




**Validation report form for renewal of CDM programme of activities period
(Version 02.0)**

BASIC INFORMATION

Title and UNFCCC reference number of the programme of activities (PoA)	Distribution of ONIL Stoves—Guatemala UNFCCC PoA Ref.No- 8480
Number and duration of the next period	02 19/12/2019 to 18/12/2026
Version number of the validation report	04
Completion date of the validation report	24/09/2020
Version number of PoA-DD to which this report applies	13
Coordinating/managing entity (CME)	HELPS International Incorporated
Host Parties	Guatemala
Applied methodologies and standardized baselines	AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass, Version 11.1 Selected standardized baseline: N/A
Mandatory sectoral scopes	Sectoral scope : 3 - Energy demand
Conditional sectoral scopes, if applicable	N/A
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next programme of activities period	Not Applicable ¹
Name and UNFCCC reference number of the DOE	LGAI Technological Center, S.A. (Applus+ Certification) UNFCCC Ref. No.: E-0032
Name, position and signature of the approver of the validation report	Mr. Juan Sendín Caballero <i>Applus+ Certification Business Unit Managing Director</i> Signature: 

¹ This is not applicable since the estimated annual average of GHG emission reductions would be defined at specific CPA level.

SECTION A. Executive summary

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LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by HELPS International Incorporated to perform a validation of renewal of PoA period of the “Distribution of ONIL Stoves—Guatemala” (UNFCCC Ref. No. 8480), hereafter referred to as “the programme of activity”.

The validation for renewal of PoA period includes confirming the PoA design description, baseline, monitoring plan and compliance with relevant CDM and host party criteria and implementation of the monitoring plan of the PoA-DD for renewal of PoA period and the application of the monitoring methodology as per AMS-II.G. “Energy efficiency measures in thermal applications of non-renewable biomass”, Version 11.1/2.4/.

The PoA involves the distribution of fuel-efficient, improved cook stoves to households across the Republic of Guatemala (hereafter referred to as “Guatemala”) in households that currently use conventional open fire. PoA has received host country approval from Guatemala.

The review of the PoA design documentation for renewal of PoA period and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and stakeholders have provided Applus+ Certification with sufficient evidence to validate the fulfillment of the stated criteria.

The assessment was performed in accordance with the CDM VVS for PoA version 02.0 /2.1/ and the CDM PS for PoA version 02.0 /2.2/ including an assessment of:

- An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the PoA period at the time of requesting renewal of PoA period;
- The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable PoA period.

The main objective of validation of renewal of PoA period as provides an independent third party assessment of validity of the updated sections of the PoA-DD/1.2/ of programme that has opted for a renewal of the PoA period. The validation assessment of the baseline of programme of activity, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the PoA period using the valid version of the approved baseline and monitoring methodology. The assessment team has, based on the instructions in the VVS for PoA version 02.0 /2.1/ employed a risk-based and step-wise approach when conducting the validation, focusing on the identification of significant risks for programme implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the Coordinating/managing entity . However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the programme design.

The validation has been performed the identification whether the CME has updated sections of the PoA-DD relating to the baseline, estimated GHG emission reductions or net anthropogenic GHG removals, the monitoring plan and the PoA period using the valid version(s) of the approved baseline and monitoring methodology.

Therefore, the validation report is based on the assessment of the programme design document undertaken through project stakeholder consultations, application of standard auditing techniques. The validation process consisted of the following three phases:

1. Desk review of the programme design and baseline and monitoring plan;
2. Follow-up interview with programme stakeholders;
3. Resolution of outstanding issues and the issuance of the final validation report and opinion.

In the course of the validation, 2 Corrective Action Request (CAR) and 3 Clarification Request (CL) and No Forward Action Request (FAR), was raised in relation to all relevant CDM requirements.

Based on the review of the revised PoA-DD and additional background documents, the subsequent follow up interviews, together with the review of comments by Parties and Stakeholders, have provided, Applus+ Certification with sufficient evidence to confirm that the PoA has satisfied the stated criteria.

The validation covered all programme components and issues that need to be validated for the renewal of PoA period as a CDM PoA. Applus+ Certification hereby confirms that the PoA correctly applied the baseline and monitoring methodology AMS-II.G.(Version 11.1)/2.4/ and meets the relevant UNFCCC requirements for the renewal of the PoA period.

Applus+ Certification hereby requests the renewal of PoA period of the PoA. Provided that the PoA is implemented and maintained as designed within the 2nd PoA period (7 years, 19/12/2019 - 18/12/2026).

SECTION B. Validation team, technical reviewer and approver**B.1. Validation team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interview(s)	Validation findings
1.	Lead Auditor / Technical Expert (3.1)	OR	Ahirwar	Vivek Kumar	GCEES (Outsourced entity)	Y	NA	Y	Y

B.2. Technical reviewer and approver of the validation report for renewal of PoA period

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 / Technical Expert (3.1)	EI	Cortés Díaz	Miguel A.	Central Office
2.	Approver	IR	Sendín	Juan	Central Office

SECTION C. Means of validation

C.1. Desk/document review

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The PoA Design Document submitted by the co-ordinating and managing entity was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of documents reviewed or referenced is available in Appendix 3 of this report.

C.2. On-site inspection

A complete desk review of the submitted PoA-DD (version 10, dated 27/04/2020)/1.2/ and supportive evidences have been checked by the Validation team.

In addition, audit team has conducted calls/interviews (telephonic) with CME and other parties on different topics as mentioned under section C.3 of this report.

Based on the calls/interviews, PoA-DD review, as well as the review of UNFCCC procedures and guidelines, Applus+ Certification Validation team has proceeded to skip the site visit. As per para 184 of CDM validation and verification standard for programmes of activities version 02 /2.1/, Validation team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of validation -

- By review of PoA-DD;
- By taking follow up actions by conducted interview with CME and other parties, to gather information about knowledge of project design, current situation via telephonic call and e-mail communication.
- Cross-checked evaluation under the scope of all information and references provided in PoA-DD. Details of interviewees, topics covered and additional information presented in the below section "C.3 - Interviews".

Validation team has also checked the site visit requirements mentioned in the VVS for PoA Version 02 /2.1/ and concluded that no-site visit is required. The justification for the site visit requirements of VVS PoA Version 02 /2.1/ have been mentioned below.

VVS PoA Version 02 Requirements	Validation team Justification
Para 29 (b) (b) Follow-up actions (e.g. on-site inspection and telephone or e-mail interviews), including: (i) Interviews with relevant stakeholders in the host country, such as personnel with knowledge of the PoA design and implementation; (ii) Cross checks between the information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted;	Validation team has done the follow-up actions by: 1. Telephonic call and e-mail conversations of CME and other parties. 2. Cross checks between information provided by interviewed personnel (i.e. by checking sources or other interviews) to ensure that no relevant information has been omitted.
Para 183 It is mandatory for the DOE to conduct an on-site inspection at validation for the proposed CPA if: (a) Its estimated annual average of GHG emission reductions or net anthropogenic GHG removals is more than 100,000 t CO ₂ eq; or (b) There is pre-project information that is relevant to the requirements for inclusion of the CPA and may not be traceable after the inclusion.	The validation team has not considered the site visit as mandatory due to the following reasons which are in line with the VVS PoA Version 02/2.1/ Requirements. (a) For the PoA to be renewed, this is not applicable as the estimated annual average of GHG emission reductions would be defined at specific CPA level. (b) this requirement is specific to CPA inclusion and not related to updates in PoA-DD. Hence for the proposed PoA, it is not mandatory to conduct the site visit.

