Validation report form for post-registration changes for CDM programme of activities

(Version 03.0)

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION	
Title and UNFCCC reference number of the programme of activities (PoA)	Domestic Cooking Stoves substitution programme in Mozambique – UNFCCC No. 9981
Process track	☒ Prior approval ☐ Issuance ☐ Renewal of PoA period
Version number of the validation report	1.0
Completion date of the validation report	30/09/2020
Version number of PoA-DD applicable to this validation report	09
Type(s) of PoA PRCs	☒ Corrections ☐ Inclusion of monitoring plan ☒ Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, standardized baselines, or other methodological regulatory documents[1] ☐ Changes to the programme design ☐ Addition of CPA inclusion template ☐ Change of coordinating/managing entity ☐ Changes specific to afforestation and reforestation activities
Coordinating/managing entity (CME)	Fondazione AVSI
Host Parties	The Republic of Mozambique
Applied methodologies and standardized baselines	AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (Version 05.0) No standardized baseline applied
Mandatory sectoral scopes	Sectoral Scope 3 - Energy Demand
Conditional sectoral scopes, if applicable	N/A
Name and UNFCCC reference number of the DOE	LGAI Technological Center, S.A. (Applus+ Certification) UNFCCC Ref. No.: E-0032

[1] Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

Name, position and signature of the approver of the validation report	Mr. Juan Sendín Caballero *Applus+ Certification Business Unit Managing Director* Signature: 

SECTION A. Executive summary

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The aim of the PoA *Domestic Cooking Stoves substitution programme in Mozambique* is to improve energy efficiency by substituting inefficient traditional cooking stoves with more effective ones improving the conditions of the local population living in Mozambique and reducing the greenhouse gas emissions. The PoA is confirmed to be a voluntary action by *Fondazione AVSI* as the Coordinating/Managing Entity (hereinafter referred to as CME).

The Component Project Activities (hereinafter referred to as CPAs) that are included or to be included in the PoA aim to reduce the consumption of energy by substituting inefficient traditional cooking stoves with more effective ones.

The stove designs may vary by CPA as per their different locations, climates and tradition demands. For example, the PoA proposes the model CH-2200 Charcoal Cooking stove which performs at high thermal efficiency; thereby it can lead to a charcoal usage reduction compared to traditional stoves.

Validation of PRC Scope:

LGAI Technological Center, S.A., accredited DOE E-0032 (hereinafter referred to as *Applus+ Certification* or just the *DOE*), has been contracted by the PoA's CME *Fondazione AVSI*, to conduct the Validation of Post Registration Changes (PRC) to the registered *PoA 9981 Domestic Cooking Stoves substitution programme in Mozambique*.

The proposed PRCs are of the type of: Corrections and Permanent changes to the registered monitoring plan. PP requested following corrections in PoA DD:

- Fraction of non-renewable (fNRB,y) calculated using requirements in "TOOL30: Methodological tool: Calculation of the fraction of non-renewable biomass", version 02.0 and fixed ex-ante.

- Sampling methods of "Simple random sample on whole population" and "Simple random sampling on vintage-wise populations" are foreseen to be used. **Alternatively, also other sampling approaches in line with CDM guidelines may be used**."

- "In case the monitoring will cover stoves distributed in different years (i.e. different vintages), the target population is not considered homogeneous regarding the stove efficiency as the efficiency is assumed to drop over the years[2]. Therefore, an approach of "Simple random sampling on vintage-wise populations" will be applied for estimating the stove efficiency. **Similarly, "simple random sampling on vintage-wise populations" may be used also for estimating the proportion of the stoves operating**."

- The equation for determining sample size for mean value parameters is corrected to be in line with the CDM guideline "Sampling and surveys for CDM project activities and programmes of activities".

- CME proposed specifications for minimum sample size : If the sample size calculation returns a value of less than 30 samples, a minimum sample size of 30 shall be chosen when the parameter of interest is a proportion. If the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the Student's t-distribution shall be used if the resulting sample size is less than 30."

