




**Validation report form for post-registration changes for  
CDM programme of activities  
(Version 03.0)**

**BASIC INFORMATION**

<b>Title and UNFCCC reference number of the programme of activities (PoA)</b>	<b>PoA Title:</b> PoA for the Reduction of emission from non-renewable fuel from cooking at household level <b>UNFCCC reference number:</b> 7359
<b>Process track</b>	<input type="checkbox"/> Prior approval <input checked="" type="checkbox"/> Issuance <input type="checkbox"/> Renewal of PoA period
<b>Version number of the validation report</b>	02
<b>Completion date of the validation report</b>	13/09/2019
<b>Version number of PoA-DD applicable to this validation report</b>	Version 23
<b>Type(s) of PoA PRCs</b>	<input checked="" type="checkbox"/> Corrections <input type="checkbox"/> Inclusion of monitoring plan <input type="checkbox"/> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from applied methodologies, standardized baselines, or other methodological regulatory documents <sup>1</sup> <input type="checkbox"/> Changes to the programme design <input type="checkbox"/> Addition of CPA inclusion template <input type="checkbox"/> Change of coordinating/managing entity <input type="checkbox"/> Changes specific to afforestation and reforestation activities
<b>Coordinating/managing entity (CME)</b>	Green Development AS
<b>Host Parties</b>	Ethiopia Kenya Madagascar Malawi Mozambique Nigeria Uganda Zambia Chad Dominic Republic

<sup>1</sup> 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).

	Ivory Coast Liberia Namibia Rwanda Sierra Leone Somalia Ghana South Africa Zimbabwe
<b>Applied methodologies and standardized baselines</b>	AMS I.E., Version 04
<b>Mandatory sectoral scopes</b>	<b>Sectoral Scope:</b> 01 Energy industries (renewable - / non-renewable sources)
<b>Conditional sectoral scopes, if applicable</b>	<b>Sectoral Scope:</b> 13 (Waste Handling & Disposal)
<b>Name and UNFCCC reference number of the DOE</b>	Name: KBS Certification Services Pvt. Ltd. UNFCCC reference number: E-0051
<b>Name, position and signature of the approver of the validation report</b>	 Kaushal Goyal Managing Director KBS Certification Services Pvt. Ltd.

**SECTION A. Executive summary**

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KBS Certification Services Pvt. Ltd. has been contracted by 'Green Development AS' (CME) to perform a validation of the CDM registered programme of activity 'PoA for the Reduction of emission from non-renewable fuel from cooking at household level' (UNFCCC Ref #7359) for post-registration changes together with the request for renewal of PoA period which is in accordance with para 387 of VVS for PoA Version 02 /07/. The independent validation by the DOE is required to confirm the post registration changes to the CDM PoA comply with the relevant requirements in the "CDM project standard for programmes of activities" (PS-PoA) Ver. 02 /08/ and CDM Validation and Verification Standard for programmes of activities (VVS-PoA) Ver. 02 /07/. This report summarizes the post registration changes of the CDM PoA with respect to the VVS requirements.

**Objective:**

The objective of a validation is to provide a thorough and independent third-party assessment of the post-registration changes. In particular, the changes compliance with relevant UNFCCC and host country criteria is validated in order to confirm that the changes meet the applicable CDM requirements and the identified criteria.

**Scope of the validation:**

The scope of the validation is defined as an independent and objective review of the revised PoA-DD, the baseline, monitoring plan and other relevant documents. The information in these documents is reviewed against the CDM Validation and Verification Standard for PoA (version 02), Project Cycle Procedure for PoA (version 02) and Project Standard for PoA (version 02), Kyoto Protocol requirements and UNFCCC rules.

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

**Purpose, general description and location:**

The purpose of the PoA is to reduce emissions from household cooking stoves. The use of non-renewable fuel such as wood and charcoal for cooking, leads to the emission of greenhouses gasses, deforestation and poor indoor climate. The programme will use a number of different technologies to reach this goal.

