




**Verification and certification report form for
CDM programme of activities
(Version 03.0)**

BASIC INFORMATION		
Title and UNFCCC reference number of the programme of activities (PoA)	Title: Improved Cook Stove Programme in Fiji UNFCCC reference number: 10497	
Version number(s) of the PoA-DD(s) to which this report applies	Version 02 (dated 05/06/2019)	
Version number of the verification and certification report	03	
Completion date of the verification and certification report	27/01/2021	
Monitoring period number and duration of this monitoring period	Monitoring period number: 01 Duration of this monitoring period: 12/02/2020 to 31/07/2020 (both the dates are inclusive)	
Number and version number of the monitoring report to which this report applies	Number of the Monitoring Report: 01 Version number of the monitoring report: 02	
Coordinating/managing entity (CME)	Korea Carbon Management Ltd.	
Host Parties	Host Parties of the PoA	Is this a host Party to a CPA covered in this report? (yes/no)
	Republic of Fiji	Yes
Applied methodologies and standardized baselines	Applied methodology: AMS II.G "Energy efficiency measures in thermal applications of non-renewable biomass", Version 10.0 Standardized baseline: NA	
Mandatory sectoral scopes	Sectoral Scope: 03- Energy Demand	
Conditional sectoral scopes, if applicable	NA	
Estimated amount of GHG emission reductions or GHG removals for this monitoring period in the included CPAs covered in this report	25,282 tCO ₂ e	
Certified amount of GHG emission reductions or GHG removals for this monitoring period for the included CPAs covered in this report	26,616 tCO ₂ e	
Name and UNFCCC reference number of the DOE	Name: KBS Certification Services Pvt. Ltd. UNFCCC reference number: E-0051	
Name, position and signature of the approver of the verification and		

certification report

Kaushal Goyal

Managing Director

KBS Certification Services Pvt. Ltd.

SECTION A. Executive summary

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KBS Certification Services Pvt. Ltd. has been commissioned by “Korea Carbon Management Ltd.” to perform an independent periodic verification of its registered PoA “Improved Cook Stove Programme in Fiji” UNFCCC Ref# 10497 for the reported GHG emission reductions for the given monitoring period 12/02/2020 to 31/07/2020 (both dates included). The PoA must undergo independent third party verification and certification of emission reductions as the basis for issuance of Certified Emission Reductions (CERs). The CPAs considered in the verification are:

Ref.	Title
10497-P1-0001-CP1	Improved Cook Stove Programme in Fiji :CPA01
10497-P1-0002-CP1	Improved Cook Stove Programme in Fiji :CPA02

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The CPAs have been implemented and operated as per the approved revised PoA-DD & CPA-DDs and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The actual monitoring systems & procedures and monitoring report confirms with the requirements of the approved monitoring plan and the approved monitoring methodology;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.

Scope:

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the CPAs under the PoA. The verification is based on review of monitoring report, supporting information and

- (a) The approved revised PoA-DD & CPA-DDs, including the monitoring plan and the corresponding validation opinion(s);
- (b) Previous verification reports, deviation requests, Post registration changes;
- (c) Monitoring report for the monitoring period under verification including CER calculations sheets and all supporting documents;
- (d) The applied monitoring methodology;
- (e) The applied standardized baseline (if applicable);
- (f) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- (g) All information and references relevant to the PoA's resulting in emission reductions

The PoA is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

KBS has, based on the recommendations in the latest version of CDM Validation and Verification Standard for programmes of activities, and employed a rule-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

Description of PoA:

The PoA involves distribution of improved, clean and energy efficient cook stoves (also termed as ICS) especially in rural areas in various regions of the Republic of Fiji. It is a voluntary program operated by Korea Carbon Management Limited (herein after also referred to as KCM). The overall objectives are to reduce greenhouse gases, conservation of forests and forests and improved health conditions for ICS users due to high air quality.

There are a total of three CPAs included in the PoA. During this monitoring period, distribution under CPA-01 has been completed and under CPA-02, it is currently in progress; and CPA-03 is yet to be commissioned.

Methodology:

KBS follows a rule based verification 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, the monitoring

CDM-PoA-VCR-FORM

report of the PoA is made publicly available at UNFCCC website as per CDM procedures. A desk review of the project documentation is undertaken, which is followed by an on remote assessment by the members of verification team in accordance with the latest version of CDM PCP for PoA. The verification protocol is filled by the verification 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, revised approved PoA-DD & CPA-DDs, applied methodology/ies, applied standardized baseline and/or tools and recent decisions. The verification protocol provides transparent means to record the observations and compliances by the verification team members and the nonconformities, if any. The verification protocol is an internal document, and is available on request. Following are the major milestones for the verification under consideration.

Verification contract	04/09/2020
Publication of MR	14/09/2020
Remote audit- site verification	04/12/2020, 10/12/2020 and 15/12/2020
Draft Verification Report	12/01/2021
Final Verification Report	27/01/2021

KBS Certification Services Pvt.. Ltd. confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 26,616 tCO₂e (round down) emission reductions during period 12/02/2020 to 31/07/2020 (Including both the days).

SECTION B. Verification team, technical reviewer and approver**B.1. Verification team members**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection/Remote audit	Interview(s)	Verification findings
1.	Team Leader/Technical Expert (TA 3.1)	IR	Kandari	Sanjay	Central Office	✓	✓	✓	✓
2.	Verifier	IR	Chaudhari	Tushar	Central Office	✓	✓	✓	✓
3.	Trainee Verifier	IR	Malik	Ananya	Central Office	✓			✓
4.	Local Expert	EI	KWONG-WAH	Josiah Elisha	Central Office		✓	✓	

B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TA 3.1)	IR	Badaya	Rohit	Central Office
2.	Manager Technical & Certification	IR	Badaya	Rohit	Central Office
3.	Authorizer	IR	Goyal	Kaushal	Central Office

SECTION C. Application of materiality in conducting the verification**C.1. Consideration of materiality in planning the verification**

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.	Error can be perceived during registration by CME and during transfer of data from paper to ER sheet by CME for registration of cook stoves.	Medium	Verification team has checked the ER calculation sheet /2.2/ thoroughly to mitigate the risk.	Even though the CME monitoring has been done through sampling and verification team has also done the acceptance sampling to check the data. Verification team has also checked the ER calculation sheet /2.2/ thoroughly to mitigate the risk.
2.	Monitoring parameters are monitored by CME and errors can be perceived during the information transfer from monitoring forms to the emission reduction sheet.	High	There are 06 monitoring parameters which are directly used for the baseline emission. The data monitoring for these monitoring parameters is done by CME through Sampling and errors can be perceived during the information transfer from monitoring form to the emission reduction sheet. The complete CME sampling data for all the 6 applicable monitoring parameters has been checked between the CME monitoring forms and the ER sheet.	To mitigate the risk, the complete CME sampling data for all the 6 applicable monitoring parameters as given below has been checked between the CME monitoring forms /14/ and the ER sheet /2.2/.
3.	Errors can be perceived during the information transfer (Ex-ante parameters) from CPA-DD to the emission reduction sheet.	Medium	There are multiple ex-ante parameters in the Monitoring report which are used for the Baseline GHG emission calculation. Errors can be perceived during the information	To mitigate the risk, verification team has checked all the Ex-ante parameters under the ER sheet /2.2/ with the monitoring report and included CPA-DD /03/.

			transfer (Ex-ante parameters) from CPA-DD to the emission reduction sheet.	
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C.2. Consideration of materiality in conducting the verification

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The prescribed thresholds for materiality, as per §308 of “CDM validation and verification standard for programmes of activities” Version 02.0 /07/.

Prescribed range of ERs/annum	500,000+	300,000+ to 500,000	300,000	CDM PoAs comprised only of small-scale CPAs	CDM PoAs comprised only of microscale CPAs
Prescribed Threshold	0.5%	1.0%	2.0%	5.0%	10.0%

The identified/selected materiality threshold for the PoA under current monitoring period is 5% as CPA is small scale.

	MR Version (Draft) /1.1/	MR Version (Final) /1.2/
Emission reductions/monitoring period	25,278 tCO ₂ e	26,616 tCO ₂ e
Identified Threshold	5%	5%

The emission reductions for this monitoring period have been increased due to raised CARs/CLs which have been successfully closed. Refer Appendix 4 of this report for more details.

SECTION D. Means of verification

D.1. Desk/document review

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A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

The list of documents reviewed is included in the section ‘Appendix 3’ of this report.

D.2. On-site inspection

As a result of the COVID-19 pandemic, taking into account the rules of relevant national and local authorities (local to the DOE offices as well as to locality of the site visits), World Health Organization (WHO) recommendations, policies of the DOE and other relevant travel restrictions and guidance (for example, a requirement to self-isolate upon return from specific countries), the DOE has skipped the on-site visit. This is also in line with the decision from CDM Executive Board which has agreed to relax mandatory site visits by DOEs till 30 June, 2021 because of COVID-19. In the above regard, the Board agrees to deviate from the requirements in paragraphs 30 and 339 of the VVS-PA and paragraphs 183 and 321 of the VVS-POA. However as per the CDM EB, the DOE may use other standard auditing techniques for validation or verification as referred to in sections 7.1.3 and 10.1.3 of the VVS-PoA/07/.