C.3. Interviews

The site visit for the project location is not conducted by the assessment team, however telephonic and skype interview was conducted and the following stakeholders were interviewed.

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Goswami	Tridip Kumar	CQC	11/5/2020	Project implementation, applicability of methodology, calculation of ER, Monitoring plan f _{NRB} calculations	Vivek kumar Ahirwar
2.	Verma	Pooja	CQC	11/5/2020		
3.	Wet	Ruan de	C4 EcoSolutions	12/5/2020		
4.	Leon	Oscar De	Helps International Incorporated	12/5/2020		

C.4. Sampling approach

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Not Applicable

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

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Programme of activities			
Compliance with PoA-DD form	0	0	0
Programme of activities period	0	0	0
Coordinating/managing entity and the project participants	0	0	0
Post-registration changes	0	0	0
Generic component project activities			
Application and selection of methodologies and standardized baselines	1	1	0
Validity of original baseline or its update	2	1	0
Estimated emission reductions or net anthropogenic removals	0	0	0
Validity of monitoring plan	0	0	0
Eligibility criteria for inclusion of CPAs	0	1	0
Others (please specify)	0	0	0
Total	3	3	0

SECTION D. Validation findings**D.1. Programme of activities****D.1.1. Compliance with PoA-DD form**

Means of validation	<p>Validation team checked the updated PoA-DD /1.2/ with latest version of PoA-DD template available on the UNFCCC website (i.e., version 09)/2.5/ and “Instructions for completing this form” mentioned as attachment to PoA-DD form (version 09)/2.5/.</p> <p>All the sections of the PoA-DD are checked for the compliance with the “Instructions for completing this form” mentioned as attachment to the PoA-DD form.</p>
Findings	No non-conformity was observed during assessment for compliance with PoA-DD form. Therefore, no finding was raised.
Conclusion	<p>Validation team confirm:</p> <ol style="list-style-type: none"> 1. The updated PoA-DD /1.2/ is completed using the valid version of the applicable PoA-DD form /2.5/ in compliance with para 390 (a) (i) of VVS for PoA Version 02. 2. All the information has been correctly transferred from revised approved PoA-DD (Version 9, dated 18/12/2019) /1.1/ to the current PoA-DD (Version 13, dated 18/09/2020) /1.2/ which is filled in the latest PoA-DD form available in UNFCCC website. Validation team confirms that the transfer of information from the previous version to the new version is correct and materially the same as the information in the latest approved PoA-DD /1.1/ in compliance with para 390 (a) (ii) of VVS for PoA Version 02 /2.1/. 3. PoA-DD is in compliance with the instruction provided in the template.

D.1.2. Programme of activities period

Means of validation	<p>The assessment team checked whether the updated PoA-DD indicated that the next PoA period commences on the day immediately after the expiration of the current PoA period by means of a document review, use of official sources and interviews with relevant personnel during the assessment process.</p> <p>The first 7 years renewable PoA period was from 19/12/2012 to 18/12/2019; the Project Participant is applying for a 2nd renewable PoA period, which is 7 years (19/12/2019 – 18/12/2026).</p>
Findings	No non-conformity was observed during assessment for validation of PoA period. Therefore, no finding was raised.
Conclusion	Applus+ Certification confirmed that the notification regarding to the request for renewal of PoA period of the programme meets the requirements of §270 of CDM PCP for PoA version 02.0/2.3/ and the next PoA period of the registered CDM programme of activity commences on the day immediately after the expiration of the current PoA period. Therefore, CDM requirements stipulated under §390 of VVS for PoA Version 02.0/2.1/ is satisfied completely.

D.1.3. Coordinating/managing entity and the project participants

Means of validation	<p>Validation team has checked the names of the coordinating/managing entity and the project participants in the updated PoA-DD with the revised approved PoA-DD /1.1/. HELPS International Incorporated is the coordinating/managing entity for this PoA. C-Quest Capital LLC and Ecoeye Co., Ltd. are project participants for this programme of activities. All participants have been confirmed through latest MoC form dated 18/02/2018 /1.5/ uploaded on project webpage.</p> <p>As confirmed through interview with CME and PPs , C-Quest Capital LLC is the consultant for programme monitoring and carbon advisory. ECOEYE Co., Ltd. is responsible for financing of PoA.</p> <p>As per the updated PoA-DD/1.2/, the coordinating/managing entity, project participants and parties involved in the programme of activity are:</p>
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	Parties involved	Project participants	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
	Guatemala (host Party)	HELPS International Incorporated	No
	Netherlands	C-Quest Capital LLC	No
	Republic of Korea	Ecoeye Co., Ltd.	No
Findings	No non-conformity was observed during assessment of details of CME and Project Participants. Therefore, no finding was raised.		
Conclusion	Applus+ Certification confirmed that the Coordinating/managing entity and project participants in the updated PoA-DD are consistent with the actual situation based on review of latest MoC statement /1.5/. Therefore, CDM requirements stipulated under §390 a (vi) of CDM VVS for PoA Version 02.0/2.1/ is satisfied completely.		

D.1.4. Post-registration changes

No post-registration changes submitted together with this request for renewal of programme of activities period.

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Corrections	N	N/A	N/A
Inclusion of monitoring plan	N	N/A	N/A
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	N	N/A	N/A
Changes to the programme design	N	N/A	N/A
Addition of CPA inclusion template	N	N/A	N/A
Changes specific to afforestation and reforestation activities	N	N/A	N/A
Change of coordinating/managing entity	N	N/A	N/A

D.2. Generic component project activities

D.2.1. Application and selection of methodologies and standardized baselines

Means of validation	<p>Through document review and telephonic interview, the assessment team reassessed the applicability of baseline, monitoring methodology and standardized baseline in the methodology based on the knowledge of the PoA from the initial validation, subsequent verifications and the confirmation from the PP.</p> <p>The PoA was originally registered based on methodology AMS-II.G. version 3. The updated PoA-DD applies methodology AMS-II.G. version 11.1/2.4/. This is appropriate because the methodology AMS-II.G. version 11.1 is of its latest approved version of methodology applied in the original PoA-DD and is valid at the time of submission of the revised PoA-DD for the renewal of the PoA period; hence it meets the condition that for renewal of the PoA period, the methodology shall not be changed.</p> <p>Following tools referred to by the methodology are also applied:</p> <ul style="list-style-type: none"> - Methodological Tool for Calculation of the fraction of non-renewable biomass (Tool 30), EB 102 annex 7/2.7/ - Methodological Tool for Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the PoA period, Version 03.0.1, EB 66 annex 47 /2.6/
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The methodology and the applied tools are valid as of the finalization of the validation report. The title, reference as well as version number is correctly provided in revised PoA-DD/1.2/ for the renewal of the PoA period. The applicability of the baseline and monitoring methodology is justified in the revised PoA DD for the renewal of the PoA period. All applicability conditions are completely and correctly included in the revised PoA-DD and the same are demonstrated below:

Sr. No.	Criteria	Means of verification	Conclusion
1	The methodology is applicable to the introduction of single pot or multi pot portable or in-situ cookstoves with rated efficiency of at least 20 per cent	The defined minimum 20% efficiency of improved cookstove is same as defined in the earlier version of applied methodology i.e.,AMS.II.G. (version 03). Thus, there is no change in minimum efficiency requirement for ICS in the latest version of the applied methodology AMS.II.G.(version 11.1)/2.4/. CME has mentioned the thermal efficiency of ICS previously distributed in the PoA varies between 24% to 32% based on improvements made in design during implementation of PoA in previous years. Same has been validated from the previous verification reports of this PoA from the project webpage/1.4/. The justification provided by CME is acceptable and validation team confirms that project complies with the same.	Applicability Criteria fulfilled.
2	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	In the generic CPA of the revised PoA-DD/1.2/, it has been confirmed that the CPAs will consist of solely microscale CDM units. Paragraph 15 of the Tool 19 /2.10/ states: "If each of the units	Applicability Criteria fulfilled.