The solutions are based on two concepts:

1. Reduce the need for boiling water for drinking and thus reduce the need for non-renewable fuel for boiling water. This is achieved by providing clean and safe drinking water to participating households. The purified water is provided either through either Water purification system provided at the household level or Community based water purification system where the households will get the purified water at water stations.
2. Provide clean renewable fuel for cooking and thus eliminate the need for non-renewable fuel consumption for cooking. This is done through providing highly efficient stoves that are using renewable fuel. The renewable fuel can either be through Denatured alcohol or Biogas.

The SSC-PoA will contribute to substantial reduction in CO<sub>2</sub> emissions, reduction in deforestation, improved the health by the participating households, create local jobs, and improve the financial situation of the local communities and the households that participate in the program. There are no major negative environmental or social implications by the programme.

The PoA reduces the use and demand for fossil fuels and non-renewable biomass that would have been used in the absence of the PoA. This directly leads to reduced greenhouse gas emissions.

The host parties under the PoA are as follows:

1. Ethiopia, 2. Kenya, 3. Madagascar, 4. Malawi, 5. Mozambique, 6. Nigeria, 7. Uganda, 8. Zambia, 9. Chad, 10. Dominic Republic, 11. Ivory Coast, 12. Liberia, 13. Namibia, 14. Rwanda, 15. Sierra Leone 16. Somalia 17. Ghana 18. South Africa 19. Zimbabwe

#### **Validation process:**

KBS follows a rule based validation approach, wherein, as a first step, the contract review is undertaken as per latest version of CDM Accreditation Standard. Subsequently, after the contract is signed, a desk review of the programme of activity documentation is undertaken. The validation protocol is filled by the validation team that is based on standard auditing practices and version 02.0 of CDM VVS for PoA, to capture the assessment of applicable CDM requirements viz., version 02.0 of CDM Project Standard for PoA, applied methodology/ies, applied standardized baseline and/or tools and recent decisions. The validation protocol provides transparent means to record the observations and compliances by the validation team members and the nonconformities, if any. The validation protocol is an internal document, and is available on request.

Following are the major milestones for the Validation under consideration.

Validation contract	08/05/2019
Draft Validation Report	10/09/2019
Final Validation Report	13/09/2019

The validation has been performed as described in the VVS for PoA (version 02.0) and constitutes the following steps:

- Review of the revised registered PoA-DD /3.1/;
- Desk review of the relevant documents related to revised PoA-DD and other documents.
- Interview with representatives of the CME

The following permanent changes are proposed in the registered PoA-DD /3.1/, which is summarized as follows:

<b>Post Registration Changes</b>	
<b>Sl. No.</b>	<b>PRC to version 22 of the PoA DD</b>
	<b>Corrections</b>
1.	The default value of NCV has been corrected from 0.215 GJ/m <sup>3</sup> (version 2.0) to 0.0215 GJ/m <sup>3</sup> inline with the correction in the value of NCV in the applied methodology in AMS-I.I, version 4.0 as compared to the version 2.0.

#### **Conclusion:**

The review of the PoA-DD and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the programme of activity fulfillment of all the stated criteria.

Furthermore, we confirm that:

- the proposed revision points have been described, and an assessment has been provided to substantiate the reasons for each of the proposed revision points of the registered PoA-DD, using objective evidence;
- the proposed revision of the PoA-DD ensures that the level of accuracy and completeness in the monitoring and verification process is not reduced as a result of the revisions;
- the proposed revision of the monitoring plan is in accordance with the approved monitoring methodology (AMS I.E., Version 04) applicable to the PoA whilst ensuring the conservativeness of the emission reductions calculation;
- The approval of post-registration changes has been requested together with the request for renewal of PoA period which is in accordance with para 387 of VVS for PoA Version 02 /07/

In our opinion, the CDM programme of activity meets all applicable UNFCCC requirements for the CDM.

☒ The CDM programme of activity will be recommended to the CDM Executive Board for the approval of post-registration changes.