As per paragraph 322 of CDM validation and verification standard for programme of activities version 02/07/, Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification. Along with desk review, audit team has conducted remote audit interview as follows:

- A complete desk review of the MR, as well as all applicable country legal requirement and supportive evidences have been checked by the verification team.
- Verification team has performed Skype interviews with CME, their representatives, households and other relevant stakeholders in order to check implementation of the monitoring plan, current situation, evaluation of data management, QA/QC system, management system of the PA, project technology, location, trainings, etc. Interview questions were filled as per Verification team interview checklist and also videos were captured. Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Total 22 households (11 from each CPA) were inspected through video conferencing and interviewed in order to assess the monitoring conducted by the CME for the PoA.
- Cross-check evaluation, for information received from interviews (eg. ICS photographs of the sampled ICS for cross checking each ICS against the beneficiary agreement details etc.), under the scope of all information and references provided in MR and supporting documents.

Details of interviewees, topics covered and additional information presented in the below section “D.3 Interviews”

Verification team has also checked the site visit requirements mentioned in the VVS for PoA Version 02/07/ and concluded that no-site visit is required at this stage of verification. The justifications for not conducting the on-site visit as per VVS PoA Version 02 /07/ have also been mentioned below:

VVS PoA Version 02/07/ Requirements	Verification team Justification
Para 320 (b) (b)On-site inspection taking into account paragraphs 321–323 below, involving: (i) An assessment of the implementation and operation of the included CPAs as per the included CPA-DDs or any approved revised CPA-DDs; (ii)A review of information flows for generating, aggregating and reporting the monitoring parameters; (iii)Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the registered monitoring plan; (iv)Cross checks between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources; (v)A check of the monitoring equipment including	Verification team has done the follow-up actions by: 1. Telephonic/Skype interviews of CME and with households. 2. Interview questions were filled as per Verification team interview checklist and also video conferencing was done. 3. Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.

calibration performance and observations of monitoring practices against the requirements of the included CPA-DDs, the applied methodologies, the applied standardized baselines and the other applied methodological regulatory documents; (vi) A review of calculations and assumptions made in determining the GHG data and GHG emission reductions or net anthropogenic GHG removals; (vii) An identification of quality control and quality assurance procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters.	
Para 321 It is mandatory for the DOE to conduct an on-site inspection at verification for the registered included CPA if: (a) It is the first verification for the DOE with regard to this CPA; (b) More than three years have elapsed since the last on-site inspection conducted for verification for the CPA; or (c) The CPA has achieved more than 300,000tCO ₂ eq of GHG emission reductions or net anthropogenic GHG removals since the last verification when an on-site inspection was conducted.	As per the paragraph 321 of VVS PoA, version 02.0, the site visit as mandatory for the DOE since it is the first verification. However, due to COVID- 19 restrictions, verification team has used alternative means for its assessment and to justify that they are sufficient for the purpose of verification as referred above.

Duration of on-site inspection:				
No.	Activity performed on-site	Site location	Date	Team member

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Borah	Deep	Consultant	04/12/2020 ; 10/12/2020 , 15/12/2020	1) Assessment of the implementation and operation of the CPA as per the validated PoA DD and CPA-DD. 2) Review of	Sanjay Kandari (Team Leader/Technical Expert (TA 3.1)), Tushar Chaudhari (Verifier), Josiah Elisha KWONG-WAH (Local expert)
2	Chawla	Ajay	GM (Kasabias) Local Representative			
3	Qalovaki	Dwain	Project Manager (Kasabias) Cook Stove Distribution and Management			

4	Vosanibola	Inise	Project Officer (Kasabias) Cook Stove Programme		information flows for generating, aggregating and reporting of the monitoring parameters. 3) Monitoring Plan. 4) A cross-check between information provided in the MR and data from other sources. 5) Calibration performance, and observations of monitoring practices against the requirements of the CPA-DD and the applied methodology. 6) GHG data and ERs, and 7) QA/QC procedures	
2	Kumar	Jagend	House hold (CPA01)	10/12/2020	Project implementation, Baseline, Transfer of carbon rights, Commissioning of ICS, Mode of distribution, Projects contribution to sustainable development etc.	Sanjay Kandari (Team Leader/Technical Expert (TA 3.1)), Tushar Chaudhari (Verifier), Josiah Elisha KWONG-WAH (Local expert)
3	Kumar	Rohini	House hold (CPA01)			
4	Vosabeci	Mosese	House hold (CPA01)			
5	Tinaikavu	Laniana	House hold (CPA01)			
6	Nisha	Rosemeen	House hold (CPA01)			
7	Liku	Makelesi	House hold (CPA01)			
8	Moala	Melania	House hold (CPA01)			
9	Devi	Vira	House hold (CPA01)			
10	Devi	Praneeta	House hold (CPA01)			
11	Likutabua	Volonia	House hold (CPA01)			
12	Dau	Saini	House hold (CPA01)			
13	Vunitabua	Rosa	House hold (CPA 02)			
14	Lelevakawalu	Karalaini	House hold (CPA 02)			
15	Secake	Ratu	House hold (CPA 02)			
16	Nakiti	Kalisi	House hold			

			(CPA 02)		
17	Limu	Ani	House hold (CPA 02)		
18	May	Mere	House hold (CPA 02)		
19	Maramabiu	Anisi	House hold (CPA 02)		
20	Rokoleca	Ema	House hold (CPA 02)		
21	Rokotina	Anasa	House hold (CPA 02)		
22	Tadau/Ori si	Vasemaca	House hold (CPA 02)		
23	Leweiloma	Ilimeleki	House hold (CPA 02)		

Household samples checked during Remote Audit by DOE:

CPA Ref No./title	Unique serial number of ICS	Date
CPA01	00516 00440 00054 00485 00634 00586 00887 00608 00380 00481 00138	10/12/2020
CPA-2	18633 05318 09357 06905 17283 03628 05575 10432 19038 05967 08384	15/12/2020

D.4. Sampling approach

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CME has followed the sampling plan as prescribed under the registered PoA-DD, section B.5.2. The households were selected randomly (by CME) as verified during the remote audit discussion and from submitted Excel sheets /2.2/. Samples were selected by CME as verified from the submitted document /16/. Simple Random sampling was used by CME to select 84 (41 for CPA01 and 43 for CPA02) households registered as using Adarsh ICS for CPA01 and 4G ICS for CPA02 as checked during the remote audit and also from the document for the selection of samples /14/.

The random sampling was used to select 84 households (41 for CPA01 and 43 for CPA02) for the deployed technologies (CPA-01 with Adarsh ICS and CPA-02 with 4G ICS), in which ER is claimed. The process of selecting household to be monitored was witnessed by another staff engaged by CME.

As confirmed from CME, households were selected randomly among all the households registered in the batch of CPAs included in this monitoring report at the time of selection of households to be monitored.

As the monitoring was done for two CPAs, the required confidence level should be 95/10 as per the approved revised PoA-DD /03/.

CME has demonstrated in the ER sheet that how they have calculated sample size with the confidence/precision of 95/10. There were two monitoring parameters under sampling and it was concluded that the related precession is met for both the parameters. Results are as follows:

CPA	Parameter	Expected Results	Precision Level		Sample Size Calculated	Actual Results	Actual Precision Level Achieved	
			Confidence Interval	Margin of Error			Confidence Interval	Margin of Error
(CPA 01-Frame 01)	$N_{y,i,j}$	0.9	95%	10%	40.59	41	95%	0.00%
(CPA 02-Frame 02)	$N_{y,i,j}$	0.9	95%	10%	42.58	43	95%	0.00%
(CPA 01-Frame 01)	μ_y	0.9	95%	10%	4	11	95%	0.00%
(CPA 02-Frame 02)	μ_y	0.9	95%	10%	4	11	95%	0.00%
(CPA 01-Frame 01)	Date of commission of batch j	0.9	95%	10%	4	11	95%	0.00%
(CPA 02-Frame 02)	Date of commission of batch j	0.9	95%	10%	4	11	95%	0.00%
(CPA 01-Frame 01)	Number of project devices distributed per household ($N_{d,HH}$)	0.9	95%	10%	4	11	95%	0.00%
(CPA 02-Frame 02)	Number of project devices distributed per household ($N_{d,HH}$)	0.9	95%	10%	4	11	95%	0.00%

DOE sampling:

As the CME has applied PoA level sampling approach and same samples for all the monitoring parameters, hence the DOE had planned to apply the acceptance sampling in accordance with the paragraph 27-33 of the “Standard: Sampling and surveys for CDM project activities and programme of activities, version 08”. KBS verification team carried out the random sampling from the CME’s sample records and check (using its professional judgment) the acceptability of the data for each record in the CME’s sample records. The DOE has determined acceptance sample size based on the “Table. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activities and programmes of activities” version 08.0/12/.

During the on-site verification a random sampling approach has been used by the verification team to verify the reported values for the monitored parameters as listed in section E.2 of the MR which are determined through sample survey by CME.

