policy and National Energy Strategy 2008-2002 http://www.euei-pdf.org/sites/default/files/field_publication_file/EUEI_PDF_Rwanda_Energy_Policy_2008-2012_Final_Jan_2009_EN.pdf Policies and regulations: 1. REG Strategic Plan 2019 – 2024 2. Energy Sector Strategic Plan - 2018/19 - 2023/24 3. REG Reticulation Standards https://www.reg.rw/public-information/policies-regulations/?itemPerPage=30&cHash=bbcd8c8df2734436c5e43ceae9c27b6e	-	Publicly Available
10.	European Union Energy Initiative	Biomass Energy Strategy (BEST) Rwanda REFERENCE NO.:81098569PROJECT NO.: 01.2457.8-007.24 Volume 2- Background & Analysis https://www.cleancookingalliance.org/binary-data/RESOURCE/file/000/000/35-1.pdf	Dated June 2009	Publicly Available
11.	SDG 13 Ventures Pte Ltd	Sample Beneficiary Agreement between CME	-	SDG 13 Ventures Pte

		and end users of cook stoves.		Ltd
12.	SDG 13 Ventures Pte Ltd	Prior consideration notification to UNFCCC https://cdm.unfccc.int/Projects/PriorCDM/notifications/index_html CDM Prior Consideration Form Email confirmation from UNFCCC Email acknowledgement from DNA of Rwanda	Dated 14/04/2020 Version 02.1 Dated 23/04/2020 Dated 05/06/2020	UNFCCC Website SDG 13 Ventures Pte Ltd
13.	UNFCCC	CDM VVS for CDM PoAs	Version 02	UNFCCC Website
14.	UNFCCC	CDM PS for CDM PoAs	Version 02	UNFCCC Website
15.	UNFCCC	CDM PCP for CDM PoAs	Version 02	UNFCCC Website
16.	UNFCCC	AMS II. G "Energy efficiency measures in thermal applications of non-renewable biomass"	Version 11.1	UNFCCC Website
17.	UNFCCC	Instruction to fill the PoA design document form https://cdm.unfccc.int/filestorage/e/x/t/extfile-20190607162832047-PDD_Form09v9.pdf/PDD_Form09v9.pdf?t=dUR8cWtsZWZtfDAHvfZUWPe8HihZYJiVSxZX	Version 9.0	UNFCCC Website
18.	UNFCCC	Glossary of CDM Terms https://cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf	Version 10	UNFCCC Website
19.	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities https://cdm.unfccc.int/filestorage/e/x/t/extfile-20151023152925164-Meth_GC48_-ver04.0-.pdf/Meth_GC48_%28ver04.0%29?t=TXB8cWtsZWhofDDgyHXI4Cre7RIfpaLsIhGn	Version 04	UNFCCC Website
20.	UNFCCC	TOOL 19: Tool for demonstration of	EB 101 annex 15 Version 09	UNFCCC Website

		additionality of micro-scale project activities https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-19-v9.pdf		
21.	UNFCCC	TOOL 20: Tool for assessment of de-bundling for small-scale project activities	EB 83 annex 13 Version 04	UNFCCC Website
22.	IPCC	IPCC Guidelines for National Greenhouse Gas Inventories	2006	IPCC Website
23.	UNFCCC	Standard: Sampling and surveys for CDM project activities and programmes of activities https://cdm.unfccc.int/filestorage/e/x/t/extfile-20191129115244333-Meth_stan05.pdf/Meth_stan05.pdf?t=ZHZ8cWtsZW9ifDApfvVPN-i-7zoqo7gm_k9m	Version 08	UNFCCC Website
24.	SDG 13 Ventures Pte Ltd	Contract between CME and Manufacturer to supply	-	SDG 13 Ventures Pte Ltd
25.	UNFCCC	Calculation of the fraction of non-renewable biomass	EB 102 annex 7 Version 02.0	UNFCCC Website
26.	SDG 13 Ventures Pte Ltd	No ODA Letter	Dated 27/11/2020	SDG 13 Ventures Pte Ltd
27.	UNFCCC Secretariat	CDM Executive Board announcement to relax mandatory site visits by designated operational entities (DOEs) for an extended period of 24 June to 31 December 2020 due to the continuing COVID-19 pandemic	Email dated 24/06/2020	UNFCCC Secretariat