☐ The CDM programme of activity is not recommended for the approval of post-registration changes.

## 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.	Team Leader/Technical Expert (TA 1.1, 13.1, 13.2)	IR	Badaya	Rohit	Central Office	✓	✓	✓	✓
2.	Verifier (TA 1.1, 13.1, 13.2)	IR	Sharma	Chetan Swaroop	Central Office	✓			✓
3.	Local Expert (Kenya)	EI	Okore	Martin Luther King	Central Office		✓	✓	
4.	Local Expert (Madagascar) & Technical Expert	EI	RAKOTONA RIVO	Rinah Zo	Central Office		✓	✓	

### 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 (TA 1.1, 13.1, 13.2)	IR	Kandari	Sanjay	Central Office
2.	Manager Technical & Certification	IR	Kandari	Sanjay	Central Office
3.	Authorizer	IR	Goyal	Kaushal	Central Office

**SECTION C. Means of validation****C.1. Document review**

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The validation is performed primarily as a document review of the available PoA-DD version 22 dated 17/04/2018 and the intermediate versions up to final version 23 dated 22/08/2019. The report is based on the assessment of the PoA-DD, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.

The cross checks between information provided in the PoA-DD and information from sources other than those used, if available, the validation team's sectoral or local expertise and, if necessary, independent background investigations.

All the documents used for arriving validation conclusion are listed in Appendix 03 and referenced accordingly in validation report.

**C.2. On-site inspection**

Duration of on-site inspection:				
06/07/2019 to 10/07/2019 (Kenya) and 13/07/2019 to 15/07/2019 (Madagascar)				
No.	Activity performed on-site	Site location	Date	Team member

1.	<p>An on-site assessment was conducted as a part of verification activity and involved:</p> <p>1) an assessment of the implementation and operation of the CPAs as per the validated PoA DD and CPA-DDs.</p> <p>2) a review of information flows for generating, aggregating and reporting of the monitoring parameters.</p> <p>3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the Monitoring Plan.</p> <p>4) a cross-check between information provided in the MR and data from other sources.</p> <p>5) a check of the monitoring equipment including calibration performance, and observations of monitoring practices against the requirements of the PoA-DD and the applied methodology.</p> <p>6) a review of calculations and assumptions made in determining the GHG data and ERs, and</p> <p>7) an identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters</p>	<p>Project sites in Kenya and Madagascar.</p> <p>Visit to sample households of ethanol stove, Distilleries, Warehouses, LPIP Office in Kenya and Madagascar</p>	<p>06/07/2019 to 10/07/2019 (Kenya) and 13/07/2019 to 15/07/2019 (Madagascar)</p>	<p>1. Rohit Badaya</p> <p>2. Martin Luther King Okore</p> <p>3. Rinah Zo RAKOTONARIVO</p>
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### C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Norstebo	Havard	CME, Green Development	06/07/2019, 07/07/2019 08/07/2019 09/07/2019 10/07/2019	Project implementation and operation, monitoring procedure, data and information flow, Roles and responsibility, Quality Assurance – Management and operating system, Sales/Distribution records, Survey records, Qualification and Training	1. Rohit Badaya 2. Martin Luther King Okore
2.	Okello	Ruth	Independent Consultant to Green Development	06/07/2019, 07/07/2019 08/07/2019 09/07/2019 10/07/2019		
3.	Kimilu	Bernice	Owner, Tywin Wine & Spirits	09/07/2019		
4.	Octtleni Oyoo	Gedffrey	Director, KICA			
5.	Omondi	Erick	Member, KICA			
6.	Kharukll	Pairicia	Secretary, KICA			
7.	Kagume	Lilian	Project Manager, ClimateCare			
8.	Masila	Stephen	Director, Dawson Green Ltd.			
9.	Mwangi	Lucy	Manager, Paly Ltd. (warehouse)	10/07/2019		
10.	Klokkend	Mikkel	Independent Consultant to			