For the determination of DOE’s acceptance sample size, verification team has selected the following using its professional judgment:

1. Acceptable quality level (AQL) –0.5%
2. Unacceptable Quality Level (UQL) – 20%
3. Producer risk -10%
4. Consumer risk -10%

Verification team has determined acceptance sample size for all the sample survey parameters based on the “Table. Sample size and acceptance number based on AQL, UQL, and producer and consumer risks” of standard “Sampling and surveys for CDM project activities and programmes of activities” version 08.0 /12/. From the above factors, for each CPA, the verification team determined the minimum sample size (n) as 4, however, verification team has conducted 11 samples for each CPA and acceptance number (c) as 0. The sample size used to verify the reported values for the monitored parameters which are determined through sample survey by CME. The DOE interviewed the Adarsh ICS for CPA01 and 4G ICS for CPA02 users and filled the DOE survey form to check the acceptability of the data for each record in the CME’s sample records. Verification team shared the samples with CME during remote audit

The actual number of sample size where the acceptance survey was done given below:

Parameters	Total Population	CME’s sample size	Acceptance sample size	Acceptance Number	Sampling method used
Monitoring parameters as per section E.2 of the MR	Total households using Adarsh ICS for CPA01= 806 and 4G ICS for CPA02= 16,943	84 (41 samples for CPA 01 and 43 samples for CPA 02)	11 Samples/CPA (Total 22 Samples)	0	Acceptance Sampling based on random selection of households.

Using acceptance sampling approach, verification team checked the CME’s samples results (reported in the Monitoring forms) along with the following evidences:

1. Remote inspection/interview
2. CME household database
3. Database of all project participating households using the various technologies as per the ER sheet
4. Thermal efficiency of the stoves from stove supplier/determined from qualified laboratory.
5. Shipping details of various technologies used by project participating households

The result of the survey is given below:

Parameters	DOE Sample size	No of CME’s record beyond unacceptable level	Accepted

Monitoring parameters as per E.2 of the MR /1.2/	22 (11 for each CPA)	0	22
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Following the requirement of the § 28 of standard “Sampling and surveys for CDM project activities and programmes of activities” version 08.0, the acceptability of data in the random sample chosen from the CME’s sample records was determined. Based on the number of records where there was agreement, it was determined whether the CME’s sample records meet the requirements. The acceptability of the data was based on the DOE’s professional judgement in line with the § 28 of the Sampling Standard.

All the data records for the monitoring parameters were in line with the CME’s sample records and there were no discrepant records found from the CME’s records.

Since the number of discrepant records (0) was found less than the acceptance number ($c = 1$), hence the CME’s set of records have been accepted based on the acceptance sampling. This is in line with the § 32 of standard “Sampling and surveys for CDM project activities and programmes of activities” version 08.0 and found appropriate.

D.5. Clarification requests, corrective action requests and forward action requests raised

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
General			
Compliance of the monitoring report with the monitoring report form	-	CAR 01	-
Remaining forward action requests from validation and/or previous verifications	-	-	FAR 01 & FAR 02
CPAs considered for verification and covered in this report	-	-	-
Programme of activities			
Compliance of the programme implementation with the registered PoA-DD	CL 02	-	-
Implementation and operation of the management system	-	-	-
Post-registration changes		-	
• Corrections	-	-	-
• Inclusion of a monitoring plan	-	-	-
• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the 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	-	-	-
Component project activities			
Compliance of the CPA implementation with the included CPA design document	CL 02	CAR 02	FAR 01 and FAR 02 (from validation of CPA Inclusion)
Post-registration changes			
• Temporary deviations from registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents	-	-	-
• Corrections	-	-	-
• Changes to the start date-of the crediting period	-	-	-
• Inclusion of a monitoring plan	-	-	-

¹Other 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).

• Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	-	-	-
• Changes to the project design	-	-	-
• Changes specific to afforestation and reforestation activities	-	-	-
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	-	-	
Compliance of monitoring activities with the registered monitoring plan			
• Data and parameters fixed ex ante or at renewal of crediting period	CL 01	-	-
• Data and parameters monitored	-	-	-
• Implementation of sampling plan	-	CAR 02, CAR 03	-
Compliance with the calibration frequency requirements for measuring instruments	-	-	-
Assessment of data and calculation of emission reductions or net removals			
• Calculation of baseline GHG emissions or baseline net GHG removals by sinks	CL 01	-	-
• Calculation of project GHG emissions or actual net GHG removals by sinks	-	-	-
• Calculation of leakage GHG emissions	-	-	-
• Summary of calculation of GHG emission reductions or net GHG removals by sinks	CL 01	CAR 04	-
• Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA	-	CAR 04	-
• Remarks on difference from estimated value in included CPA	-	-	-
Assessment of reported sustainable development co-benefits	-	-	-
Global stakeholder consultation	-	-	-
Others (please specify)	-	-	-
Total	02	04	02

SECTION E. Verification findings

E.1. General

E.1.1. Compliance of the monitoring report with the monitoring report form

Means of verification	Verification team checked the monitoring report with latest version of MR available in the UNFCCC website (i.e., version 3.0) and "Instructions for filling out the monitoring report form" mentioned as attachment to Monitoring report form (version
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	3.0)/11/.
Findings	No findings raised.
Conclusion	Verification team confirms that final monitoring report is completed using the latest valid version of the applicable monitoring report form /11/.

E.1.2. Remaining forward action requests from validation and/or previous verifications

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Verification team had checked the validation reports of PoA & CPA /03/ and found that total 2 FARs have been raised (during Validation) for the CPA. All the FARs has been discussed under Appendix 4 of this report.

E.1.3. CPAs considered for verification and covered in this report

Title and UNFCCC reference number of the CPA included in the PoA as of the end of this monitoring period	Is the CPA considered for this verification? (yes/no)	The date when the CPA was included	Version of the PoA-DD	Confirmation that a request for issuance including the CPA has been published for the previous monitoring period (Y/N)
Improved Cook Stove Programme in Fiji – CPA01 (10497-P1-0001-CP1)	Yes	12/02/2020	Version 2	NA
Improved Cook Stove Programme in Fiji – CPA02 (10497-P1-0002-CP1)	Yes	12/02/2020	Version 2	NA
Improved Cook Stove Programme in Fiji – CPA03 (10497-P1-0003-CP1)	No	12/02/2020	Version 2	NA

E.2. Programme of activities

E.2.1. Compliance of the programme implementation with the registered programme design document

Means of verification	<p>During the current monitoring period only two CPA's have been included (whose crediting period fall within this monitoring period).</p> <p>The verification team has checked the conformity of the actual PoA and its operation with the approved revised PoA-DD and determined whether the implementation and operation of the approved revised CDM PoA has been conducted in accordance with the description contained in the approved revised PoA-DD/03/. A total of 17,879 cook stoves have been distributed during the current monitoring period for CPA01 and CPA02 (i.e. as on 31 July 2020); out of these a total of 17,749 cook stoves have been considered/included during the current monitoring period for CPA01 and CPA02 (part of current verification) as verified from the stove distribution database/19/. This was further reconfirmed through household surveys during the remote audit.</p> <p>The verification team has checked the information in the monitoring report /1.1//1.2/ and compared against the approved revised PoA-DD/03/.</p> <p>During the remote inspection, the verification team has checked the PoA implementation, technology applied, project equipment, and monitoring system against the information in the approved revised PoA-DD/03/.</p> <p>Remote assessment and Interviews were performed by the verification team to assess the requirements of this section.</p>
Findings	CL 02 have been raised regarding the implementation and successfully closed.

	Refer Appendix 4 of this report for more details.
Conclusion	Verification team concludes that the PoA was implemented and operated as per registered PoA-DD/03/. This confirms the compliance with VVS for PoA version 02.0 /07/.

E.2.2. Implementation and operation of the management system

Means of verification	<p>The verification team determined the implementation and operation management system through the remote assessment and interview with the CME and the CPA Implementer (KCM). The verification team checked whether the actual management system implemented in accordance with the management system described in the approved revised PoA-DD/03/ and further verified it from the Project Management Manual /21/.</p> <p>During remote audit, verification team checked the procedures implemented for inclusion of CPA, roles and responsibilities, quality check etc.</p> <p>As discussed during remote audit, the registration of project participating households was done by the CME. A contract was signed with each project participating household and the contract information was then registered in CME database.</p> <p>Verification team has checked the distribution records/19/ to cross check for the physical paper contract.</p>
Findings	Nil.
Conclusion	The verification team confirms that the implementation and operation of the PoA management system, including the record-keeping system, complies with the registered PoA design document (PoA-DD).

E.2.3. Post-registration changes

E.2.3.1. Corrections

>>Not Applicable

E.2.3.2. Inclusion of a monitoring plan

>>Not Applicable

E.2.3.3. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

>>

No permanent changes to the monitoring plan described in the PoA-DD /03/ or applied methodology is sought by CME during this monitoring period.