			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". Hence, CME has confirmed that each of the ICS units to be distributed in the CPAs will be less than the microscale threshold of energy savings as less than 60 GWth/year. The justification provided CME is acceptable and validation team confirms the project complies with this applicability criteria.	
	3	Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics	The defined criteria of Non-renewable biomass has been used in the project region since 31 December 1989 is same as defined in the earlier version of applied methodology i.e.,AMS.II.G. (version 03). CME has updated the PoA-DD with recent sources . Thus, there is no change in requirement in the latest version of the applied methodology AMS.II.G.(version 11.1)/2.4/. The justification provided by CME is acceptable and validation team confirms that project complies with the same.	Applicability Criteria fulfilled.
	4	For cases where the biomass is sourced from renewable sources, the project participants should use a	This criterion is not applicable for the project. Since, only non-renewable biomass is being	Criteria is not relevant to the programme of activity.

		corresponding methodology	Type I	used by ICS user. Validation team referred the UN data on fuelwood and charcoal consumption as well as carbon stock in living biomass/3.4/ to confirm that only non-renewable biomass is being used by ICS user.	
	5	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.		This criterion is not applicable for the project. Since, fuel wood (NRB) is being used by ICS user. Validation team referred the UN data on fuelwood and charcoal consumption as well as carbon stock in living biomass/3.4/ to confirm that only non-renewable biomass is being used by ICS user.	Criteria is not relevant to the programme of activity.
	6	The CDM-PDD or CDM-PoA-DD/CPA-DD shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end-user locations (e.g. programme logo).		Each ICS user will be assigned a unique ID in the database, which will be linked to information for each entry on the following (as appropriate and available): <ul style="list-style-type: none"> • Name of stove user or head of the household • Address of end user or household • Phone number of end user or household • GPS location of household • Stove model • Date of distribution/installation • ONIL Stove serial number • Retailer/distributor information • Identification of cooking method prior to installation of stove 	Validation team checked the revised PoA-DD/1.2/ and confirmed that CME defined eligibility criteria for avoiding double counting and all included CPAs should maintain database in accordance with the requirement stated in eligibility criteria. Applicability Criteria fulfilled.

	7	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 stove manufacturers, wholesale providers, end users shall sign an undertaking stating clearly that the CME or an entity authorized by it shall be the sole owner of the CERs arising from the project.	Applicability Criteria fulfilled.
	<p>Leakages –</p> <p>According to paragraph 48(c) of AMS II.G. version 11.1/2.4/, leakage estimation under a programme of activities uses a net to gross adjustment factor of 0.95 as an option to account for any leakages.</p> <p>The applied methodology refers to latest available versions of the following tools;</p> <p>1. Methodological Tool for Calculation of the fraction of non-renewable biomass (Tool 30)</p> <p>The revised PoA-DD/1.2/ refers and correctly applies the latest version of tool to Calculation of the fraction of non-renewable biomass, version 02/2.7/. Validation team checked the fNRB calculation spreadsheet/3.2/ and independent report prepared by third party agency/3.1/ to confirm that Tool 30/2.7/ has been correctly applied.</p> <p>2. Methodological Tool for Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period</p> <p>The section I.5. of the revised PoA-DD/1.2/ refers and correctly applies the latest version of tool for assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 03.0.1/2.6/.</p> <p>The assessment team has validated the documentation referred to in the PoA-DD and verified the documentation content for verifying the justification of the applicability of the methodology and confirmed that the documentation referred to in the PoA-DD is correctly quoted and interpreted. The assessment team has also crosschecked the information provided in the PoA-DD with the documentation /3- Others/ other than from the PoA-DD based on the local and sectoral knowledge of the assessment team.</p> <p>Thus all the applicability conditions of the applied methodology are confirmed in line with §103 of CDM VVS for PoA version 02.0/2.1/. Based on the above discussion, the validation team confirms that the proposed programme of activity meets all the applicability conditions and all other stipulations of the selected methodology AMS-II.G., Version 11.1/2.4/.</p>			
Findings	CL-01 and CAR-01 has been raised and closed successfully. Refer Appendix 4 for detailed findings.			
Conclusion	Applus+ Certification confirms that the PoA meets each of the applicability conditions of the methodology; it also meets all the other stipulations and limitations mentioned in the other sections of the applied methodology; the continued validity of the baseline is assessed and the emissions resulting from the baseline scenario are updated at the start of the 2 nd PoA period, as per the requirements of AMS-II.G, version 11.1 /2.4/. Therefore, CDM requirements stipulated under §103 of CDM VVS for PoA Version 02.0/2.1/ is satisfied completely.			

D.2.2. Validity of original baseline or its update

Means of validation	In accordance to §382 of CDM VVS for PoAs, version 02.0 /2.1/, the validation
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team reviewed the revised PoA-DD /1.2/ to assess the impact of new national and/or sectoral policies and circumstances existing at the time of requesting renewal of PoA period on the modalities to estimate baseline GHG emissions for the subsequent PoA period of each corresponding CPA, without reassessing the baseline scenario.

The validation team assessed whether data and parameters used for determining the original baseline, that were determined ex-ante and not monitored during the PoA period and are still valid, and also whether the CME updated such data and parameters in accordance with the "Methodological tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" version 03.0.1/2.6/.

CME has applied and following the steps provided in the above stated Tool 11 /2.6/, for demonstration of validity of original baseline. CME has defined the data source for the emission factor, values in line with applied methodology /2.4/.

During the 1st PoA period, PoA was registered applying small scale methodology, AMS.II.G. version 03.0/2.4/. During 2nd renewal period, PoA has applied valid latest version i.e. 11.1 of the same methodology AMS-II.G.

Validation team confirms that data and parameters that were only determined at the start of the PoA period and not monitored during the PoA period are still valid except the ex-ante parameter which are updated in accordance with applied methodology i.e. AMS.II.G, version 11.1/2.4/.

Ex ante Parameters	During 1 st PoA period	In 2 nd PoA period
$B_{old, i, j}$ (tons/year)	6.64	8.05
f_{NRB} (fraction)	0.913	0.80
$NCV_{biomass}$ (TJ/ton)	0.015	0.0156
$EF_{projected_fossilfuel}$ (t CO_2 /TJ)	81.6	68.6

Values for $NCV_{biomass}$ and $EF_{projected_fossilfuel}$ have been adopted from the latest version of the applied methodology, i.e. AMS-II.G, version 11.1/2.4/ and hence deemed acceptable.