- The schedule for implementing the sampling effort shall be done so that the gap between consecutive annual or biennial surveys (i.e. the gap between the start date of the survey and the start date of the consecutive survey) shall not be more than 12 months or 24 months, respectively.

Validation team confirmed that above proposed changes by CME need prior approval from CDM EB as changes involve permanent changes in monitoring plan and updation of sampling procedure in line with latest standard and guidelines for sampling and surveys for CDM Pas and PoAs

The scope of the validation process is defined as a third-party independent and objective review of the PoA Design Document (PoA-DD) in which changes have been applied, limited to and against the criteria stated in Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (Version 05.0), the latest version of the CDM Validation and Verification Standard for Programmes of Activities (VVS for PoAs version 02.0), the latest version of the CDM Project Standard for Programmes of Activities (PS for PoAs version 02.0) and the latest version of the CDM Project Cycle Procedure for Programmes of Activities (PCP for PoAs version 02.0), as well as any other related methodological tools, guidelines and other regulatory documents adopted by the CMP or the Board.

The validation is not meant to provide any consulting towards the CME or authorized participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the PoA-DD or its related documents.

Validation of PRC Process:

The programme assessment has been undertaken by the Applus+ Certification's assigned Validation Team using standard auditing techniques to determine whether the programme meets the applicable CDM rules and requirements, including those specified in the "CDM project standard for programmes of activities", the selected methodologies, the selected standardized baselines and any other standards, methodologies, methodological tools and guidelines applied in accordance with the selected (applied) methodologies.

The Validation Team has assessed the accuracy, conservativeness, relevance, completeness, consistency and transparency of the information provided by the CME and determined whether such information is reliable and credible based on the above mentioned rules and requirements.

Before the Validation begins, the DOE selects and appoints a Validation Team in compliance with the latest version of the CDM Accreditation Standard (CDM AS version 07.0) to safeguard the impartiality and with the rules and requirements to perform Validation and Verification-Certification processes.

During the Contract Review stage, the DOE ensures the selected Validation Team covers the Technical Knowledge of the Sectoral Scope/Technical Area applicable to the assessment and the relevant experience and capability to evaluate the information provided by the CME against the aforementioned criteria.

Once the Validation of PRC process has commenced, the members of the Validation Team have carried out the following steps:

1. A Desk Review of the revised PoA-DD and related documents.
2. Follow-up interviews with the programme stakeholders.
3. Raise and resolution of outstanding issues (if any) and issuance of a Draft Validation of PRC Report and a Final Validation of PRC Report and Validation of PRC opinion.

4. Technical Review of the prepared report and related documentation by independent technical reviewer(s).
5. Internal quality check by the Applus+ Certification HQ personnel before the final issuance of the definitive set of documents for being submitted to the UNFCCC.

In order to ensure transparency and impartiality all the assumptions and asseverations shall be clear and objective and the evidences serving as a basis for the latter shall be referenced.

Applus+ Certification has checked all the necessary aspects of this validation process by using customized checklists or similar techniques that demonstrate transparently the criteria of the assessment team and the results of the assessment process.

Conclusion:

Applus+ Certification confirms and concludes, based on objective and sufficient evidences, that the revised PoA-DD, Version 09 and dated on 22/09/2020 meets all the relevant criteria mentioned above for the request for Post Registration Changes in Prior Approval Track of the type: Corrections and Permanent changes to the registered monitoring plan; as defined in the VVS for PoAs version 02.0.

Applus+ Certification hence recommends the registration of the Post Registration Changes in the PoA-DD under the Prior Approval Track.

The assessment asseverations that evidence that the proposed changes are in compliance with the applicable rules and requirements are set out below within this Validation Report.