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

Table 1. CLs from this validation

CL ID	01	**Section no.**	-	**Date:** 30/07/2020
Description of CL				
The following documents are to be furnished by PP for the validation purpose: *1.* Proof of Prior consideration of CDM (start date) *2.* f_{NRB} sheet (Zimbabwe) *3.* Regulatory Clearances and Approvals *4.* sample beneficiary agreement *5.* Declaration confirming that there is no diversion of ODA *6.* Baseline Survey conducted (if any) *7.* Training/ Employment records (if any) *8.* Template of maintaining database of distributed ICS *9.* Reports cited in applicability criteria to demonstrate NRB criteria since 1989				
Project participant response				**Date:** 04/09/2020
1. The CDM consideration details provided along with this submission *2. Zimbabwe and Kenya is excluded from the programme due to delay in achieving approval from DNA* *3. The HCA for Rwanda is issued based on all internal clearances required by the project activity; HCA attached* *4. Sample beneficiary agreement provided* *5. Declaration on no use of ODA provided along with this response* *6. Baseline survey will be stablished at CPA level* *7. Training/Employment records will be provided at CPA level* *8. Template is provided along with this response* *9. The report referenced for use of NRB is provided along with this response.*				
Documentation provided by project participant				
1. CDM consideration form and email *2. HCA letter* *3. Sample beneficiary agreement* *4. Declaration letter* *5. Sources for NRB use since 1989*				
DOE assessment				**Date:** 29/11/2020
All the relevant documents/3//7//8//11//12//26/ have been duly received, verified for authenticity and accepted by the validation team. Hence, CL 01 is closed.				

CL ID	02	**Section no.**	D.2.3.4	**Date:** 30/07/2020
Description of CL				
Emission factor used ex-ante for all three countries as 73.2 tCO2/TJ, CME shall clarify whether all three countries included in the geographical boundary of PoA falls under sub-Sahara region. CME shall provide a rationale for including particular emission factor in PoA DD for this selection.				
Project participant response				**Date:** 04/09/2020
The Kenya and Zimbabwe removed from proposed programme and Rwanda falls under Sub-Saharan Africa region as per appendix-1 of applied approved methodology AMS II.G, the emission factor for sub-Saharan Africa region selected as default value is appropriate.				
Documentation provided by project participant				
AMS II.G Version-11.1				

DOE assessment	Date: 25/11/2020
Two host countries (Kenya and Zimbabwe) have been voluntarily removed from the PoA, which is acceptable to the validation team. Appendix -1, page 28 of the methodology AMS II.G version 11.1 has been checked, based on which the validation team confirms that the country under the PoA i.e Rawnda falls under Sub- Saharan African region and therefore the applied emission factor of 73.2 tCO2/TJ is appropriate. Hence, CL#02 is closed.	

CL ID	03	Section no.	D.1.2	Date: 30/07/2020
Description of CL				
PoA DD has mentioned provisions of multi fuel i.e. woodfuel and charcoal in PoA. CME shall clarify whether same technology /model is capable of firing both fuels, if not why the separate generic PoA DD is not required for each technology. Refer the guidance to fill PoA DD appended with PoA template.				
Project participant response				**Date:** 04/09/2020
Both the cookstove model works on same technology and charcoal is also converted to wood equivalent for calculation of emission reduction, all the parameters are also same for both in terms of wood equivalent, hence one generic CPA is sufficient for both type if ICS. There are other PoAs also registered with similar approach.				
Documentation provided by project participant				
-				
DOE assessment				**Date:** 25/11/2020
The justification provided by the CME has been found appropriate by the validation team based on its sectoral expertise and involvement in similar projects. Accordingly parameter "$C_{C,W}$" for conversion factor from charcoal to wood has been added in the PoA-DD, which is acceptable to the validation team. Hence, CL#03 is closed.				

Table 2. CAR from thisvalidation

CAR ID	01	Section no.	D.2.3.1	Date: 30/07/2020
Description of CAR				
a. On the cover page of the submitted PoA-DD, PP needs to revise the sectoral scope, as the sectoral scope needs to be clearly indicated according to the template filling guidelines. b. Version 11 of methodology AMS IIG upgraded by CDM EB as version 11.1, CME shall use the latest version as version 11 is no more valid.				
Project participant response				**Date:** 04/09/2020
a) The same has been corrected in revised PoA DD *b) The latest version of applied approved methodology is now applied in revised PoA DD, the previous version applied was available during publishing of PoA DD.*				
Documentation provided by project participant				
PoA DD Version-02				
DOE assessment				**Date:** 25/11/2020
Validation team confirms that- 1. The sectoral scope 03- Energy demand has been appropriately added on the cover page. 2. The latest version 11.1 of the methodology has been accordingly applied in the revised PoA-DD. Hence, CAR#01 is closed.				