CME opted to calculate the f_{NRB} value. The same is acceptable to validation team as it is line with § 49 option a) of the applied methodology AMS-II.G. version 11.1 /2.4/ and the applicable methodological tool 30 /2.7/. For calculation of the f_{NRB} value CME has considered C4 EcoSolutions report, an independent third party study /3.1/. Validation team has checked the C4 EcoSolutions report /3.1/ and found that all fuel wood consumption and charcoal consumption values have been derived by extrapolating the basic sourced values for the year 2000-2017 from UN Statistics Division website for the host country, Guatemala /3.4/. The derived fuel wood consumption values were converted to tonnes using FAO default conversion factor. The provided f_{NRB} calculation sheet /3.2/ and the sourced values have been checked including the calculation procedure in line with the Tool 30 /2.7/ and found to be appropriate and deemed acceptable.

CME has calculated the value of $B_{old, i, j}$ using sampling survey conducted by CME/3.3/. Validation team has checked the provided baseline fuelwood consumption calculation assessment study report/3.3/ along with all the relevant data source used and found inline with § 34 and parameter tables 4 and 5 of the applied methodology AMS-II.G. version 11.1/2.4/. In addition, the validation team was able to validate the value of $B_{old, i, j}$ based on the survey results spreadsheet and the methodology employed. The calculation is found to be in line with applied methodology and hence deemed acceptable to the validation team. Also, value has been compared with the baseline fuelwood consumption calculated based on available government data for the Host country (Guatemala)/3.9/ which comes out to be on the higher side. Therefore, the value of $B_{old, i, j}$ considered based on survey results is found conservative and deemed acceptable.

	<p>The validation team confirms the validity of the baseline has been correctly assessed and the parameters are updated as per the Methodological Tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” Version 03.0.1/2.6/ in the PoA-DD/1.2/ submitted for the renewal of PoA period.</p> <p>The validation team took cognizance of §287 of PS for PoAs, version 02/2.2/ and §382 of CDM VVS for PoA(version 02.0)/2.1/.</p>
Findings	CL-02, CL-03 and CAR-02 has been raised and closed successfully. Refer Appendix 4 for detailed findings.
Conclusion	<p>Applus+ Certification confirms that there have been no changes in the relevant national and/or sectoral regulations on distribution of ICS since the previous PoA period.</p> <p>On the other hand, the baseline scenario for the programme remains the same as that <i>in the registered PoA-DD</i> as “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.”.</p> <p>The assessment of continued validity of the current baseline scenario and update of the baseline emissions are complied with Methodological Tool “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period version 03.0.1” as per VVS for PoAs version 02.0.</p>

D.2.3. Estimated emission reductions or net anthropogenic removals

Means of validation	<p>The validation team took cognizance of §390 (a) (iv) of VVS for PoAs, version 02.0 /2.1/. Accordingly, validation team has checked the modalities for the calculation of the GHG emission reductions in the generic CPA part of the revised PoA-DD/1.2/ in accordance with the applied version of the methodology, i.e. AMS-II.G, version 11.1 /2.4/. The parameters and equations presented in the PoA-DD /1.2/ have been compared with the information and requirements presented in the methodology /2.4/ and other applicable methodological tools.</p>
Findings	No non-conformity was observed during assessment of estimated emission reductions. Therefore, no finding was raised.
Conclusion	<p>Applus+ Certification have assessed the calculations of project emissions, baseline emissions, leakage emissions and emission reductions. The parameters and equations presented in the PoA-DD, as well as other applicable documents, have been compared with the information and requirements presented in the methodology and respective tools. The assessment team has compared all the formulae to ensure consistency between those presented in the calculation files and in the PoA-DD, methodology, and tools. This is found to be correct.</p> <p>In general, Applus+ Certification is able to confirm the following:</p> <ul style="list-style-type: none"> ➤ All assumptions and data used by the Coordinating/managing entity are listed in the PoA-DD and/or supporting documents, including their references and sources; ➤ All documentation used by the Coordinating/managing entity as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD; ➤ All values used in the PoA-DD are considered reasonable in the context of the proposed CDM programme of activity; ➤ The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, and leakage emissions; ➤ All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the PoA-DD. <p>Applus+ Certification confirms that the baseline, the estimated GHG emission reductions in the final updated PoA-DD comply with the applicable requirements in the section 8.2.4 of CDM PS for PoA version 02.0/2.2/, and the valid version of the methodology applicable to the registered CDM programme of activity.</p>

D.2.4. Validity of monitoring plan

Means of validation	The monitoring plan in the generic CPA part of the revised PoA-DD/1.2/, is in compliance with the applied methodology AMS- II.G., version 11.1 /2.4/. The PoA was originally registered applying small scale methodology AMS-II.G, version 03. For the 2 nd PoA period, valid version i.e. version 11.1 of the same methodology AMS-II.G has been applied and the monitoring plan of the same has been adopted. CME has adopted the following monitoring parameters in the revised PoA-DD/1.2/ as per the methodology, AMS-II.G, version 11.1.			
	Parameter	Data unit	Description	Monitoring Frequency
	Z	Number	Total number of stoves sold and registered in the Project Database Records	Continuous
	N_{y,i,j}	Quantity	Number of project devices of type i and batch j operating in a year.	Annually/ biennially
	η_{new,,j}	Fraction	Efficiency of the device type i and batch j being deployed as part of the project activity	<ul style="list-style-type: none"> Recorded at the time of stove installation/distribution. In the subsequent years after stove installation, the efficiency of project stoves to be estimated annually in accordance with options (b), (c) or (d) under paragraph 37 of the applied methodology. Choice of option to be mentioned in the CPA DD
	μ_y	Fraction	Adjustment to account for any continued use of pre-project devices during the year y for CPAs using B _{old,i,j} for calculation of B _{y,savings}	Annually/ biennially
	B_{y=1,new,i,j,survey}	tonnes	Quantity of woody biomass used by project devices in tonnes per device of type i.	Once within first year of project installation
	N_{d,HH}	number	Number of project devices distributed per household	Once at the time of CPA implementation
	η_{old}	Fraction	Efficiency of pre-project device	Once at the time of CPA implementation
	Life Span	Years	The operating life- time of the project device.	Recorded once at the time of CPA implementation
	Date of commissioning of batch j	date	Stoves can be grouped in batches and latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch.	Recorded at the time of commissioning of last stove in a batch

	Date of commissioning of project device i	date	Date of commissioning of individual stove	Recorded at the time of installation or distribution or completion of registration process of an individual stove.
	<p>Validation team can confirm that the parameters to be determined ex-post have been presented correctly and according to requirements of the applied methodology AMS-II.G version 11.1 /2.4/ and that CME shall be able to monitor and report emission reductions ex-post.</p> <p>Validation team has also checked the sampling plan and found in compliance with the applied methodology/2.4/, Standard for sampling and surveys for CDM project activities and programme of activities, version 08.0/2.8/ and Guidelines for sampling and survey for CDM project activities and programme of activities Version 04.0 /2.9/.</p>			
Findings	No non-conformity was observed during assessment of validity of monitoring plan. Therefore, no finding was raised.			
Conclusion	<p>Applus+ Certification confirms that the monitoring plan contains all necessary parameters which have been clearly described in revised PoA-DD /1.2/ and that the means of monitoring described in the plan complies with the requirements of the methodology.</p> <p>In conclusion, based on document review and stakeholder interview, together based on local and sectoral expertise, the assessment team confirms that:</p> <ul style="list-style-type: none"> ➤ The monitoring plan of the revised PoA-DD is in compliance with the requirements of the methodology AMS-II.G., version 11.1. ➤ Monitoring arrangements described in the monitoring plan of the revised PoA-DD are feasible within the programme design. ➤ The PP's ability to implement the monitoring plan can be guaranteed. The monitoring plan of the revised PoA-DD is complied with the latest approved PoA-DD version 09/1.1/. <p>Applus+ Certification are of the opinion that the Coordinating/managing entity are able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.</p>			