SECTION B. Validation team, technical reviewer and approver

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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			
						Document review	On-site inspection	Interviews	Validation findings
1.	Lead Auditor Technical Expert (3.1)	OR	KUMAR	PANKAJ	Outsourced Entity *(True Quality Certifications Pvt. Ltd.)*	Y	*n/a*	Y	Y

B.2. Technical reviewer and approver of the validation report on PoA PRCs

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	MIGUEL ÁNGEL	Applus+ Certification
2.	Report Approver	IR	SENDÍN	JUAN	Applus+ Certification

SECTION C. Means of validation

C.1. Document review

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Applus+ Certification has performed a Document Review (Desk Review) taking in consideration:

- A review of presented data and information.
- Cross-checks between the presented data and information provided in the PoA-DD and information from other sources, including, but not limited to, the publicly available information in the UNFCCC.
- The sectoral and local expertise of the DOE at the time of reviewing the provided data and information.

The references of the reviewed documentation can be observed under the Appendix 3 of this report.

C.2. On-site inspection

Duration of on-site inspection: *n/a*				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	*n/a*	*n/a*	*n/a*	*n/a*

Applus+ Certification has found that the onsite inspection is not mandatory and not required due to the nature of the proposed changes to be conducted as per the following criteria:

- According to the VVS for PoAs version 02.0 Para 265, the DOE determines that the changes are proposed changes.
- According to the VVS for PoAs version 02.0 Para 279, the DOE determines that the changes are not under the scope of the Paras 274 – 278, also not actual changes, hence the DOE finds there is no requirement to perform an onsite inspection.
- According to the VVS for PoAs version 02.0 Para 280 (which makes reference to Paras 183 and 184), the DOE finds that there is no situation for these proposed changes on the PoA that makes the onsite visit mandatory, hence the DOE considers the inspection as optional and has determined alternative methods for the Validation assessment.

Applus+ Certification has used the following alternative methods for the validation of the proposed changes on the PoA-DD:

- Skype interviews and calls with the CME representatives.
- Publicly available information of the PoA.
- Experience and knowledge of the PoA due to the previous Verification of the PoA for which this PRC is derived due to the notification of incompleteness by UNFCCC for the current verification.
- Other interactions with the CME representatives (mails and document's sharing).

Applus+ Certification has found the CME representatives to be available and in possession of any knowledge and related evidence that the DOE needs to perform this Validation of PRC assessment and considers such mean of validation enough to ensure the scope of the latter and its compliance with the CDM rules and requirements.

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Mauno	Ulla	CarbonSink Group S.r.l. (CME representative / authorized participant)	15/09/2020 to 16/09/2020 + Continuously during the Validation process	Confirm description, implementation and operation of the PoA and its procedures for operation and data collection. Purpose of the Post-Registration Changes, types and PoA-DD modifications.	Mr. Pankaj Kumar
2.	Guiso	Antonio				

C.4. Clarification requests, corrective action requests and forward action requests raised

Areas of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PoA-DD form			
Corrections	01		
Inclusion of monitoring plan			
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, standardized baselines, or other methodological regulatory documents	01		
Changes to the programme design			
Addition of CPA inclusion template			
Change of coordinating/managing entity			
Changes specific to afforestation and reforestation activities			
Others (please specify)			
Total	02	00	00

SECTION D. Validation findings

D.1. Compliance with the PoA-DD form

Means of validation	The CME has used the latest version of the PoA-DD form for the revised PoA-DD for the purpose of the Post Registration Changes. The CME has used the latest available version of the PoA-DD (i.e. version 9.0) template form. After review of the documentation, the assessment team can confirm that: - The information presented is materially the same as in the registered version of the PoA-DD. - The revised PoA-DD complies with the valid version of the PoA-DD Form and instructions therein.
Findings	No finding was raised
Conclusion	After assessment, the DOE can confirm that the revised PoA-DD version 09 dated 22/09/2020 complies with the requirements set out in VVS for PoA version 02.0 Paragraphs 248 and 249.