CAR ID	02	Section no.	D.2.3.1	Date: 30/07/2020
Description of CAR				

In section I "Application of methodologies and standardized baselines" of the submitted PDD, PP needs to revise the following:

1. Under section I.5, the paragraph reference (22, 29) to the applied methodology (AMS-II.G Version 11.0), was found to be inconsistent.
2. Under section I.6, for the formula "$ER_{y,i,j,} = B_{y,saving,i,j} \times N_{y,i,i} \times f_{NRB,y} \times \mu_y \times NCV_{biomass} \times EF_{projected_fossilfuel}$", the mentioned value (63.7 tCO_2/TJ) for $EF_{projected_fossilfuel\ was\ found}$ to be inconsistent with the value mentioned in section I.5 (i.e 73.2 tCO_2/TJ).

Project participant response	**Date:** 04/09/2020

1. *There was typo error the same has been corrected in revised PoA DD*
2. *There was typo error the value of emission factor of fossil fuel is corrected in revised PoA DD as 73.2* tCO_2/TJ

Documentation provided by project participant

POA DD Version-02

DOE assessment	**Date:** 25/11/2020

Validation team confirms that-

1. Under section I.5, appropriate paragraph reference as per the latest version of the methodology has been added and has been verified to be consistent.
2. The accurate value of emission factor i.e 73.2 tCO_2/TJ for Sub Saharan Africa is now added under section I.6 and verified to be consistent.

Hence, CAR#02 is closed.

CAR ID	03	**Section no.**	D.1.10, D.1.11, D.1.12	**Date:** 30/07/2020

Description of CAR

1. Letter of Approvals and authorizations from Host party DNAs have not been submitted to validation team, requirements of para 68 to para 80 of VVS, version 02 of CDM PoAs.

2. Modality of Communication is not submitted to validate the requirements of para 81-86 of VVS, version 02 of CDM PoAs.

Project participant response	**Date:** 04/09/2020

1. *The letter of approval from Rwanda is attached along with MoC, the Kenya and Zimbabwe removed from PoA*

Documentation provided by project participant

LoA Rwanda
MoC

DOE assessment	**Date:** 30/11/2020

1. The letter of Approval and authorization for Host party (Rwanda) DNA has been received and verified for authenticity. Validation team confirms that the submitted LoA was found to be in compliance with the requirements of para 68-80 of VVS version 2.0. The other two parties (Kenya and Zimbabwe) have been voluntarily removed from the PoA, hence the LoA wasn't required.

2. The Modalities of Communication received by validation team is as per the requirements of para 81-86 of the VVS.

Hence, CAR#03 is closed.

CAR ID	04	**Section no.**	D.1.4	**Date:** 30/07/2020

Description of CAR

In section 'C' of PoA DD information provided by CME regarding microscale approach and cited tool 19 information is in contradiction to the information provided by CME/consultant during remote assessment. If CME is willing to apply the microscale approach, kindly clarify how the provisions of footnote 15 of the applied tool "Demonstration of additionality of micro scale project activities", version 09.0 are complied, which requires that for efficient cookstove technology to be considered as automatically additional, penetration equal to or less than 5 per cent of the technologies/measures (providing similar services) in the region shall be demonstrated. Moreover, this information is also inconsistent with additionality criteria mentioned under eligibility of CPA inclusions.	
Project participant response	**Date:** 15/10/2020
The proposed PoA will be implemented in Rwanda, the Rwanda is a LDC and as per Tool 19 the CPAs in Rwanda will be auto additional. The same has been indicated in PoA DD.	
Documentation provided by project participant	
PoA DD Version-03	
DOE assessment	**Date:** 25/11/2020
CME has clarified that the PoA is in LDC and microscale threshold of 5% as indicated in footnote 15 of the applied tool "Demonstration of additionality of micro scale project activities", version 09.0 is not applicable. Therefore, justification provided by the CME is acceptable to the validation team. Hence, CAR#04 is closed.	

CAR ID	05	**Section no.**	D.1.3	**Date:** 30/07/2020
Description of CAR				
Under section 'B' of PoA DD, CME has referred sampling guideline i.e. EB 86 Annex 04 but reference of sampling standard is not included in this section, refer CDM PS for PoAs.				
Project participant response				**Date:** 04/09/2020
The relevant details on reference source for sampling is incorporated in revised PoA DD.				
Documentation provided by project participant				
PoA DD Version-02				
DOE assessment				**Date:** 25/11/2020
Validation team has checked the revised PoA DD and confirms that the reference for CDM PS of PoA is now consistent under section B. Hence, CAR#05 is closed.				