D.2.5. Eligibility criteria for inclusion of CPAs

Means of validation	N o.	Eligibility criterion—Category	Eligibility criterion—Required condition	Supporting evidence for inclusion	Means of validation/Findings/Conclusion
	1	Geographical boundaries of CPAs consistent with the geographical boundary of the PoA.	The geographical boundary of the CPA is Guatemala.	CPA implementers may use self-declaration to prove that all the ONIL Stoves from the CPA will be located in Guatemala.	<p>According to §124 (a), of the CDM PS for PoA, version 02/2.2/, the geographical boundary of each CPA, shall be consistent with the geographical boundary set in the PoA.</p> <p>The PoA boundary is set as Guatemala.</p> <p>Validation team based on review of PoA-DD/1.2/ confirms that the eligibility</p>

					<p>criterion is defined in accordance with the project standard.</p>
	2	<p>Conditions to avoid double counting of GHG emission reductions or net anthropogenic GHG removals, such as unique identifications of product and end-user locations</p>	<p>Each CPA must ensure no double counting takes place. Each SSC-CPA shall be uniquely identified and defined in an unambiguous manner by a database of uniquely identified households in which ONIL stoves have been installed. Each household will be assigned a unique ID in the database, which will be linked to information for each entry on the following (as appropriate and available):</p> <ul style="list-style-type: none"> • Name of stove user or head of the household • Address of end user or household • Phone number of end user or household • GPS location of household • Stove model • Date of distribution/installation • ONIL Stove serial number • Retailer/distributor information • Identification of cooking method prior to installation of stove 	<p>CPA database to be submitted to verifying DOE.</p>	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs in line with §124 (b) of the CDM PS for PoA, version 02/2.2/.</p> <p>Validation team based on review PoA- DD/1.2/ confirms that the eligibility criteria is defined in accordance with the project standard.</p> <p>Furthermore, the eligibility criterion–category, including the conditions provide sufficient information for the corresponding CPAs. The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.</p>

	3	Conditions to check only ONIL stoves will be installed in the CPA and where applicable, distribution mechanisms	Each SSC-CPA will involve the distribution and installation of ONIL Stoves, either by CPA Implementers or authorized installers under the PoA.	CPA implementers must show the database with information as detailed in criterion (2) to verifying DOE.	The description in the PoA-DD including the supporting evidence for inclusion provides information to meet the requirement and is verifiable as well as sufficiently objective and comprehensive to permit the assessment of the inclusion of corresponding CPAs in the PoA.
	4	Conditions to check the start dates of CPAs through documentary evidence	Each CPA must demonstrate through documentary evidence that the PoA start date is before the CPA start date.	Compliance check is done through supporting documentation, like a Registration Card, confirming date of receipt of first stove in the CPA. this evidence can be provided to the DOE.	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements §124€) of the CDM PS for PoA, version 02/2.2/.</p> <p>The start date of a CPA shall be on or after the PoA start date.</p> <p>Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.</p>
	5	Conditions to ensure compliance with the applicability of the applied methodologies	Each SSC-CPA must implement version 11.1 of the baseline and monitoring methodology AMS II.G, "Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass" and ensure CPA compliance with applicability of the methodology.	Criteria confirmed by evaluating 1) ONIL Stove efficiency report and 2) Documentary evidence that fuel wood has been used since 1989, and 3) through Specific CPA-DD Monitoring Plan.	Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements §124 (f) and §124 (h) of the CDM PS for PoA, version 02/2.2/. All CPAs utilizing this generic CPA-DD shall apply and should comply with the small-scale methodology AMS-II.G, version 11.1/2.4/. Validation team based on review of PoA-DD/1.2/ confirms that the eligibility criteria is defined in accordance with the project standard.

	6	Conditions to ensure that CPAs meet the requirements for demonstration of additionality.	<p>According to paragraph (c) of EB 68 Annex 27 "Guidelines on the Demonstration of Additionality for Small-Scale Project Activities" version 09.0, the documentation of barriers is not required for "Project activities solely composed of isolated units where the users of the technology/measures are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds." – this eligibility criteria shall be restricted to CPAs included in the first PoA period.</p> <p>For CPAs that will be included in the second PoA period, additionality shall be demonstrated using Tool 19 "Demonstration of additionality of micro-scale project activities"; version 09 paragraph 12 (a) that is if the project area falls under SUZ category within Guatemala (as defined under paragraph 10 (b))</p>	<p>For CPAs included in the second PoA period using Tool 21: Evidence to demonstrate that the CPA cannot be implemented due to presence of at least one of the following barriers shall be submitted to validating DOE-</p> <ul style="list-style-type: none"> a) Investment barrier b) Technological barrier c) Barrier due to prevailing practice d) Other barriers. <p>Alternatively, paragraph 12 (a) or (b) of Tool 19 could be used to demonstrate additionality using one of the following options -</p> <ul style="list-style-type: none"> 1. CPA is implemented in SUZ area in Guatemala; 2. The project technology is ≤ 5% of prevalent technologies in the area 	<p>Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §124 (g) of the CDM PS for PoA, version 02/2.2/.</p> <p>All CPAs shall be additional to be included in the second PoA period provided, they meet this eligibility criterion of the PoA. This is adequately prescribed in the Section K of the revised PoA-DD.</p> <p>Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criteria is defined in accordance with the project standard.</p>
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			<p>of Tool 19) or 12 (b) that is if the project cookstove technology is less than or equal to 5% technologies prevalent in the project area providing similar services.</p> <p>For CPAs not qualifying under paragraphs 12 (a) or (b), additionality shall be demonstrated using Tool 21 "Demonstration of additionality of small- scale project activities"; version 13.1</p>		
	7	Conditions to check the target group of ONIL Stove and cooking method prior to installation of ONIL Stoves.	<p>Each CPA must show that the target group of ONIL Stoves is households that were using open cooking fires and not already involved or covered by any other CPA or CDM project involving the distribution and/or installation of improved cook stoves.</p>	<p>Each household self-identifies the cooking method used prior to the installation of the ICS at the time when geographic coordinates and unique identification numbers are collected.</p> <p>Confirmation of this criterion is done via the Registration Cards where the user acknowledges he/she was not previously using an ICS and that it was previously using open cooking/traditional stoves. The Registration Cards and the database will be available to the CME and</p>	<p>Validation team confirms that this eligibility criterion shall ensure that all CPAs shall specify the target group of end-users of ICS in order to conform to the applied methodology, as well as the PoA stated policy, operational and management framework inline with the requirements of §124 (k) of the PS for PoAs, version 02/2.2/.</p> <p>Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.</p>