D.2. Corrections

Means of validation	The CME has presented the proposed corrections in the revised PoA-DD version 09 dated on 22/09/2020 and the assessment team has checked them for compliance evaluation. The CME has proposed the following corrections: - The PoA-DD template has been updated by using the latest version The assessment team has checked the corrected information along the revised PoA-DD, the approvals, authorization, dates, modalities of communication and contact details of the proposed participants and focal points and found the information consistent and in line with applicable requirements. The assessment team has checked the updated information along the revised PoA-DD, its compliance with the guidelines for completion of the form, the contents of the specific updated sections and found the information consistent and in line with applicable requirements. Section I.7.2 added with the following specifications: An approach of “Simple random sampling on vintage-wise populations” will be applied for estimating the stove efficiency. Similarly, “simple random sampling on vintage-wise populations” may be used also for estimating the proportion of the stoves operating as the usage rate of the stoves is estimated to drop over the years”. Alternatively in addition or instead of the simple random sampling also other sampling approaches like stratified sampling, in line with CDM guidelines, may be used. “In case the monitoring will cover stoves distributed in different years (i.e. different vintages), the target population is not considered homogeneous regarding the stove efficiency as the efficiency is assumed to drop over the years. Therefore, an approach of “Simple random sampling on vintage-wise populations” will be applied for estimating the stove efficiency. Similarly, “simple random sampling on vintage-wise populations” may be used also for estimating the proportion of the stoves operating.”

	"The equation for determining sample size for mean value parameters is corrected to be in line with the CDM guideline "Sampling and surveys for CDM project activities and programmes of activities". In section I.7.2, under sample size selection, "In case the parameter By,new,KPT (or another parameter) is estimated based on vintage-wise populations, N (total number of devices) refers to the vintage-wise population in the above presented equations. Moreover, if the sample size calculation returns a value of less than 30 samples, a minimum sample size of 30 shall be chosen when the parameter of interest is a proportion. If the parameter of interest is a numeric mean value (i.e. not a proportion or percentage) the Student's t-distribution shall be used if the resulting sample size is less than 30[3]. In sec. I.7.2, for determination of appropriate timing "The gap between consecutive annual or biennial surveys (i.e. the gap between the start date of the survey and the start date of the consecutive survey) shall not be more than 12 months or 24 months, respectively[4]. The following versions of standard and guidelines of sampling and surveys are applied: - Standard for sampling and surveys for CDM project activities and programmes of activities (Version 08.0) - Guidelines for sampling and surveys for CDM project activities and programme of activities (Version 04.0) CME had submitted monitoring reports of CPA 02 and CPA 03 for monitoring period from 01/01/2018 to 31/12/2018 to UNFCCC. But UNFCCC raised queries on sampling approach and in line with query raised by UNFCCC, CME has made necessary corrections in sampling approach in compliance with Standard for sampling and surveys for CDM project activities and Programme of activities, ver. 8.0 and Guidelines for sampling and surveys for CDM project activities and programme of activities, ver. 4.0 The assessment team has checked the revised, corrected and detailed information along the revised PoA-DD, its compliance with the applied methodology AMS-II.G version 05.0, rules and requirements of other regulatory documents, template's instructions and consistency along the PoA-DD and found the information consistent and in line with applicable requirements. Validation team also confirm that the sampling approach proposed in PoA- DD comply with the query raised by UNFCCC during their review.
Findings	CL#1 was raised and closed accordingly.
Conclusion	After assessment team check process and closure of related findings, the DOE can confirm that the revised PoA-DD version 09 dated 22/09/2020 complies with the requirements set out in VVS for PoA version 02.0 Paragraphs 256 to 258.

D.3. Inclusion of monitoring plan

Means of validation	The proposed Post Registration Changes do not fall under this category.
Findings	The proposed Post Registration Changes do not fall under this category.
Conclusion	The proposed Post Registration Changes do not fall under this category.