E.2.3.4. Changes to the programme design

>>Not Applicable

E.2.3.5. Addition of CPA inclusion template

>>

Not Applicable

E.2.3.6. Change of coordination/managing entity

>>

Not Applicable

E.2.3.7. Changes specific to afforestation and reforestation activities

>>

Not Applicable

E.3. Component project activities**E.3.1. Compliance of the CPA implementation with the included CPA design document**

Means of verification	<p>During the current monitoring period only two CPA's have been included (whose crediting period fall within this monitoring period).</p> <p>Verification team has checked the total no. of the installed stoves by the data base provided by the CME/19/ and cross-checked from Sample check of the beneficiary agreements/22/ and from invoices/shipping document of the stoves/23/.</p> <p>Verification team has, by means of a desk review and an remote assessment , assessed that all physical features of the proposed component project activity proposed in the validated CPA-DD /03/ are in place and that CME has operated the CPA under verification as per the respective validated CPA-DDs/03/.</p> <p>Technologies distributed to households under the CPA considered for monitoring during this monitoring period are in compliance with the PoA-DD /03/ and CPA DD /03/.</p> <p>The monitoring staffs were interviewed during the remote assessment and it was confirmed that the training was also provided to the monitoring staff as part of quality control as confirmed from training records /18/.</p> <p>Verification team has checked the number of stoves distributed till the end of monitoring period from the ER sheet /2.2/, the household database provided by CME /19/ and interviews during the remote audit.</p> <p>The verification team has checked the information in the monitoring report and compared against the registered CPA-DDs /03/.</p> <p>During the remote assessment, the verification team has checked the CPA implementation, technology applied, project equipment and monitoring system against the information in the validated CPA-DDs /03/.</p>
Findings	CL 02, CAR 03 and FAR 01 (from validation of CPA inclusion) has been raised and successfully closed. Refer Appendix 4 of this report for more details.
Conclusion	Thus, the verification team concludes that the CPA was implemented and operated as per validated CPA-DDs /03/. The verification team, based on the remote assessment and document review, was able to conclude that the CPAs have been implemented as per the validated CPA-DDs/03/ and that all physical features of the CPAs are in place.

E.3.2. Post-registration changes**E.3.2.1. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents**

>>

Not applicable

E.3.2.2. Corrections

>>

Not applicable

E.3.2.3. Changes to the start-date of the crediting period

>>

Not Applicable

E.3.2.4. Inclusion of a monitoring plan

>>

Not applicable as monitoring plan is provided in the CPA-DDs itself.

E.3.2.5. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents

>>

There is no permanent change identified for this monitoring period.

E.3.2.6. Changes to the project design

>>

There is no change in the programme design of the included CPA-DD.

E.3.2.7. Changes specific to afforestation and reforestation activities

>>

Not Applicable

E.3.3. Compliance of the registered monitoring plan with applied methodologies and standardized baselines

Means of verification	<p>The verification team checked compliance of CPA monitoring plan with the applied methodology AMS-II.G. Version 10.0 /05/ including applicable tools.</p> <p>The actual procedures followed for monitoring of parameters are checked against the parameters and procedures provided in the applied methodology.</p> <p>All parameters used for emission reductions calculation have been verified. The discussion regarding each parameter has been elaborated in the further sections of this report.</p> <table border="1" data-bbox="448 1149 1422 2069"> <thead> <tr> <th data-bbox="448 1149 938 1238">Applicability criteria as per applied methodology i.e. AMS-II.G., version 10.0</th><th data-bbox="938 1149 1422 1238">Means of Verification</th></tr> </thead> <tbody> <tr> <td data-bbox="448 1238 938 1731"> <p>Requirement as per para 2 of the applied methodology:</p> <p>This methodology comprises efficiency improvements in thermal applications of non-renewable biomass. Examples of applicable technologies and measures include the introduction of high efficiency biomass fired project devices (cook stoves or ovens or dryers) to replace the existing devices and/or energy efficiency improvements in existing biomass fired cook stoves or ovens or dryers.</p> </td><td data-bbox="938 1238 1422 1731"> <p>Verification team confirms that project activity has disseminated high efficiency cook stoves, hence this applicability criterion is met.</p> <p>The- same is verified during the remote assessment, technical specification of the distributed cook stoves/15/, provided efficiency test reports of project cook stoves/16/.</p> </td></tr> <tr> <td data-bbox="448 1731 938 2040"> <p>Requirement as per paragraph 3 of the applied methodology:</p> <p>In the case of cook stoves, the methodology is applicable to introduction of single pot or multi pot portable or in-situ cook stoves with rated efficiency of at least 20 per cent.</p> </td><td data-bbox="938 1731 1422 2040"> <p>The cook stoves distributed under the project activity result in reduced firewood consumption and verified during the remote assessment, technical specification of the distributed ICS /15/. The average efficiency of project ICS as per the provided efficiency test reports /16/ complies with the requirement of the applied methodology.</p> </td></tr> <tr> <td data-bbox="448 2040 938 2069"> <p>Requirement as per paragraph 4 of</p> </td><td data-bbox="938 2040 1422 2069"> <p>According to the tab "ER CPA 01 and</p> </td></tr> </tbody> </table>	Applicability criteria as per applied methodology i.e. AMS-II.G., version 10.0	Means of Verification	<p>Requirement as per para 2 of the applied methodology:</p> <p>This methodology comprises efficiency improvements in thermal applications of non-renewable biomass. Examples of applicable technologies and measures include the introduction of high efficiency biomass fired project devices (cook stoves or ovens or dryers) to replace the existing devices and/or energy efficiency improvements in existing biomass fired cook stoves or ovens or dryers.</p>	<p>Verification team confirms that project activity has disseminated high efficiency cook stoves, hence this applicability criterion is met.</p> <p>The- same is verified during the remote assessment, technical specification of the distributed cook stoves/15/, provided efficiency test reports of project cook stoves/16/.</p>	<p>Requirement as per paragraph 3 of the applied methodology:</p> <p>In the case of cook stoves, the methodology is applicable to introduction of single pot or multi pot portable or in-situ cook stoves with rated efficiency of at least 20 per cent.</p>	<p>The cook stoves distributed under the project activity result in reduced firewood consumption and verified during the remote assessment, technical specification of the distributed ICS /15/. The average efficiency of project ICS as per the provided efficiency test reports /16/ complies with the requirement of the applied methodology.</p>	<p>Requirement as per paragraph 4 of</p>	<p>According to the tab "ER CPA 01 and</p>
Applicability criteria as per applied methodology i.e. AMS-II.G., version 10.0	Means of Verification								
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<p>Requirement as per paragraph 4 of</p>	<p>According to the tab "ER CPA 01 and</p>								

	<p>the applied methodology: 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.</p> <p>ER CPA 02" of the ER sheet /02/, the energy savings per improved cookstoves is 0.0256 GWh_{th}/year for CPA 01 and 0.0258 GWh_{th}/year for CPA 02. A total of 17,879 cook stoves have been distributed during the current monitoring period for CPA01 and CPA02 (i.e. as on 31 July 2020); out of these a total of 17,749 cook stoves have been considered/included during the current monitoring period for CPA01 and CPA02 (part of current verification) as verified from the stove distribution database/19/. Hence the project activity is within the small-scale threshold i.e. aggregated thermal energy savings has not exceeded 180 GWh_{th}/year during this monitoring period.</p> <p>The monitoring plan is in accordance with the applied methodology. The monitoring has been carried out in accordance with the monitoring plan contained in the registered CPA-DDs/03/. All parameters stated in the monitoring plan and the applied methodology has been fulfilled in the current monitoring period. The discussion regarding each parameter has been elaborated in the further sections of this report. The monitoring plan as mentioned in the CPA-DD is in accordance with the applied methodology /05/.</p>
Findings	Nil
Conclusion	In the opinion of the verification team the monitoring report complies with the requirement of the applied methodology (AMS-II.G. version 10.0)/05/ in the context of the CPA. Thus, it conforms to the requirement of § 343 of CDM validation and verification standard for programmes of activities, version 02 /07/.

E.3.4. Compliance of monitoring activities with the registered monitoring plan

E.3.4.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	The verification team has checked the ex-ante parameters and data stated in Section E.1 of MR and compared with relevant section of the validated CPA-DDs that whether all parameters fixed ex-ante for the crediting period have been applied correctly.													
	The Ex-ante parameters are as follows:													
	<table><tr><th>S. No.</th><th>Ex-ante Parameter and unit</th><th>Description</th><th>Value</th><th>Consistent with the respective CPA-DD/03/ & the source mentioned in it</th></tr><tr><td>1</td><td>$f_{NRB,y}$ (Percentage)</td><td>Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass</td><td>90.97 %</td><td>The value is fixed ex-ante and considered at PoA level. Therefore, the value has been fixed at the time of PoA-validation, subsequently applied for all the CPAs. The verification team has reviewed the f_{NRB} calculations and found them to be credible. Hence accepted by the verification team. However this was the</td></tr></table>					S. No.	Ex-ante Parameter and unit	Description	Value	Consistent with the respective CPA-DD/03/ & the source mentioned in it	1	$f_{NRB,y}$ (Percentage)	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass	90.97 %
S. No.	Ex-ante Parameter and unit	Description	Value	Consistent with the respective CPA-DD/03/ & the source mentioned in it										
1	$f_{NRB,y}$ (Percentage)	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass	90.97 %	The value is fixed ex-ante and considered at PoA level. Therefore, the value has been fixed at the time of PoA-validation, subsequently applied for all the CPAs. The verification team has reviewed the f_{NRB} calculations and found them to be credible. Hence accepted by the verification team. However this was the										