				for verification of emissions reductions.	
	8	If the generic CPA applies sampling for the determination of parameter values for calculating GHG emission reductions or net anthropogenic GHG removals, conditions related to sampling requirements for the PoA in accordance with the "Standard: Sampling and surveys for CDM project activities and programme of activities"	Each CPA must follow sampling requirements for PoA in accordance to approved standards (EB 69, Annex 4), as outlined in section I.7.2 of the PoA-DD, where simple random sampling is the selected approach.	Sample size calculation to be submitted to verifying DOE.	Validation team confirms that this eligibility criterion shall ensure that all CPAs in the PoA shall apply to the sampling plan of the PoA. This eligibility criterion is in accordance with AMS-II.G, version 11.1/2.4/ and "Standard: Sampling and surveys for CDM project activities and programme of activities", version 08/2.8/. Validation team based on review of PoA-DD/1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.
	9	Conditions for the debundling check based on the "Methodological tool: Assessment of debundling for small-scale project activities"	According to paragraph 124 (n) of CDM project standard for programmes of activities; version 02.0 debundling check is not required for projects if generic CPA consists solely of microscale CDM units.	CPAs to present calculations for establishing same to the DOE.	Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements of §124 (g), 124 (m), 124 (n) of the CDM PS for PoA, version 02/2.2/. The CME has selected to apply the micro-scale threshold at the unit level rather than at the aggregate level of the CPA. This means that any number of ICS can be implemented under one CPA. The CME has selected to demonstrate that it consists solely of units that qualify as "microscale CDM units" in order to exempt it from performing debundling check.

	10	Conditions to provide an affirmation that funding from Annex I Parties, if any, does not result in a diversion of official development assistance	Each CPA must provide affirmation that funding from Annex 1 parties, if any, does not result in a diversion of official development assistance.	Confirmation via self-declaration letter to DOE.	Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs as per §35 and §124 (j) in the CDM PS for PoA, version 02/2.2/. Validation team based on review of the PoA-DD/1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.
	11	Conditions to ensure that an agreement in place between the household user (Stove owner) and CPA implementer regarding the ownership of the CERs.	Each CPA must have a contractual agreement, such as a Registration Card with the household user, indicating that CERs generated by the use of the ONIL Stove will be transferred to the CME or a Project Participant in this PoA. The precise mechanism can be established on a CPA basis. For example, a registration card, Short Message Service (SMS), Information and Communication Technologies (ICT), or other means, signed or accepted by the end-user upon distribution or installation of the stove, stating that the end-user voluntarily participates in the POA and transfers ownership of the carbon assets for the life of the stove.	Confirmation via inspection of Registration Card or electronic database.	Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements §124 (h) of the CDM PS for PoA, version 02/2.2/. All CPA utilizing this generic CPA-DD shall apply and should comply with the small- scale methodology AMS-II.G, version 11.1. Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criteria is defined in accordance with the project standard.
	12	Conditions to	Each CPA must	Self-	Validation team

		check whether technology transfer exists from Annex 1 countries.	provide a self-declaration of whether technology transfer exists from Annex 1 countries.	Declaration to be provided to the DOE.	based on review of the PoA-DD/1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.
	13	Specification of the technology/ measure and performance specification based on testing/ certification.	Each CPA must clearly show that the implementation of the improved cook stove reduces anthropogenic emissions of GHG.	Confirmation via efficiency tests on the ONIL Stove model.	Validation team confirms that this eligibility criterion has been sufficiently set for all CPAs inline with the requirements and applicability conditions prescribed by the methodology, as well as §124 (d) including foot note 23 and 24 and 124 (f) of the CDM PS for PoA, version 02/2.2/. All CPAs shall apply the methodology AMS-II.G.,version 11.1/2.4/. Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.
	14	Conditions to confirm the approval of CPA by the CME for inclusion of CPA into the PoA.	Each CPA must be approved by the CME prior to its incorporation into the SSC-PoA.	Confirmation via letter of approval signed by CME representative.	All CPAs shall apply the methodology AMS-II.G.,version 11.1/2.4/. Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.
	15	Proof of receipt of ONIL Stoves by the household user.	Each CPA must show proof of delivery and receipt of stoves already distributed under the CPA (if any).	Confirmation via Registration Card or user-signed receipt.	All CPAs shall apply the methodology AMS-II.G.,version 11.1/2.4/. Validation team based on review of PoA-DD /1.2/ confirms that the eligibility criterion is defined in accordance with the project standard.
Findings		CAR-03 has been raised and closed successfully. Refer Appendix 4 for detailed findings.			
Conclusion		1. Validation team confirm that the eligibility criteria for inclusion of corresponding CPAs in the registered PoA are updated by the CME in accordance with the applicable validation requirements related to the renewal of programme of activities period in the VVS for PoA Version 02/2.1/. 2. The Coordinating and Managing Entity (CME) has outlined clear and			

	<p>unambiguous eligibility Criteria for the inclusion of a CPA under this PoA. The Eligibility Criteria, listed in section K of the generic part of CPA of PoA-DD has been validated by the validation team with regards to the applicability of the applied methodology AMS-II.G., version 11.1/2.4/ and found in compliance.</p> <p>3. Validation team confirm that the Eligibility Criterias are sufficiently, objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA. Further Validation team confirm that eligibility criteria for the inclusion of CPA have covered the minimum eligibility criteria as required by para 124 of PS for PoA Version 02 /2.2/.</p>
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SECTION E. Internal quality control

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As a final step for the process of Renewal of PoA Period, the final documentation, including the Validation Report, has to undergo an internal quality control by the Technical Reviewer to be approved.

Details of the Technical Reviewer are provided within the Validation Report in Section B.2. and Appendix 2 for further references of knowledge and capability to conduct the quality checking.

After the Technical Review process, the final documentation has to undergo a final quality checking process called Administrative Review, done by the Applus+ Certification's Project Manager and/or Technical Support.

For final approval, the final set of documents are prepared by the DOE's Technical Manager or its deputy and signed by the authorized signatory of the DOE.

In case any of the persons performing this final internal quality control approval process has acted as a part of the Assessment Team or Technical Review team, the approval can only be given by DOE's personnel who are not part of those teams.

If the final set of documents has been satisfactorily approved, a request of renewal of PoA Period is submitted to the UNFCCC CDM EB along with the relevant documents.

SECTION F. Validation opinion

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Applus+ Certification has performed a validation of renewal of PoA period of the the “Distribution of ONIL Stoves—Guatemala” (UNFCCC Ref. No. 8480). The validation was performed on the basis of the updated sections of the PoA-DD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the programme of activities.

The final validation opinion was finalized in accordance with the CDM VVS for PoA version 02.0/2.1/ and the CDM PS for PoA version 02.0/2.2/ including the assessment of:

- a) An impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the PoA period at the time of requesting renewal of PoA period;
- b) The correctness of the application of an approved baseline methodology for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable PoA period.

The review of the PoA-DD, supporting documents and the subsequent follow-up interviews have provided Applus+ Certification with sufficient evidence to determine the validity of the original baseline and/or its update through an assessment. The programme correctly applies the latest baseline and monitoring methodology AMS-II.G. “Energy efficiency measures in thermal applications of non-renewable biomass”, Version 11.1

The monitoring plan provides for the monitoring of the programme’s emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the programme design. It is Applus+ Certification’s opinion that the Coordinating/managing entity is able to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

In summary, it is Applus+ Certification’s opinion that the programme of activities “Distribution of ONIL Stoves—Guatemala” (UNFCCC Ref. No. 8480), as described in the revised PoA DD, version 13 dated 18/09/2020, meets all relevant UNFCCC requirements for the renewal of the PoA period. Hence, Applus+ Certification submitted the request for renewal of the PoA period of the programme of activities.