[3] This approach is in line with the para 14 of the "Standard: Sampling and surveys for CDM project activities and programmes of activities Version 08.0"

[4] In line with the clarification SSC_743

D.4. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, standardized baselines, or other methodological regulatory documents

Means of validation	The CME has presented the proposed permanent changes to the registered monitoring plan in the revised PoA-DD version 09 dated on 22/09/2020 and the assessment team has checked them for compliance evaluation. The CME has proposed the following permanent changes to the registered monitoring plan: Fraction of non-renewable (fNRB,y) calculated using requirements in "TOOL30: Methodological tool: Calculation of the fraction of non-renewable biomass", version 02.0 and fixed ex-ante. Fraction of non-renewable (fNRB,y) fixed ex-ante. The assessment team founds the applied rationale for the given parameter as adequate and in line with applicable requirements. The changes are reflected accordingly in the revised Monitoring Plan of the PoA-DD and in the Appendix 7 for summarizing Post Registration Changes. CME had submitted monitoring reports of CPA 02 and CPA 03 for monitoring period from 01/01/2018 to 31/12/2018 to UNFCCC and during their review , they commented that, "*the revised CPA-DD (version 07, dated 24/09/2018) for CPA 2 mentions that 'Fraction of non-renewable biomass (fNRB)' as one of the monitoring parameters. As per the monitoring procedure in the revised CPA-DD and in the monitoring report (version 07, dated 29/03/2019), the CME mentioned that it will use the DNA approved value of fNRB as a monitored value during the monitoring period. However, it should be noted that fNRB value for Mozambique was not valid during the monitoring period as the DNA approved value of fNRB for Mozambique has reached its validity as on 6th December 2017 and no further submission was made by the DNA to update this value"* To comply with the comment raised by UNFCCC, CME calculated value of fNRB by using "Tool 30 TOOL30: Methodological tool: Calculation of the fraction of non-renewable biomass", version 02.0. CME has used data from the most recent Global Forest Resources Assessments Country Report of Mozambique, published in May 2020 for fNRB calculation. Addition to this, CME has also referred pre-reviewed study of Sedano et. al. (2020) "Monitoring intra and inter annual dynamics of forest degradation from charcoal production in Southern Africa with Sentinel – 2 imagery" has been used as a source for biomass removals caused by charcoal production priamarily because lataest FAO report does not provide information on quantity of removals. Validation team checked the calculation spread sheet and confirm the approach used by CME to calculate fNRB is conservative and in line with "Tool 30 TOOL30: Methodological tool: Calculation of the fraction of non-renewable biomass", version 02.0. Assessment team checked the calculation of fNRB in spread sheet based on data provided by latest FAO report and confirm the calculation is in line with requirements of "Tool 30: Methodological tool: Calculation of the fraction of non-renewable biomass", version 02.0. The assessment team has considered the changes are not reducing the level of accuracy of the registered monitoring plan for calculation of GHG reductions, hence accepted.
Findings	CL# 2 were raised and closed accordingly.
Conclusion	After assessment team check process and closure of related findings, the DOE can confirm that the revised PoA-DD version 09 dated 22/09/2020 complies with the requirements set out in VVS for PoA version 02.0 Paragraphs 265 to 268.

D.5. Changes to the programme design

Means of validation	The proposed Post Registration Changes do not fall under this category.
Findings	The proposed Post Registration Changes do not fall under this category.
Conclusion	The proposed Post Registration Changes do not fall under this category.

D.6. Addition of CPA inclusion template

Means of validation	The proposed Post Registration Changes do not fall under this category.
Findings	The proposed Post Registration Changes do not fall under this category.
Conclusion	The proposed Post Registration Changes do not fall under this category.

D.7. Change of coordinating/managing entity

Means of validation	The proposed Post Registration Changes do not fall under this category.
Findings	The proposed Post Registration Changes do not fall under this category.
Conclusion	The proposed Post Registration Changes do not fall under this category.

D.8. Changes specific to afforestation and reforestation activities

Means of validation	The proposed Post Registration Changes do not fall under this category.
Findings	The proposed Post Registration Changes do not fall under this category.
Conclusion	The proposed Post Registration Changes do not fall under this category.

SECTION E. Internal quality control

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As a final step for Validation, the final documentation, including the validation report, has to undergo an internal quality control by the Technical Reviewer(s) to be approved.

Details of the Technical Reviewer(s) 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 Project Activity 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 is not part of those teams.

If the final set of documents has been satisfactorily approved, the Request is submitted to the UNFCCC CDM EB along with the relevant documents.