					<p>first verification therefore verification team sought the fNRB sheet from CME to check the appropriateness of fnrb considered. Refer CL#02 (1) in the Appendix 4 of verification report CME also demonstrated by using the latest version of fnrb tool. It was demonstrated by CME that the fnrb calculation used during the registration of PoA is conservative. Based on the assessment of both the fnrb calculations, verification team concludes that fnrb is adequate.</p>
	2	<p>$B_{old,i,j}$ (tons/year)</p>	<p>Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j</p>	9.42 tons/year	<p>The values were fixed at the time of validation of PoA-DD and CPA-DDs/03/ and the verification team has reviewed the $B_{old,i,j}$ calculations and found them to be credible. Hence accepted by the verification team. Being the first verification of PoA, verification team sought CL#02 (2) to check the adequate values of B_{old}, values for both CPAs included in current batch of verification. Based on the review of baseline household cooking practice and fuelwood consumption survey report, verification team concludes that the sampling aspects as well as the values used by CME meets the AMSIIG requirements. CME had considered 90/10 confidence/precession approach for the sample size calculation and</p>

					<p>appropriate equations and survey guidelines were followed, additionally it was also found that the primary household survey was conducted using standard Survey Questionnaire, found to be in line with the CDM methodology. Hence the value has been accepted.</p> <p>Additionally, the Assessment team has further verified that during the baseline survey and assessment, CME had consulted with the concerned official from Climate Change & Risk Management team of "Ministry of Women, Children & Poverty Alleviation" of Fiji to conduct a comparative study of the result with official data and previous study. In this regard, a letter from the Ministry has been received (27 Feb 2019) which confirms that as per official data and prior survey experience of district officers and women working groups, the avg. fuelwood consumption value is in the range of 29 kg/day/hh, which is higher than the survey result. The Assessment team has reviewed the letter from Ministry and concluded that the value considered for the parameter is found to be conservative and reliable.</p>
	3	NCV _{biomass} (TJ/tonne)	Net calorific value of the non-renewable woody biomass that is substituted	0.0156 (TJ/tonne)	Default value as per the methodology AMS-II.G. Version 10.0 is applied which is in accordance with the requirements as verified by the verification team. The

				values were fixed at the time of validation of PoA-DD and CPA-DD/03/. Hence accepted by the verification team.
4	η_{old} (Percentage)	Efficiency of the system being replaced (Traditional Cooking Stoves)	10%	The values were fixed at the time of validation of PoA-DD and CPA-DD/03/ as verified by the verification team.
5	Leakage (LE_v) (Fraction)	Leakage adjustment factor	0.95	Default value in methodology. The values were fixed at the time of validation of PoA-DD and CPA-DD/03/ as verified by the verification team. Hence accepted by the verification team.
6	$B_{old,HH}$	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices	9.42 tones/household/year	The values were fixed at the time of validation of PoA-DD and CPA-DD/03/ and the verification team has reviewed the B_{HH} calculations and found them to be credible. Hence accepted by the verification team
7	$EF_{projected_fossilfuel}$	Emission factor for the substitution of non-renewable woody biomass by similar consumers	63.7 tCO ₂ /TJ	Default value in methodology. The values were fixed at the time of validation of PoA-DD and CPA-DD/03/ as verified by the verification team. Hence accepted by the verification team.
8	Life span	The operating lifetime of the project device (i.e. ICS)	4 years (for Adarsh ICS, under CPA-01) 5 years (for 4G Cook stove, under CPA-02)	These values have been taken from manufacturer and also verified in the third party test reports (WBT) conducted for each ICS type, the verification team has reviewed the

					documents and found them to be credible. Hence accepted by the verification team.
Findings	CL 01 is raised and successfully closed. The resolution of the CAR/CL is detailed in Appendix 4 of this report.				
Conclusion	The values of ex-ante fixed parameters have been verified from the CPA-DDs/03/. The verification team confirms that the values used/applied are correct and justified. Also, the ex-ante values have been correctly applied in the calculation of emission reductions.				

E.3.4.2. Data and parameters monitored

Means of verification	<p>The verification team has determined whether the registered monitoring plan has been properly implemented and followed by the project implementer and CME that the monitoring has been carried out in accordance with the registered monitoring plan; and determined whether all parameters including project emission parameters, baseline emission parameters and leakage parameters used for emission reduction calculation stated in the registered monitoring plan are monitored or used appropriately as per the registered CPA-DDs.</p> <p>During the verification all monitoring parameters listed in Section E.2 of MR were compared with monitoring parameters and the monitoring plan of the registered CPA-DDs and have been verified with regard to the:</p> <ul style="list-style-type: none"> (i) appropriateness of the applied measurement / determination method, (ii) the correctness of the values applied for ER calculation, (iii) the accuracy, and applied QA/QC measures. <p>Verification team has checked the monitoring parameters value indicated in the emission reduction spreadsheet on sample basis as per the sampling defined in the section D.4 of this report, with desk review.</p>				
	Ex-post parameters		Verification opinion of the verification team		
	Number of project devices of type l and batch j operating during the year y ($N_{y,l,j}$) 17,749 ²		<p>The monitoring parameter has been monitored biennially in compliance with PoA-DD/CPA-DDs.</p> <p>The parameter is monitored through the “<i>Stove distribution database and survey records</i>”. The database have been checked and found that the same is monitored by the CPA implementer and CME on at least biennial basis. The same was also confirmed during the remote audit.</p> <p>Verification team has verified the monitoring parameter through Stove distribution database and survey records, remote assessment and also from the details given under the ER sheet /02/ and found consistent. The sampling approach and the results of the sampling by DOE are explained in the section D.4 of this report.</p>		
	Number of project devices		Verification team has verified the monitoring parameter through sample		

²Considered total numbers of stove distributed and considered as commissioned as on the month of June 2020 across both the CPAs (i.e. CPA #1 & 2). Thus, this total number is inclusive of both the ICS types – Adarsh ICS & 4G Cook stove. The values are provided under the Parameter “N” below and the stove numbers distributed under each CPA shall be submitted in the ER sheet which can be further verified from the distribution database. The total operational ICS in each CPA are accounted for ER calculation by multiplying the result derived from the sampling survey for the ex-ante parameter “N_y” - adjustment fraction for operational stove.

	<p>distributed(N)</p> <p>ICS under CPA-01 – 806 ICS under CPA-02 – 16,943 Total 17,749</p>	<p>check of the stove distribution database /19/, remote assessment interview and found consistent. The sampling approach and the results of the sampling by DOE are explained in the section D.4 of this report.</p>
	<p>Efficiency of the project design I and batch j implemented as part of the project activity ($\eta_{new,I,j}$)</p> <p>For Adarsh ICS: 29.49% For 4G Cook Stove: 30.00%</p>	<p>The parameter “<i>Efficiency of the project design I and batch j implemented as part of the project activity</i>” ($\eta_{new,I,j}$) is a monitoring parameter as per the registered PoA/CPA-DDs. As per the registered/revised PoA-DD/CPA-DDs, the source of data for the above parameter is “<i>representative sampling testing based on Water Boiling Tests or any other test approved by the UNFCCC, or referenced literature</i>”.</p> <p>Hence the CME has conducted the tests for CPA-01: by the “Ministry of women, children and poverty alleviation, at a national lab of The University Of the South Pacific in Fiji” as per the details provided in the monitoring report. The University Of the South Pacific is a public university based in Fiji hence the laboratory was found authorized and authentic.</p> <p>Further the CME has conducted the tests for CPA-02: by the School of Engineering and Physics, Faculty of Science, Technology and Environment, in the testing lab of The University of the South Pacific in Fiji. Further, the additional WBT G-BEL Laboratory, Institute of Technology which is a part of Regional Testing and Knowledge Center, affiliated under GACC (Global Alliance for Clean Cook stove) as per the details provided in the monitoring report. The the testing lab of The University of the South Pacific in Fiji and G-BEL Laboratory hence the laboratory was found authorized and authentic.</p> <p>The monitoring of the parameter has been conducted following the registered/revised PoA-DD and the CPA-DD i.e. (i) Recorded at the time of commissioning/distribution (ii) Adjusted for the loss of efficiency per annum as per para 32 (a) of AMS-II.G. version-10.0,</p> <p>The current monitoring period is the 1st monitoring & verification of the PoA, included only the first two CPAs. As can be verified from the CPA distribution database, all ICS</p>

		<p>operational are in their 1st vintage year; no ICS is in the 2nd year of operation. Therefore, no loss in yearly efficiency as per para 32 (a) of AMS-II.G. Version10.0 is applicable during the current monitoring period.</p> <p>As per the registered/revised PoA-DD/CPA-DDs, monitoring frequency has been followed for the above parameter ($\eta_{new,(i,j)}$). The verification team would further like to confirm that the CME has conducted the monitoring of the parameter during the monitoring period through the monitoring surveys.</p> <p>The verification team determined the implementation and operation management system through the remote audit interview with the CME due to COVID-19 interim measures travel restrictions. The verification team checked whether the actual management system implemented in accordance with the management system described in the approved revised PoA-DD (version 02). During remote audit interview, verification team checked the procedures implemented for inclusion of CPA, roles and responsibilities, quality check etc. The verification team confirms that the implementation and operation of the PoA management system, including the record-keeping system, complies with the registered PoA design document (PoA-DD) (paragraph 347 (b) of VVS for PoA version 2)</p> <p>Verification team has further checked the monitored data through remote assessment interview, all the Efficiency test reports for ICS /16/ and the ER sheet /02/. The data was found consistent. Based on local and sectoral expertise; verification team found the test reports in compliance with WBT protocols.</p>
	Date of commission of batch j	<p>The commissioning date of each batch of ICS is mentioned in the ER sheet, distribution database and from sample ICS remote audit interview. Verification team has verified the monitoring parameter through sample check of the beneficiary agreements (mention the date of use of ICS) /22/, remote assessment interview and also from the details given under the ER sheet /02/ and found consistent.</p> <p>The assessment team has verified that</p>