			Green Development			
11.	Poonia	Sanjeev	Director, Searerel Enterprise Ltd.			
12	Norstebo	Havard	CME, Green Development	13/07/2019	Project implementation and operation, monitoring procedure, data and information flow, Roles and responsibility, Quality Assurance – Management and operating system, Sales/Distribution records, Survey records, Qualification and Training	Rinah Zo Nandrianina
13	Vahinala	Narim	Independent Consultant, Green Development	14/07/2019		
				15/07/2019		
14	Andriamasinsas	Jessie Rianah	Independent Consultant to Green Development			
15	Jonnie	Desoutels	Operator, Paragreen	14/07/2019		
16	Wilson	Qajenison	Manager, Ethanolab			
17	Davidson	Randriansafim anana	Local Partner, Ainasoa Tranoniny Tanisaha	15/07/2019		
18	Nsaka	Rakotoarisoa	Local Partner, Ainasoa Tranoniny Tanisaha			

#### 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	-	-	-
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)	-	-	-
<b>Total</b>	00	01	00

### SECTION D. Validation findings

#### D.1. Compliance with the PoA-DD form

<b>Means of validation</b>	Validation team checked the updated PoA-DD /3.2/ with latest version of PoA-DD template available in the UNFCCC website (i.e., version 09/10/ and “Instructions for completing this form” mentioned as attachment to PoA-DD form (version 09/10/.
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	<p>The template has not been altered and no modifications have been made to the font, format, headings and logo. All the sections of the PoA-DD are checked for the compliance with the "Instructions for completing this form" mentioned as attachment to PoA-DD form.</p> <p>The validation team confirms that the updated PoA-DD Version 23 complies with requirement of PS-PoA Ver.02.0. And it is materially the same as that in the registered PoA-DD.</p>
<b>Findings</b>	Nil
<b>Conclusion</b>	<p>Validation team confirm:</p> <ol style="list-style-type: none"> <li>1. The updated PoA-DD /3.2/ is completed using the valid version of the applicable PoA-DD form /10/ in compliance with para 390 (a) (i) of VVS for PoA Version 02 /07/.</li> <li>2. All the information has been correctly transferred from registered PoA-DD (version 22) /3.1/ to the current PoA-DD (Version 23, dated 22/08/2019) /3.2/ which is filled in the latest PoA-DD form available in UNFCCC website. Validation team confirms that the transfer of information from the old form to the new form is correct and materially the same as the information in the registered/revised PoA-DD /3.1/ in compliance with para 390 (a) (ii) of VVS for PoA Version 02 /07/.</li> <li>3. The revised PoA-DDs (in both track-change and clean versions) are complete and meet requirements of Instructions for filling out the Programme of activities design document form Version 09 /10/ and PS-PoA Ver.02 /08/.</li> </ol>