Appendix 1. Abbreviations

Abbreviations	Full texts
Applus+ Certification	LGAI Technological Center, S.A. (Applus+ Certification) DOE E-0032
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM PCP	Clean Development Mechanism Project Cycle Procedure
CDM PoA	Clean Development Mechanism Programme of Activity
CDM PS	Clean Development Mechanism Project Standard
CDM VVS	Clean Development Mechanism Validation and Verification Standard
CER	Certified Emission Reduction
CL	Clarification Request
CME	Coordinating/Managing Entity
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
COP/MOP	Conference of Parties/ Meeting of Parties
DOE	Designated Operational Entity
DNA	Designated National Authority
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GWh	Giga Watt Hours
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilo Watt Hours
MoC	Modalities of Communications
MP	Monitoring Plan
MR	Monitoring Report
MWh	Megawatt hour
ODA	Official Development Assistance
PoA-DD	Programme of Activities Design Document
PP	Project Participant
PRC	Post Registration Changes
RCP	Renewal Crediting Period
RMP	Revised Monitoring Plan
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 2. Competence of team members and technical reviewers

According to the applicable sectoral scope / technical area and experience in the sectoral or national business environment, Applus+ Certification has composed an assessment team in compliance with the Contract Review and Assessment Team appointment rules in the internal Quality Management System of Applus+ Certification as well as in compliance with the applicable requirements in the Accreditation Standard.

The composition of the Assessment Team has been approved by Applus+ Certification during the Contract Review process ensuring that the required skills and capabilities are covered.

The qualification levels for Assessment Team members that are assigned by aforementioned appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A).
- Technical Expert (TE).
- Technical Reviewer (TR).
- Any of the above mentioned roles in training (iT, e.g. AiT for auditor in training).

The Sectoral Scope / Technical Area required knowledge linked to the applied methodology(ies) is covered by the Assessment Team as shown below:

Name	Role	SS/TA Knowledge	Financial Expertise	Attendance to on-site visit
Mr. Vivek Kumar Ahirwar	LA / TE	YES (3.1)	n/a	n/a
Mr. Miguel A. Cortés	TR / TE	YES (3.1)	n/a	n/a

A brief Curriculum Vitae (CV) of the Assessment Team members is provided below:

Name SHORT CV. BACKGROUND INFORMATION

Vivek Kumar Ahirwar He is a BEE-Certified Energy Auditor by Govt. of India with over seven years of relevant experience in energy efficiency, energy audit and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Master in Technology (Energy Management) from a premier institute, School of Energy & Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India

Miguel A. Cortés Mr. Miguel Cortés holds a Bachelor's Science Degree on Civil and Environmental Engineering, being specialized on Hydric Resources. He has worked as CDM/VCS/GS and environmental consultant for different industries of multidisciplinary sectors world widely.

Mr. Miguel Cortés counts with several years of GHG assessment experience, working and being qualified as Lead Auditor and Technical Reviewer for different

DOEs world widely, as well as has been part of Gold Standard expert's committees. Furthermore, he has performed his professional GHG assessment portfolio career worldwide and focusing in Latin America, developing assessments for projects in Argentina, Mexico, Panama, Colombia and Chile, among others.

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1.	Basic Documents (Monitoring Report, Project Design Documents, Previous Verification Reports)			
1.1	PP	Latest approved PoA-DD Version 9	Dated 18/12/2019	CME
1.2	PP	Revised PoA-DD, version 10	Dated 27/04/2020	CME
		Revised PoA-DD, version 11	Dated 10/06/2020	
		Revised PoA-DD, version 12	Dated 17/06/2020	
		Revised PoA-DD, version 13 (Final)	Dated 18/09/2020	
1.3	Earthood Services Pvt. Ltd.	PRC Validation Report of the latest approved PoA-DD CDM programme of activity ,Version 1.0	Dated 06/01/2020	Other: UNFCCC
1.4	UNFCCC	CDM Programme of activity vie– page - “Distribution of ONIL Stoves—Guatemala”	Weblink	Other: UNFCCC
1.5	UNFCCC	Latest MoC statement on project webpage for PoA 8480 valid as of 28/02/2018	Dated 18/02/2018	Other: UNFCCC
2.	References and requirements at UNFCCC/IPCC/etc.			
2.1	CDM EB	Clean Development Mechanism Validation and Verification Standard for Programme of activity (CDM-VVS for PoA), version 02.0 as per EB 101, Annex 2	Dated 29/11/2018	Other: UNFCCC
2.2	CDM EB	CDM Project Standard for Programme of activity (CDM-PS for PoA), version 02.0 as per EB 101, Annex 1	Dated 29/11/2018	Other: UNFCCC
2.3	CDM EB	CDM Project Cycle Procedure for Programme of activity (CDM-PCP for PoA), version 02.0 as per EB 101, Annex 16	Dated 29/11/2018	Other: UNFCCC
2.4	CDM EB	Applied Methodology, AMS-II.G., Version 11.1 “Energy efficiency measures in thermal applications of non-renewable biomass”	Dated 05/06/2020	Other: UNFCCC
2.5	CDM EB	Latest PoA-DD template form , version 09.0	Dated 31/05/2019	Other: UNFCCC
2.6	CDM EB	Tool 11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period, version 03.0.1, EB 66, Annex 47	Dated 02/02/2012	Other: UNFCCC
2.7	CDM EB	Tool 30: Calculation of the fraction of non-renewable Biomass, version 02.0	Dated 28/03/2019	Other: UNFCCC
2.8	CDM EB	Standard: Sampling and surveys for CDM project activities and programmes of activities (version 08.0)	Dated 28/11/2019	Other: UNFCCC
2.9	CDM EB	Guideline: Sampling and surveys for CDM project activities and programmes of activities (version 04.0)	Dated 16/10/2015	Other: UNFCCC
2.10	CDM EB	Tool19 : “Demonstration of additionality of microscale project activities” (version 09.0)	Dated 28/11/2018	Other: UNFCCC
3.	Others			
3.1	C4 Eco Solutions	Independent report made by C4 EcoSolutions for determining the value of f _{NRB}	-	CME
3.2	CME	f _{NRB} calculation spreadsheet along with the data source	-	CME
3.3	CME	Report on Household Firewood Consumption in Guatemala along with sampling survey spreadsheet (Value obtained is 8.05 tonnes/HH/year)	December 2018	CME
3.4	UN Statistics Division	UN Data for Fuelwood and charcoal consumption for Guatemala - http://data.un.org/Data.aspx?d=EDATA&f=cmlID%3aFW	-	Others

	website	UN Data for carbon stock in living biomass (f–rest) - http://data.un.org/Data.aspx?q=biomass+carbon+stock&d=FAO&f=itemCode%3a6646%3belementCode%3a72151		
3.5	FAO	FAO. <i>Global Forest Resources Assessment</i> . (2018)	-	Others
3.6	IPCC	IPCC. <i>Guidelines for national greenhouse gas inventories</i> . (IGES, 2006)	-	Others
3.7	CME	Design Specifications of ONIL stoves	-	Others
3.8	Ministry of Energy and Mines, Guatemala	Energy Policy 2013-2027 (Guatemala)	Year 2012	Others
3.9	CME	Spreadsheet for calculation of fuelwood consumption in Guatemala based on latest available government / official data for the country (Value obtained is 8.93 tonnes/HH/year)	-	CME

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

Table 1. CL from this validation

CL ID	01	Section no.	D.2.1	Date :09/06/2020
Description of CL				
One of the applicability criteria of applied methodology is that “Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics”. CME has used old literature and records, which were used during initial registration of PoA, some of which are out of range now. CME to confirm that previously referred report/evidences are still valid.				
Project participant response				Date : 12/06/2020
Latest reference has been used.				
Documentation provided by project participant				
Revised PoA-DD, version 11				
DOE assessment				Date: 13/06/2020
CME have updated the reference to the information provided regarding carbon stock in living biomass to confirm that only non-renewable biomass is being used since 1989. CL is closed.				