CAR ID	06	**Section no.**	D.2.3.5	**Date:** 30/07/2020
Description of CAR				

a. In section I.7 of published PoA DD for the monitoring parameter $\eta_{new,i,j,}$ technical life time of project devise is a mandatory requirement as CME opted for annual degradation in efficiency, refer para 36 & 37 of latest version of methodology AMSIIG, version 11.1. However, no such provision provided in the generic PoA DD. (Refer para 36 and applicable sub paragraphs of para 37 of latest version)

b. In section I.7 of published PoA DD for the monitoring parameter μ_Y and N_{dHH}, CME has not described how the requirements of sampling for these parameters shall be undertaken viz confidence/precision, monitoring frequency, provisions if the required precession is not met etc. Refer the requirements of monitoring in methodology in conjunction with sampling guidelines and sampling standard.

c. In section I.7 of published PoA DD for the monitoring parameter μ_Y, measurements methods described by the CME are not in conformance with methodology. Methodology has explicitly mentioned following methods:
    1. *If the pre-project devices are decommissioned and no longer used, as determined by the monitoring survey its value is 1.0. If both the project devices and pre-project devices are*

used together, measurement campaigns shall be undertaken using data loggers such as stove utilization monitors (SUMs) which can log the operation of all devices (recording the situation of the device being used or not during any day 'd' of the measurement campaign) in order to determine the average device utilization intensity (to establish the relative share of the usage of the devices). The measurement campaign shall be conducted in at least 10 randomly selected participant households of the project activity or the component project activity (CPA) for at least 90 days during the year y. If seasonal variation is observed, the average value determined through the campaign shall be annualised taking into account seasonal variation of device utilization.

2. *Alternatively, surveys may be conducted if the use of data loggers to record the continued operation of baseline devices is demonstrated to be not practical, for example when the baseline device is the three-stone fire. The surveys should be designed to capture the cooking habits and stove usage of households in the region, including quantification of use of baseline devices, by formulating questions and/or collecting evidences to determine the frequency of usage of both the project devices and baseline devices. For example, if there were 3 pre-project devices per household and it was determined during the survey that use of one of them continues during the crediting period then a conservative adjustment factor of 0.66 is applied for the relevant monitoring period. Another example would be the case where there was only one pre-project device per household and its use during the project period continues along with the project stove to meet 25% of the cooking needs of the household in which case the adjustment factor will be 0.75. Where a more precise data is available i.e. the thermal capacity of the project and pre-project devices and respective utilization hours, a weighted average adjustment factor may be used.*

Project participant response	**Date:** 15/10/2020
a) The CME has revised the approach and the efficiency of ICS will be established using WBT method during crediting period, the same is revised in PoA DD. *b) The sampling requirement for stated parameter is incorporated in revised PoA DD as relevant.* *c) The PoA DD is revised and the details on provision to use data logger or survey is provided for reference to be used during crediting period.*	
Documentation provided by project participant	
PoA DD Version-02	
DOE assessment	**Date:** 25/11/2020
All points (a-c) have been revised by CME in the updated PoA DD, the detailed validation is reported in main section of validation report. Hence, CAR#06 is closed.	

CAR ID	07	**Section no.**	D.2.5	**Date:** 30/07/2020
Description of CAR				
Under section **'K'** eligibility criteria 6 of published PoA DD, CME has mentioned that project is located in LDC, information is not factually correct as one of the countries included in PoA is 'Kenya'. Kenya is not a LDC country, refer link: https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-action/ldc-country-information				
Project participant response				**Date:** 04/09/2020
The Kenya is excluded from PoA to avoid delay.				
Documentation provided by project participant				
PoA DD Version-02				
DOE assessment				**Date:** 25/11/2020

Justification provided by CME is acceptable to the validation team as host country has been voluntarily removed from the PoA. Hence, CAR#07 is closed.

Table 3. FAR from this validation

No FAR raised from this validation

~~**FAR ID**~~	~~Xx~~	~~**Section No.**~~		~~**Date:**DD/MM/YYYY~~
~~**Description of FAR**~~				
~~**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	31May 2019	Revision to: • Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN); • Make editorial improvements.
02.0	29 December 2017	Revision to align with the requirements of the “CDM validation and verification standard for programme of activities” (version 01.0).
01.0	4 May2015	Initial publication.

Decision Class: Regulatory
Document Type: Form
Business Function: Registration
Keywords:programme of activities, validation report