## D.2. Corrections

<b>Means of validation</b>	<p>Some editing (correcting fonts size &amp; alignment, updating the Appendix 7 with respect to the latest PRC) has been done by CME, due to change of PoA-DD template from old version to new version.</p> <p>There are correction in the value of NCV in the PoA-DD, CME wishes to correct the same through post registration change. Hence the CME has submitted the revised PoA-DD to the assessment team.</p> <p>The following change are made in the registered PoA-DD (version 22) as part of post-registration changes:</p> <p>The default value of NCV has been corrected from 0.215 GJ/m<sup>3</sup> (AMS-I.I , version 2.0) to 0.0215 GJ/m<sup>3</sup> (AMS-I.I , version 4.0) inline with the correction in the value of NCV in the applied methodology in AMS-I.I, version 4.0 as compared to the version 2.0.</p> <p>For NCV value of biogas, the value of 0.215 GJ/m<sup>3</sup> is available in the Section I.6 of the registered PoA-DD, version 22. The value in the PoA-DD was derived from version 2.0 of "AMS-I.I.:Biogas/biomass thermal applications for households/small users". However, in July 2012 (EB 68), the Board approved the revision of AMS-I.I, version 2.0 to correct the default NCV value of biogas from 0.215 GJ/m<sup>3</sup> (version 2.0) to 0.0215 GJ/m<sup>3</sup> (version 4.0) as shown in the history box of the version 4 of the methodology. Therefore, the CME would like to correct default value of NCV of biogas in the registered PoA-DD, version 22.</p> <p>The corrected information is the accurate reflection of the correct default NCV as per the AMS-I.I, version 4.0. The revision is also inline with the applied methodology (AMS I.E., Version 04). The DOE is of the opinion that above revision will lead to the conservative estimation of emission reductions and hence acceptable to the assessment team. Further the revision is in line with the requirements of the Section 9.3.1 of the VVS for PoAs, version 02 and hence found acceptable.</p>
<b>Findings</b>	CAR 01 was raised during the validation process which was successfully closed. Refer Appendix 4 of this report for detailed findings.
<b>Conclusion</b>	Based on the review of PoA-DD and interview with CME, the validation team has accepted all the proposed corrections in the PoA-DD in accordance with requirements of VVS for PoA (version 02.0). The assessment team confirms that the corrected information is an accurate reflection of actual project information

	<p>and the corrected parameters are in accordance with the applied methodology, the monitoring plan.</p> <p>As per Para 257 of VVS-PoA Version 02, the validation team confirm that:</p> <ul style="list-style-type: none"> <li>• the corrected information is an accurate reflection of actual information; or</li> <li>• the corrected parameters are in accordance with the applied methodologies, the registered monitoring plan, the applied standardized baselines and the other applied methodological regulatory documents.</li> <li>• the proposed revision points have been described, and an assessment has been provided to substantiate the reasons for each of the proposed revision points of the registered PoA-DD, using objective evidence;</li> <li>• the proposed revision of the PoA-DD ensures that the level of accuracy and completeness in the monitoring and verification process shall not be reduced as a result of the revisions;</li> <li>• the information included in the latest PoA-DD template is materially the same as the information in the registered PoA-DD. The changes that are subject of the request for approval are in track change/highlighted.</li> </ul> <p>Hence, the changes in the revised PoA-DD are accepted.</p>
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**D.3. Inclusion of monitoring plan**

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

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

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**D.5. Changes to the programme design**

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**D.6. Addition of CPA inclusion template**

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**D.7. Change of coordinating/managing entity**

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**D.8. Changes specific to afforestation and reforestation activities**

<b>Means of validation</b>	Not Applicable
<b>Findings</b>	Not Applicable
<b>Conclusion</b>	Not Applicable

**SECTION E. Internal quality control**

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Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer. TR reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and CDM decisions.

The TR either is qualified for the technical area within the CDM sectoral scope(s) applicable to project activity or is supported by qualified independent technical expert at this stage.

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and PP must resolve them within agreed timeline.

The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Managing Director on behalf of KBS as final validation opinion. The Technical Reviewer and Manager T&C may be the same person.

## **SECTION F. Validation opinion**

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KBS Certification Services Pvt. Ltd. has been contracted by 'Green Development AS' (CME) to perform a validation of the CDM registered programme of activity 'PoA for the Reduction of emission from non-renewable fuel from cooking at household level' (UNFCCC Ref #7359) for post-registration changes together with the request for renewal of PoA period which is in accordance with para 387 of VVS for PoA Version 02 /07/.

The validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism, latest version of Validation and Verification Standard and related Standards/Guidance and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The programme of activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change, as stated in the generic PoA-DD. In our opinion, the programme of activity meets all relevant UNFCCC, CDM criteria and all relevant host country criteria.

The review of the PoA-DD and the subsequent follow-up interviews has provided validation team with sufficient evidence to validate the post-registration changes. The revised PoA-DD (dated 22/08/2019) is in line with the requirements with the applied methodology (AMS I.E., Version 04).