		<p>the CME opted to group the devices into monthly “batches” and the last date of commissioning of a device within that monthly batch has been used as the date of commissioning for the entire batch. In continuation, the start date of accounting of emission reductions for stoves distributed in a particular month has been considered as the next day of the last date of stove distribution for that month; whereas, for the purpose of identification of ICS numbers for each vintage, the year fraction for each ICS has been calculated from the date of distribution of each ICS. The Assessment team has found this approach conservative both for the purpose of ER calculation and calculation of yearly efficiency as per paragraph 32 of the applied methodology. Hence, accepted.”</p>
	<p>Adjustment to account for any continued use of pre-project devices during the year y (μ_y)</p> <p>0.7080 (or 70.80%) - for ICS type “Adarsh”- CPA 01</p> <p>0.9476 (or 94.76%) - for ICS type “4G”- CPA 02</p>	<p>The monitoring parameter has been monitored biennially in compliance with PoA-DD/CPA-DDs.</p> <p>The parameter is monitored through the “<i>Stove distribution database and sample survey records</i>”. The database have been checked and found that the same is monitored by the CPA implementer and CME on at least biennial basis. The same was also confirmed during the remote audit.</p> <p>The value arrived for this particular parameter (adjustment fractions) have been checked from the Sampling survey data and results, further cross checked the samples with the end user beneficiary agreement, excel Database, and household survey questionnaires and found to be correct.</p> <p>The value arrived for the fractions of days have been checked from the End user beneficiary agreement, Excel Database, and Household Usage Survey and found correct.</p> <p>This accounts for the exclusion of the fuel wood consumption of baseline stoves from the ER calculation in accordance with Section B.4.1. of the included CPA-DD requiring a conservative approach to be taken regarding the replacement of traditional stoves (AMS-II.G. Version 10). Verification team has checked the samples based on the acceptance sampling and found OK. Hence the verification team was able to conclude</p>

		<p>that this parameter is being monitored & recorded as per the monitoring plan.</p> <p>Verification team has checked the values of parameter in the ER sheet through sampling out of the samples selected by the CME through sample check of the Monitoring forms and site visit interview check. The sampling approach and the results of the sampling by DOE are explained in the section D.4 and section E.3.4.3 of this report. Hence the verification team was able to conclude that this was monitored correctly.</p>
	<p>Number of project devices distributed per household ($N_{d,HH}$)</p> <p>1</p>	<p>Verification team has verified the monitoring parameter through sample check of the stove distribution database /19/, remote assessment interview and found consistent. The sampling approach and the results of the sampling by DOE are explained in the section D.4 and E.3.4.3 of this report. The adequacy of CME's sample size for the monitoring parameter has been checked with the acceptance sampling as described in the sampling section of report in previous section.</p>
Findings	NIL	
Conclusion	<p>Corresponding to the § 346 of VVS for PoA V 02.0/07/, the team confirm that the monitoring has been carried out in accordance with the validated CPA-DDs/03/.</p> <p>The monitoring system is in compliance with the information flow for the parameters as mentioned in monitoring plan in validated CPA-DDs/03/. The monitored data for the parameters has been verified by checking the procedure for information flow and found to be complete and consistent.</p>	

E.3.4.3. Implementation of sampling plan

Means of verification	<p>The households were selected randomly (by CME) as verified during the remote assessment discussion and from submitted Excel sheets /25/. Samples were selected by CME as verified from the submitted document /14/. Simple Random sampling was used by CME to select 84 household registered as using Adarsh ICS for CPA01 and 4G ICS for CPA02 as checked during the remote assessment and also from the document for the selection of samples /14/.</p> <p>The random sampling was used to select 84 households for the deployed technologies (Adarsh ICS for CPA01 and 4G ICS for CPA02s) for following parameters , in which ER is claimed</p> <ol style="list-style-type: none"> 1. N_y - Number of ICS in operation during a monitoring period 2. μ_y - Adjustment factor for baseline stove still in use during a monitoring period <p>The sample size estimations follow Appendix 2 of Guideline for Sampling and surveys for CDM project activities and programmes of activities.</p> <p>. The process of selecting household to be monitored was witnessed by another staff engaged by CME.</p> <p>As confirmed from CME, households were selected randomly among all the households registered in the batches of the CPA included in this monitoring report at the time of selection of households to be monitored.</p>
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	<p>As the monitoring was done for two CPAs, the required confidence level was taken as 95/10 as per the approved revised PoA-DD /03/. CME double checked all the monitoring forms and all the registered monitoring data for additional quality purposes.</p> <p>Verification team has conducted acceptance sampling to verify the parameter monitored through sampling. The verification team calculated the minimum sample size (n) as 22(11 samples for CPA 01 and 11 samples for CPA 02) and acceptance number (c) as 1 (considering AQL –0.5%, UQL - 20%, producer risk – 10% & consumer risk – 10%). Verification team has done survey randomly in 22 (11 samples for CPA 01 and 11 samples for CPA 02) number of households (selected from the CME's sample population) and verified the CME's survey data.</p>
Findings	CAR 02 & CAR 03 is raised and successfully closed. The resolution of the CAR/CL is detailed in Appendix 4 of this report.
Conclusion	Verification team confirms that the sampling approach applied by the CME is in accordance with the registered PoA-DD and the CPA-DD including the Guidelines: Sampling and surveys for CDM project activities and programmes of activities, Version 04.0 /13/ and Standard: Standard for sampling and surveys for CDM project activities and Programme of Activities, version 08.0 /12/.

E.3.5. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Not applicable as no monitoring equipment were involved. For the monitoring parameter $\eta_{new,i,j}$, the efficiency test was carried out by third party i.e. MINISTRY OF WOMEN, CHILDREN AND POVERTY ALLEVIATION for CPA 01 and The University of the South Pacific for CPA 02 and the calibration of instruments required for efficiency test has been conducted by a third party i.e. G-BEL/16/ which was found to be acceptable by the verification team.
Findings	Not Applicable
Conclusion	Not Applicable

E.3.6. Assessment of data and calculation of emission reductions or net removals

E.3.6.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	<p>Verification team confirm that the calculation, applied formulae and the method for calculation of baseline emissions are in accordance with the registered PoA-DD /03/ and are in line with the requirements of the applied methodology (AMS-II.G. ver. 10 /05/). The formulae and the methods referred in the MR /01/ and the emission reduction calculation spread sheet /02/ for estimation of emission reduction complies with the corresponding formulae and methods in the registered PoA-DD /03/.</p> <p>As per the registered PoA-DD /03/ and CPA-DDs/03/, The calculation of emission reductions is based on the number of individuals served instead of number of project devices.</p> <p>The emission reduction is calculated using the formula:</p> $ER_{y,i} = B_{y,savings,i} \times N_{y,i,j} \times \mu_{y,i,j} \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossilfuel} - LE_y$ <p>Where:</p> <p>$B_{y,savings,i}$ = Quantity of woody biomass that is saved in tonnes per person in year y</p> <p>$N_{y,i,j}$ = Number of individuals served in year y</p> <p>$\mu_{y,i,j}$ = Adjustment to account for any continued use of pre-project device during the year y when applying equations 6 and 8 of the methodology (fraction). Use 1.0 in other cases</p> <p>$f_{NRB,y}$ = Fraction of woody biomass saved by the project activity in year y.</p> <p>$NCV_{biomass}$ = Net calorific value of the non-renewable woody biomass that is substituted.</p> <p>$EF_{projected_fossilfuel}$ = Emission factor for the fossil fuels projected to be used for substitution of non-renewable woody biomass by similar consumers.</p> <p>LE_y = Leakage emissions in the year y</p>
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For $B_{y,savings,i}$, CME has used equation 6 of option 3 of the applied methodology AMS-II.G. Version 10 /05/ which is in compliance with the registered PoA-DD /03/ and CPA-DDs/03/.

$$B_{y,savings,i,j} = B_{old,i,j} \times \left(1 - \frac{\eta_{old,i,j}}{\eta_{new,i,j}}\right)$$

Where:

$B_{old,i,j}$ = Annual quantity of woody biomass that would have been used per person in the school/institution in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices

$\eta_{old,i,j}$ = Efficiency of the baseline system/s being replaced by project devices of type i.

$\eta_{new,i,j}$ = Efficiency of the system being deployed as part do the project activity (fraction), as determined using the efficiency test report.

All the ex-ante parameters (1. $B_{old,i,j}$, 2. $B_{old,HH}$, 3. η_{old} , 4. $NCV_{biomass}$, 5. $EF_{projected_fossilfuel}$, 6. L_Y , 7. $f_{NRB,y}$, 8. Life span) have been justified in the section E.3.4.1 of this report. Verification team confirms that all the ex-ante parameters used in the ER sheet /02/ are in accordance with the registered PoA-DD /03/ and also the applied methodology /05/.