CL ID	02	Section no.	D.2.2	Date :09/06/2020
Description of CL				
The CME shall clarify how it extrapolated the value for the charcoal and fuel wood consumption for 2018 by providing factors applied on the published UNdata consumption from year 2016 and 2017 which is referenced on submitted excel sheet (i.e. Gautemala_fNRB Tool 30).				
Project participant response				Date : 12/06/2020
The calculation of 2018 projections have been included in the fNRB calculation sheet.				
Documentation provided by project participant				
Revised fNRB calculation spreadsheet				
DOE assessment				Date: 13/06/2020
CME have provided the extrapolation of 2016 and 2017 data for charcoal and fuel wood consumption in fNRB calculation spreadsheet for reference. Same has been verified by validation team and found appropriate. CL is closed.				

CL ID	03	Section no.	D.2.2	Date : 13/06/2020
Description of CL				
The CME shall clarify the reason for difference in the value of total Forest cover and protected forest area used in fNRB calculation from the official FAO data for Guatemala.				
Project participant response				Date : 17/06/2020
For the present report by C4Ecosolutions, the forest and other wooded land cover for 2000 and 2018 was estimated using Hansen/UMD/Google/USGS/NASA spatial data , which is derived from Hansen et al., and disaggregated according to the FAO global ecological zones. The tree cover was estimated as the fractional area of each raster grid cell that is covered by the tree canopy (as the size of the grid cells are considerably larger than any individual tree). The total area of all the grid cells that contain some tree cover is roughly equivalent to the total area of the ecological zone. While FAO definitions consider all areas with >10% cover forests, areas with 5-10% cover other wooded lands, and <5% cover as other lands, in the present report in order to capture the forest dynamics and how they may be changing (due to loss or gain in tree cover), the calculations have given some consideration to the forest cover thereby accounting for any deforestation or degradation that results in a transition across the relevant thresholds (5% or 10%). According to tool 30, P _{forest} and P _{other} includes “Extent of non-accessible area (e.g. protected area where extraction of wood is prohibited, geographically remote area) within forest/other wooded land areas. To define “geographically remote area”, the Tool clarifies that DNAs/PPs may consider proximity to roads or rivers. To calculate this accessible woody cover, all the areas that are within 2.5 km of a road, leaving protected area was masked out. PoA-DD has been updated to clarify all the assumptions taken for each parameter used to calculate the fNRB in accordance with Tool 30.				
Documentation provided by project participant				

Revised PoA-DD, version 12	
DOE assessment	Date: 19/06/2020
CME have provided the detailed explanation of each parameter including total forest cover and protected forest cover in Guatemala used for fNRB calculation. The method used by third party agency is based on latest Geospatial Data available at the time of report preparation. This is considered latest and more accurate compared to FAO data available for the country presently. Same has been verified by validation team and found appropriate. CL is closed.	

Table 2. CAR from this validation

CAR ID	01	Section no.	D.2.1	Date :09/06/2020
Description of CAR				
The CME shall provide information on how the proposed PoA complies with paragraph 124 (d) and footnote 23 of PS-PoA ver. 02 which require to define the specification of the technology, as well as the performance specifications of the proposed Technology based on, inter alia, testing/certification.				
Project participant response				Date :12/06/2020
Technical specifications have now been added to section A.3 of the PoA DD.				
Documentation provided by project participant				
Revised PoA-DD, version 11				
DOE assessment				Date: 13/06/2020
CME have provided the technical specification of the project ICS proposed to be distributed in the PoA. Same has been checked and confirmed from the technical details provided by the technology provider. CAR is closed.				

CAR ID	02	Section no.	D.2.2	Date : 09/06/2020
Description of CAR				
Section I.5. of the PoA-DD mentions that, in line with paragraph 288 and 289 of CDM project standard for programmes of activities, modalities to calculate GHG emission reductions or net anthropogenic GHG removals that result from the baseline scenario has been reassessed in accordance with existing national and/or sectoral policies of Guatemala as well as the latest version of applied methodology. However, it does not provide step-wise assessment of the Methodological Tool: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (Version 03.0.1).				
Project participant response				Date :12/06/2020
Step wise assessment based on tool 11 has been added to section I.5				
Documentation provided by project participant				
Revised PoA DD, version 11				
DOE assessment				Date: 13/6/2020
CME have now provided a step wise assessment of the validity of the original/current baseline and update of the baseline at the renewal of the PoA period in revised PoA-DD section I.5. All supporting evidences have been checked by validation team and found appropriate. CAR is closed.				

CAR ID	03	Section no.	D.2.5	Date : 16/09/2020
Description of CAR				
The eligibility criteria for inclusion as per paragraph 284 of PS-PoA requires to update the sections of the PoA-DD, including its generic CPA-DD part, relating to the eligibility criteria for inclusion of CPAs in the PoA. It is observed that to demonstrate additionality of the CPA: (i) The PoA refers to EB 68 Annex 27 "Guidelines on the Demonstration of Additionality for Small-Scale Project Activities", version 09.0, which is not valid anymore; (ii) The PoA does not use any valid tool to demonstrate additionality (e.g. Tool 19: Demonstration of additionality of microscale project activities)				
Project participant response				Date :18/09/2020

(i) The CME wishes to state that according to paragraph 285 of PS-PoA, "For renewal of the PoA period of a registered CDM PoA, the coordinating/managing entity is not required to reassess the additionality of the PoA nor update the section of the PoA-DD relating to additionality". However as rightly pointed out that according to paragraph 284 the eligibility criteria for inclusion of CPAs in the PoA is required to be updated, hence the CME has revised the criteria pertaining to additionality of the CPAs to be included in the second PoA period. Option to demonstrate additionality using either Tool 19 or Tool 21 has been added to Section K of PoA-DD. (ii) Point no 6 of Section K of the PoA-DD has been revised to now include the provision for inclusion of new CPAs to demonstrate additionality using the valid version of either Tool 19 or Tool 21	
Documentation provided by project participant	
Revised PoA DD, version 13	
DOE assessment	Date: 21/09/2020
CME have now updated the Section K in line with requirement of paragraph 284 of PS-PoA to consider the latest version of Tool 19 and Tool 21 for newly included CPAs during 2 nd PoA Period. However, in accordance with paragraph 285 of PS-PoA CME is not required to reassess the additionality of PoA. CAR is closed.	

Table 3. FAR from this validation

FAR ID	xx	Section no.	Date: DD/MM/YYYY
Description of FAR			
N/A			
Project participant response			Date: DD/MM/YYYY
N/A			
Documentation provided by project participant			
N/A			
DOE assessment			Date: DD/MM/YYYY
N/A			

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 May 2019	Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for programmes of activities” (CDM-EB93-A08-STAN) and version 02.0 of the “CDM project cycle procedure for programmes of activities” (CDM-EB93-A09-PROC);• Make editorial improvements.
01.0	29 December 2017	Initial publication.

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