The monitoring arrangements described in the monitoring plan are feasible within the PoA-DD, and it is validation team's opinion that the CME/CPA Implementer are able to implement the monitoring plan.

In summary, it is validation team's opinion that the CDM programme of activity "PoA for the Reduction of emission from non-renewable fuel from cooking at household level" (UNFCCC Ref #7359) meets all relevant UNFCCC requirements for post-registration changes. Hence KBS requests for the approval of post-registration changes together with the request for renewal of PoA period which is in accordance with para 387 of VVS for PoA Version 02 /07/.

## Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification request
CME	Coordinating/managing entity
CO <sub>2</sub>	Carbon dioxide
COP	Conference of Parties
CPA	Component Project Activity
DOE	Designated Operational Entity
DNA	Designated National Authority
ERs	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IEA	Institute of Economic Affairs, Kenya
IPCC	Intergovernmental Panel on Climate Change
KBS	KBS Certification Services Pvt. Ltd.
LDC	Least Developed Country
LPIP	Local Project Implementation Partners
MOP	Meeting of Parties
MP	Monitoring Plan
MR	Monitoring Report
NCV	Net Calorific value
PE	Project Emissions
PRC	Post Registration Changes
QA/QC	Quality Assurance/Quality Control
TA	Technical Area
T&C	Technical & Certification
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard
WHO	World Health Organization

## Appendix 2. Competence of team members and technical reviewers

Personnel Name:	Rohit Badaya
Qualified to work as:	

Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Solid waste and wastewater TA 13.2 Manure		
Approved By	Manager Competency & Training		
Approval date:	16/10/2017		

<b>Personnel Name:</b>	<b>Chetan Swaroop Sharma</b>		
<b>Qualified to work as:</b>			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
Energy Demand	TA 3.1. Energy demand		
Waste handling and disposal	TA 13.1. Solid waste and wastewater TA 13.2. Manure		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	01/05/2017		

<b>Personnel Name:</b>	<b>Mr. Martin Luther King Okore</b>		
<b>Qualified to work as:</b>			
Team Leader	<input type="checkbox"/>	Technical Expert	<input type="checkbox"/>
Validator/Verifier	<input type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (Kenya)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
NA	NA		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	25/07/2018		

<b>Personnel Name:</b>		<b>Ms. Rinah Zo Nandrianina</b>	
<b>Qualified to work as:</b>			
Team Leader	<input type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (Madagascar)	<input checked="" type="checkbox"/>
<b>Area(s) of Technical Expertise</b>			
<b>Sectoral Scope</b>	<b>Technical Area</b>		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy Demand	TA 3.1. Energy demand		
Afforestation and reforestation	TA 14.1 Afforestation and reforestation		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	11/07/2019		

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

### Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
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1.1	CME	Monitoring Report	Version 01, dated 04/08/2019	CME
1.2	CME	Final Monitoring Report	Version 02, dated 12/09/2019	CME
2.1	CME	ER calculation sheet for all the CPAs corresponding to MR version 01	Corresponding to MR version 01	CME
2.2	CME	Final ER calculation sheet for all the CPAs corresponding to final MR	Corresponding to MR version 02	CME
3.	CME	/3.1/ Registered PoA-DD  /3.2/ Revised PoA-DD	Version 22, dated 17/04/2018 Version 23, dated 22/08/2019	Publicly available
	CME	Specific CPA-DD of CPA reference no. (7359-0027)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0028)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0029)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0030)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0031)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0032)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0033)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0034)	Version 03, dated 30/05/2013	
		Specific CPA-DD of CPA reference no. (7359-0042)	Version 07, dated 24/03/2014	
		Specific CPA-DD of CPA reference no. (7359-0047)	Version 08, dated 14/04/2014	
		Specific CPA-DD of CPA reference no. (7359-0060)	Version 02, dated 22/07/2016	
		Specific CPA-DD of CPA reference no. (7359-0061)	Version 02, dated 22/07/2016	
		Specific CPA-DD of CPA reference no. (7359-0062)	Version 02, dated 22/07/2016	
		Specific CPA-DD of CPA reference no. (7359-0064)	Version 02, dated 23/06/2017	
		Specific CPA-DD of CPA reference no. (7359-0065)	Version 02, dated 23/06/2017	
		Specific CPA-DD of CPA reference no. (7359-0066)	Version 03, dated 03/02/2018	
4.	DNV	PoA validation report for the Reduction of emission from non-renewable fuel from cooking at household level in Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Uganda and Zambia dated 30/11/2012	dated 30/11/2012	Publicly available
	Carbon Check	PoA Validation report version 07 on the PRC ref PRC-7359-003	-	
	Carbon Check	Validation reports for Specific CPA-DDs of CPA reference no. (7359-0027, 7359-0028, 7359-0029, 7359-0030, 7359-0031, 7359-0032, 7359-0033, 7359-0034, 7359-0042, 7359-0047, 7359-0062, 7359-0064, 7359-0065, 7359-0066).	-	
	LGAI	Validation reports for Specific CPA-DDs of CPA reference no. (7359-0060 and 7359-0061, )	-	
5.	UNFCCC	AMS-I.E., Switch from Non-Renewable Biomass for Thermal Applications by the User	Version 04	Publicly available