Also the ex-post parameters (1. $N_{y,i,j}$, 2. N , 3. $\eta_{new,i,j}$, 4. Date of commissioning of batch j, 5. μ_Y , 6. $N_{d,HH}$) have been justified in the section E.3.4.2 of this report. Verification team confirms that all ex-post parameters have been monitored in accordance with the registered PoA-DD /03/ and also the applied methodology /05/.

The calculation of the emission reductions /02/ is based on an individual household based on the number of individuals served which is in compliance with the registered PoA-DD /03/.

The steps taken and the equations and parameters applied in the ER sheet /02/ to calculate emission reductions comply with the requirements of the registered PoA-DD /03/ and the selected methodology /05/. The emission reduction calculation is completely traceable and verified by reviewing the ER spread sheet /02/ submitted by the CME.

Hence baseline emission for this monitoring period is 26,616 tCO₂e (Rounded down).

Determine total CPA emission reduction:

CME has submitted the calculation in the excel sheet/02/.The baseline calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the validated CPA-DDs/03/ and the selected methodology/05/ and found OK.

Findings	CL 01 is raised and successfully closed. The resolution of the CAR/CL is detailed in Appendix 4 of this report.
Conclusion	<p>The verification team confirms the following:</p> <ul style="list-style-type: none"> • The calculations of baseline GHG emissions have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology. • Any assumptions used in emission or removal calculations have been justified. • Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. • Hence, the baseline emission in the monitoring report for the monitoring period (i.e.26,616 tCO₂e) is verified to be correct.

E.3.6.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	There is no project emissions and hence not applicable.
Findings	Nil.
Conclusion	There is no project emissions and hence not applicable.

E.3.6.3. Calculation of leakage GHG emissions

Means of verification	There is no leakage emissions and hence not applicable. However, potential leakage is accounted for by multiplying with net gross adjustment factor which is one of the alternatives in the registered PoA-DD/03/ and hence accepted to the Verification team.
Findings	Nil.
Conclusion	Verification team concludes that there is no leakage emission for this monitoring period.

E.3.6.4. Summary of calculation of GHG emission reductions or net GHG removals by sinks

Means of verification	The verification team has checked whether calculations of GHG emission reduction have been carried out in accordance with the formulae and methods described in the registered monitoring plan. Section F.4 of MR demonstrate the summary of GHG emission reductions for the monitoring period and calculated according to the applied methodology as follows: $ER_y = BE_y - PE_y - L_y$ The ER calculation sheet and monitoring report is verified to check the calculation.
Findings	CL 02 & CAR 04 are raised and successfully closed. The resolution of the CAR/CL is detailed in Appendix 4 of this report
Conclusion	The verification team confirms the following: <ul style="list-style-type: none"> The emission reduction value reported (i.e., 26,616 tCO₂e) is verified to be correct. The summary table in the MR has been filled correctly and the values are in line with the related emissions reduction spreadsheet. <p>Since the complete monitoring period falls after 31/12/2012, the complete emission reductions are correctly reported under the respective column in the MR.</p>

CPA UNFCCC reference number	Baseline GHG emissions or baseline net GHG removals (t CO ₂ e)	Project GHG emissions or actual net GHG removals (t CO ₂ e)	Leakage GHG emissions (t CO ₂ e)	GHG emission reductions or net anthropogenic GHG removals (t CO ₂ e)		
				Before 01/01/2013	From 01/01/2013	Total amount
10497-P1-0001-CP1	1,394	0	0	0	1,394	1,394
10497-P1-0002-CP1	25,222	0	0	0	25,222	25,222
Total	26,616	0	0	0	26,616	26,616

E.3.6.5. Comparison of actual GHG emission reductions or net GHG removals by sinks with estimates in included CPA

Means of verification	The verification team has checked whether the MR includes a comparison of actual values of the monitoring period with the estimations in the validated CPA-DD/03/. Section F.5 of the MR includes a comparison of the calculated actual emission reductions with the ex-ante calculated values in the registered CPA-DD /03/.The actual achieved emission reduction is more than estimated emission reduction mentioned in the CPA-DDs/03/.
Findings	CAR 04 was raised and successfully closed. The resolution of the CAR/CL is detailed in Appendix 4 of this report
Conclusion	The estimated emission reduction as per CPA-DDs and the actual emission reduction achieved for the monitoring period are correctly reported in the section F.5 of MR.

	The actual ER achieved for CPA-01 is lower, about 19.57%, than the ex-ante estimated for the equivalent period. It was observed that such decrease is mainly because the values of the two parameters N_y & μ_y derived from the sampling survey which are lower than the estimated values at validation and at CPA inclusion. For CPA-02, the actual ER is slightly higher, about 7.11%, than the ex-ante estimated for the equivalent period. This is mainly because the parameter μ_y value derived from the sampling survey, which is higher than the estimated value considered at the time of PoA validation or the CPA inclusion.
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Title and UNFCCC reference number of the CPA	Actual values achieved by the CPAs during this monitoring period	Value estimated in ex ante calculation in the included CPA-DD(s)
Improved Cook Stove Programme in Fiji – CPA01 10497-P1-0001-CP1	1,394	1,733
Improved Cook Stove Programme in Fiji – CPA02 10497-P1-0002-CP1	25,222	23,549
Total	26,616 tCO ₂ e	25,282 tCO ₂ e

E.3.6.6. Remarks on difference from estimated value in included CPA

Means of verification	The actual achieved emission reduction for CPA 01 during this monitoring period is more than the CPA-DD estimation/03/ and for CPA 02 during this monitoring period is less than the CPA-DD estimation/03/. There is an increase of 19.57 % in the actual emission reduction as against stated in the registered CPA-DD for CPA 01. This is mainly because the values of the two parameters N_y & μ_y derived from the sampling survey which is lower than the projected values considered at the time of PoA validation or the CPA inclusion. Whereas, for CPA 02, there is a decrease of 7.11% in the actual emission reduction as against stated in the registered CPA-DD.
Findings	Nil.
Conclusion	The actual achieved emission reduction for CPA 01 is more than the CPA-DD estimation. The actual achieved emission reduction for CPA 02 is less than the CPA-DD estimation.

E.3.7. Assessment of reported sustainable development co-benefits

Means of verification	Not applicable to the proposed programme of activity.
Findings	Not applicable to the proposed programme of activity.
Conclusion	Not applicable to the proposed programme of activity.

E.3.8. Global stakeholder consultation

Means of verification	No comments received during the 1 st monitoring period.
Findings	No comments received during the 1 st monitoring period.
Conclusion	No comments received during the 1 st monitoring period.

SECTION F. Internal quality control

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The draft verification report prepared by team leader is reviewed by an independent technical reviewer (having competence of relevant technical area himself/herself or through an independent technical area expert) to confirm the internal procedures established by KBS are duly followed and the verification report/opinion is reached in an objective manner and complies with the applicable CDM requirements.

The independent technical reviewer may approve or reject the draft verification report. The findings may be identified even at this stage, which needs to be satisfactorily resolved, before the request for issuance is submitted to UNFCCC. The final decision is taken by the Manager Technical and Certification. The technical reviewer and Manager (Technical & Certification) can be same person.

The final decision is authorized by Managing Director, KBS once the report is approved by the Manager (Technical & Certification).

SECTION G. Verification opinion

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The verification team confirms that the evidence is of sufficient quantity, appropriate quality and reliable. The reported values, notation, units and sources in the monitoring report for all the monitoring parameters have been cross checked with the emission reduction sheet and monitoring report. During the course of verification and onsite visit, the data submitted by CME was cross verified with the values mentioned in the emission reduction sheet/2.2/ and monitoring report/1.2/. The procedure for data monitoring, recording, transfer and compilation was also verified and found in compliance with the monitoring plan as mentioned in the registered PoA-DD & included CPA-DDs.

It is confirmed by the assessment team that the reported emission reductions have been conservatively calculated. A list of referred documents for verification is also included in Appendix 3 of this report.

Based on the information seen and evaluated we confirm that the implementation of the PoA has resulted in 26,616 tCO₂e emission reductions during monitoring period 12/02/2020 to 31/07/2020 (first and last days are included).

SECTION H. Certification statement

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KBS Certification Services Pvt. Ltd. has been contracted by 'Korea Carbon Management Ltd.' to undertake independent verification and certification for the greenhouse gas (GHG) emission reductions reported from the CDM PoA "Improved Cook Stove Programme in Fiji" and UNFCCC Reference Number 10497 for the monitoring period 12/02/2020 to 31/07/2020 (including both dates) in the Monitoring Report Version 01.1 (first version) dated 14/09/2020.

The verification is based on the approved revised PoA-DD /03/ & approved CPA-DDs /03/ and the monitoring report for this PoA. Our verification approach was based on the requirements as defined under the Kyoto Protocol, as well as those defined by the CDM Executive Board.