SECTION F. Validation opinion

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LGAI Technological Center, S.A. (Applus+ Certification) DOE E-0032 has performed the Validation of Post Registration Changes for the *PoA 9981 Domestic Cooking Stoves substitution programme in Mozambique*. The Validation of Post Registration Changes has been performed in line with the basis set out in the rules and requirements defined by the UNFCCC CDM for Programmes of Activities.

The review of the revised PoA-DD, the necessary supporting documentation, the publicly available information as well as any other external source used for cross-checking requirements and subsequent follow-up actions (include Skype calls and interviews), have provided Applus+ Certification with sufficient evidences to determine the compliance with the applicable requirements.

The revised PoA-DD version 09 dated on 22/09/2020 complies with all the applicable requirements set out in VVS for PoA version 02.0, PS for PoA version 02.0 and PCP for PoA version 02.0 and correctly applies the selected baseline and monitoring methodology set out in the methodology AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (Version 05.0), as well as all the applicable requirements set out in any other applicable regulatory document.

In DOE's opinion, the PoA meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria.

The PoA, hence, is recommended by Applus+ Certification for registration of its Post Registration Changes within the UNFCCC CDM.

Appendix 1. Abbreviations

Abbreviations	Full texts
Applus+ Certification	LGAI Technological Center, S.A. (Applus+ Certification) DOE E-0032
AS	Accreditation Standard
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification request
CME	Coordinating/Managing Entity
CMP	The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
DOE	Designated Operational Entity
EB	Executive Board
EI	External Individual
FAR	Forward Action Request
GHG	Greenhouse gas(es)
HQ	Headquarters (Applus+ Certification)
IR	Internal Resource
MoC	Modalities of communication
OE	Outsourced Entity
PCP for PoA	Project Cycle Procedure for Programmes of Activities
PoA-DD	Programme of Activities Design Document
PRC	Post Registration Changes
PS for PoA	Project Standard for Programmes of Activities
UNFCCC	United Nations Framework Convention on Climate Change
VVS for PoA	Validation and Verification Standard for Programmes of Activities

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. Pankaj Kumar	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:

Mr. Pankaj Kumar:

Mr. Pankaj Kumar has done M. Sc in Environment Management from Forest Research Institute and B. Sc. Environment Science and Water Management from A N College.

He has more than 10 years of working experience in GHG Assessments and has participated during his career in Agencies and DOEs like MITCON, Agrinergy, Carbon Check and is empanelled with Applus+ Certification since 2015 for the performance of CDM/VCS/GS project assessments.

He has extensive experience in the Renewable, Waste Management and Energy Demand Scopes of UNFCCC CDM and has done more than 100 Validations and Verifications of PAs and PoAs as Team Leader, Technical Expert and Technical Reviewer, mainly in Africa (including PoAs in Mozambique) and Asia regions.

Mr. Miguel Ángel 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	CME	Registered PoA-DD version 07	29/03/2019	Other
2	CME	Revised PoA-DD version 09 (final)	22/09/2020	CME
3	UNFCCC	AMS-II.G. Energy efficiency measures in thermal applications of non-renewable biomass (Version 05.0)	23/11/2012	Other
4	DNV	Validation Report	14/10/2014	Other
5	CME	Monitoring Report for 01 Jan 2018 - 31 Dec 2018 CPA 9981-0002. Monitoring Report for 01 Jan 2018 - 31 Dec 2018 CPA 9981-0003.	29/03/2019 18/10/2019	Other
6	UNFCCC	Verification and certification report for the CPA 9981-0002. Verification and certification report for the CPA 9981-0003	04/10/2019 05/11/2019	Other
7	Swedish Energy Agency	Approval and Authorization for Nordic Environment Finance Corporation	03/05/2016	Other
8	CME	Modalities of Communication Designation Focal Points Inclusion of Authorized Participants	29/06/2016 27/06/2016	Other Other
09	UNFCCC	CDM Validation and Verification Standard for Programmes of Activities version 02.0	29/11/2018	Other
10	UNFCCC	CDM Project Standard for Programmes of Activities version 02.0	29/11/2018	Other
11	UNFCCC	CDM Project Cycle Procedure for Programmes of Activities version 02.0)	29/11/2018	Other
12	UNFCCC	CDM Accreditation Standard version 07.0	01/03/2018	Other
13	UNFCCC	Standard: Sampling and surveys for CDM project activities and programme of activities (version 080)	04/05/2017	Other
14	UNFCCC	UNFCCC's list of LDCs	https://unfccc.int/topics/resilience/workstreams/national-adaptation-programmes-of-	Other