		AMS I.I., Biogas/biomass thermal applications for household/small users	Version 04 & Version 03	
6.	UNFCCC	Kyoto Protocol (1997)	<a href="#">Web link</a>	Publically available
7.	UNFCCC	CDM validation and verification standard for programmes of activities	Version 02.0	Publicly available
8.	UNFCCC	CDM project standard for programmes of activities	Version 02.0	Publically available
9.	UNFCCC	Glossary "CDM terms"	Version 09.1	Publically available
10.	UNFCCC	PoA-DD template	Version 09.0	Publically available

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

Table 1. CLs from this validation

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

Table 2. CARs from this validation

CAR ID	01	Section no.	D.2	Date: 05/08/2019
Description of CAR				
FAR from 2 <sup>nd</sup> Verification				
Based on the request for review comment, CME has corrected the NCV value of the biogas from 0.215 GJ/m <sup>3</sup> (version 2.0 of AMS-I.I.) to 0.0215 GJ/m <sup>3</sup> (version 3.0 of AMS-I.I.) in the revised monitoring report. CME is also need to correct the NCV value of biogas in the registered PoA-DD/CPA-DDs /03.1/ before/during the next verification.				
CME's response				Date: 07/08/2019

The value for NCVbiogas has been corrected in the PoA DD. This correction in the PoA DD apply for all CPAs.	
<b>Documentation provided by CME</b>	
PoA DD version 23. The PoA DD version 23 can be found under folder "Appendices", subfolder "10 DDs", and have been provided both as a word document with track changes and as PDF.	
<b>DOE assessment</b>	<b>Date:</b> 28/08/2019
During the current verification, the emission reductions from the biogas usage have not been claimed. Hence the NCV value has not been used in the calculations of emission reductions. Therefore the NCV value does not have any impact on the calculation of emission reductions during the current verification. However the CME has sought the post-registration changes to correct the value of Biogas NCV from 0.215 GJ/m3 (version 2.0 of AMS-I.I.) to 0.0215 GJ/m3 (version 4.0 of AMS-I.I.) in the revised PoA-DD, version 23. A separate request for Post-Registration changes and PRC Validation report is being submitted along-with this Verification Report. Hence the issue is closed.	

Table 3. FARs from this validation

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

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## Document information

Version	Date	Description
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> <li>Ensure consistency with version 02.0 of the "CDM validation and verification standard for programmes of activities" (CDM-EB93-A08-STAN);</li> <li>Make editorial improvements.</li> </ul>
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.

<i>Version</i>	<i>Date</i>	<i>Description</i>
Decision Class: Regulatory		
Document Type: Form		
Business Function: Registration		
Keywords: post-registration change, programme of activities, validation report		