			action/ldc-country-information	
15	UNFCCC	Default values of fraction of non-renewable biomass	http://cdm.unfccc.int/DNA/fNRB/index.html	Other

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

Table 1. CLs from this validation

CL ID	01	**Section no.**	D.2.	**Date:** 21/07/2020
Description of CL				
Latest standard and guidelines of sampling and surveys not referred in through out the PoA-DD. CME shall clarify				
CME's response				**Date:** 22/09/2020
The PoA-DD has been updated to refer to the latest standard and guidelines of sampling and surveys throughout the whole document.				
Documentation provided by CME				
PoA-DD ver09				
DOE assessment				**Date:** 28/09/2020
CME has updated version no. of standard and guidelines for sampling and surveys and used latest versions in through out the PoA DD, ver. 09 dated 22/09/2020. **CL closed.**				

CL ID	02	**Section no.**	D.4.	**Date:** 21/07/2020
Description of CL				
As per para 18, tool 30, fNRB shall be estimated using most recent historical year for which data is available. CME has used 2015 data. CME shall clarify whether data not available after 2015 ?				
CME's response				**Date:** 22/09/2020
The fNRB calculation has been updated based on the data from the most recent Global Forest Resources Assessments Country Report of Mozambique, published in May 2020. Moreover, pre-reviewed study of Sedano et. al. (2020) "Monitoring intra and inter annual dynamics of forest degradation from charcoal production in Southern Africa with Sentinel – 2 imagery" has been used as a source for biomass removals caused by charcoal production. *The study of Sedano et. al. (2020) has been selected to be used as the latest FAO's country report of Mozambique do not have indications of the quantity of removals. Also, no other recent source of the biomass removals at country level of Mozambique is not available. Thus, a conservative approach of applying the biomass removals (tons/year) studied to be caused by the charcoal supply for the area of Maputo as published by Sedano et. al. (2020) for the whole country.*				
Documentation provided by CME				
fNRB Mozambique 22-09-2020 (Excel spreadsheet) *Global Forest Resources Assessments Country Report of Mozambique, FAO (2020)* *Monitoring intra and inter annual dynamics of forest degradation from charcoal production in Southern Africa with Sentinel – 2 imagery, Sedano et. al. (2020)*				
DOE assessment				**Date:** 28/09/2020
CME has used data from the most recent Global Forest Resources Assessments Country Report of Mozambique, published in May 2020 for fNRB calculation. Addition to this, CME has also referred pre-reviewed study of Sedano et. al. (2020) "Monitoring intra and inter annual dynamics of forest degradation from charcoal production in Southern Africa with Sentinel – 2 imagery" has been used as a source for biomass removals caused by charcoal production priamarily because lataest FAO report does not provide information on quantity of removals. Validation team checkd the calculation spread sheet and confirm the approach used by CME to calculate Fnrb is conservative and in line with "Tool 30 TOOL30: Methodological tool: Calculation of the fraction of non-renewable biomass", version 02.0. CL closed.				

Table 2. CARs from this validation

CAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of CAR				
CME's response				**Date:** DD/MM/YYYY
Documentation provided by CME				
DOE assessment				**Date:** DD/MM/YYYY

Table 3. FARs from this validation

FAR ID	xx	**Section no.**		**Date:** DD/MM/YYYY
Description of FAR				
CME's response				**Date:** DD/MM/YYYY
Documentation provided by CME				
DOE assessment				**Date:** DD/MM/YYYY

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Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for 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	5 June 2015	Initial publication.

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