The management of the 'Korea Carbon Management Ltd.' is the coordinating/Managing Entity and it is responsible for inclusion of CPAs under this PoA. 'Korea Carbon Management Ltd.' is also responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the PoA. The "Korea Carbon Management Ltd" is the CPA Implementer and responsible for the purchase / distribution / maintenance of the stoves. The calculation and determination of GHG emission reductions from the PoA is the responsibility of the management of the 'Korea Carbon Management Ltd.'. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 02 dated 22/12/2020.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the PoA for the monitoring period 12/02/2020 to 31/07/2020 (including both dates) based on the reported emission reductions in the Final Monitoring Report Version 02 dated 22/12/2020 for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated. KBS confirms the following;

Reporting period: 12/02/2020 to 31/07/2020 (including both dates)

Verified and certified emission in the above reporting period:

CDM-PoA-VCR-FORM

CPA UNFCCC reference number	Baseline GHG emissions or baseline net GHG removals (t CO ₂ e)	Project GHG emissions or actual net GHG removals (t CO ₂ e)	Leakage GHG emissions (t CO ₂ e)	GHG emission reductions or net anthropogenic GHG removals (t CO ₂ e)		
				Before 01/01/2013	From 01/01/2013	Total amount
10497-P1-0001-CP1	1,394	0	0	0	1,394	1,394
10497-P1-0002-CP1	25,222	0	0	0	25,222	25,222
Total	26,616	0	0	0	26,616	26,616

Appendix 1. Abbreviations

Abbreviations	Full texts
AQL	Acceptable quality level
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification request
CME	Coordinating/managing entity
CO ₂	Carbon dioxide
COP	Conference of Parties
CPA	Component Project Activity
CPA DD	Component Project Activity Design Document
DOE	Designated Operational Entity
DNA	Designated National Authority
ERs	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
ICS	Improved cook stoves
IPCC	Intergovernmental Panel on Climate Change
KBS	KBS Certification Services Pvt. Ltd.
LDC	Least Developed Country
MOP	Meeting of Parties
MP	Monitoring Plan
MR	Monitoring Report
NCV	Net Calorific value
PE	Project Emissions
PCP	Project cycle procedure
PoA	Programme of Activity
PoA-DD	Programme of Activity Design Document
PRC	Post Registration Changes
QA/QC	Quality Assurance/Quality Control
SME	Small and Medium Enterprises
SSC-PoA	Small scale Programme of Activity
TA	Technical Area
T&C	Technical & Certification
UNFCCC	United Nations Framework Convention on Climate Change
UQL	Unacceptable quality level
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

Personnel Name:		Sanjay Kandari	
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"/>
Area(s) of Technical Expertise			

Sectoral Scope	Technical Area
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
Energy demand	TA 3.1. Energy Demand
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure
Approved by (Manager C & T)	Akhilesh Joshi
Approval date:	11/12/2015

Personnel Name:		Tushar Chaudhari	
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"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal		
Approved by	Manager Competency & Training		
Approval date:	02/09/2020		

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"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
	TA 1.2: Energy generation from renewable energy sources		
Energy 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		

Personnel Name:		Josiah Elisha KWONG-WAH	
Qualified to work as:			
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 (Fiji)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Not applicable	Not applicable		
Approved by (Manager C & T)	Sanjay Kandari		
Approval date:	11/11/2020		

Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1.1	CME	Monitoring Report	Version 01.1, dated 14/09/2020	CME
1.2	CME	Final Monitoring Report	Version 02, dated 22/12/2020	CME
2.1	CME	ER calculation sheet corresponding to MR version 01	Corresponding to MR version 01	CME
2.2	CME	Final ER calculation sheet corresponding to Final MR 02	Corresponding to MR version 02	CME
3.	CME	Approved PoA-DD	Version 02, dated 05/06/2019	Publicly available
	CME	Specific CPA-DD of CPA 01 and CPA 02	Version 01.1, dated 21/01/2020	
4.	LGAI Technologica I Center, S.A. (Applus+ Certification)	PoA validation report	dated 10/07/2019	Publicly available
	LGAI Technologica I Center, S.A. (Applus+ Certification)	Validation reports for Specific CPA-DD of CPA 01 and CPA 02	Dated 10/02/2020	
5.	UNFCCC	AMS-II.G., Energy efficiency measures in thermal applications of non-renewable biomass	Version 10.0	Publicly available
6.	UNFCCC	Kyoto Protocol (1997)	Web link	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 10	Publically available
10.	UNFCCC	Guidelines for Application of materiality in verifications	version 2.0	Publicly available
11.	UNFCCC	MR filling guideline "CDM-PoA-MR-FORM Monitoring report form for CDM programme of activities"	Version 03.0	Publicly available
12.	UNFCCC	Standard "Sampling and surveys for CDM project activities and programme of activities"	Version 08.0	Publicly available
13.	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities	Version 04.0	Publicly available
14.	CME	Sampling results along with monitoring forms/ Household survey reports, Feedback	-	CME

		forms/Sampling survey forms		
15.	Viet Charcoal Production Company Limited	Technical documents for the lifetime and efficiency of the cook stoves	-	CME
16.	Ministry of women, children and poverty alleviation, Fiji G-BEL Laboratory, Institute of Technology	TEST reports for ICS efficiency	-	CME
17.	CME	Supportive stating avoidance of double counting.	-	CME
18.	CME	Training records for kitchen/monitoring team	-	CME
19.	CME	Stove distribution database	-	CME
20.	CME	QA/QC Manual and maintenance manual	-	CME
21.	CME	Monitoring manual, Project Management Manual	-	CME
22.	CME	Commissioning certificates of each batch of cook stoves distributed/Sample beneficiary agreements	-	CME
23.	CPA Implementer	Invoices/shipping document of the stoves	-	CME
24.	CPA Implementer	Installation database	-	CME
25.	CME	Sampling analysis sheet	-	CME

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

Table 1: Remaining FARs from validation and/or previous verification

FAR ID	01	Section no.	CPA Validation Reports	Date: 19/12/2020
Description of FAR				
<p>"FAR from validation of CPAs inclusion"</p> <p><i>The usage of the "Agreement between beneficiary and CME. for the distribution of ICS" shall be checked at the time of performing verification.</i></p> <p><i>-The template of the agreement provided by the CPA implementer contains specific declaration from the beneficiary about the following:</i></p> <p><i>- Confirmation that the beneficiary currently uses cooking stove(s) that are either of a "Three-stonefire" type, or a conventional system with no improved combustion air supply or flue gas ventilationsystem, i.e. without a grate or chimney and wishes to replace the currently used stove(s) for ADARSH "4G cook stove" and "FUEL NZEL (CRS-23)</i></p> <p><i>1. - Confirmation that the beneficiary is currently using fire wood to fire the current cookstove.</i></p>				
CME response				Date: 23/12/2020

In support of the FAR, CME is submitting the sample copies of the signed Beneficiary Agreement Forms for CPA-01 (i.e. for Adarsh ICS) and CPA-02 (i.e. 4G cook stove). Whereas, Fuelnzal (CRS-23) was proposed under CPA-03 which is yet to be implemented, hence not available at present.

Documentation provided by CME

Sample copies of Signed Beneficiary Agreement for CPA-01 & CPA-02

DOE assessment**Date: 09/01/2021**

The provided sample copies of signed beneficiary agreement for CPA-01 and CPA-02 has been checked and found conformance with the claim about baseline stove i.e. three stone fire and type of fuel used i.e. fire wood. However, since the CPA-03 is yet to be implemented. Thus the conformance of the same needs to be assessed in future. **Hence, the FAR remains open.**

FAR ID	02	Section no.	CPA Validation Reports	Date: 19/12/2020
Description of FAR				
<p>"FAR from validation of CPA inclusion"</p> <p><i>The non-diversion of any ICS deployed for this CPA from another CPA of this PoA or from another PoA or PA that may lead to the decrease of GHG ERs of any other CPA of this PoA or other PoA/PA, shall be considered in subsequent verifications taking into account the undertaking letter by the CME provided for this validation.</i></p>				
CME response				Date: 23/12/2020
<p><i>CME would like to confirm that there is no any diversion of ICS from any other CPA or program. All ICS are newly purchased by CME and distributed to beneficiaries as new device. As evidences, CME has submitted the Purchase Order, Shipment copies and also the ODA declaration copy to DOE for further verification. Kindly refer to the document folder "Proof of new purchase of Cookstove".</i></p>				
Documentation provided by CME				
<p><i>Copies of Purchase Order of ICS for CPA-01 & CPA-02.</i></p> <p><i>Copies of Shipment records.</i></p> <p><i>ODA declaration copy.</i></p>				
DOE assessment				Date: 09/01/2021
<p>The provided ODA dated 16/01/2020 separately for CPA-01 and for CPA-02 has been checked and found conformance with the claim about baseline stove i.e. three stone fire and type of fuel used i.e. fire wood. However, since the CPA-03 is yet to be implemented. Thus the conformance of the same needs to be assessed in future. Hence, the FAR remains open.</p>				

Table 2. CL from this Verification

CL ID	01	Section no.	ER Spreadsheet	Date: 19/12/2020
Description of CL				
<ol style="list-style-type: none"> 1. fnrb sheet is not available on PoA web page, CME shall submit the same. Being first verification it's VVB's responsibility to verify the appropriateness on fnrb? 2. CME is requested to submit the baseline survey report, moreover it shall be further clarified how the sampling requirements during the baseline survey met. 3. Value of B_{old} (9.42 Tonnes/Year) reported by CME seems on higher side based on the sectoral expertise of DOE, CME shall clarified how the value is reasonable in context of CPAs included. It is significantly higher than the default value of methodology AMSIIG i.e. 500 kg/year/person. 4. CME shall clarify how the hot start/cold start and simmer approach were taken into consideration while conducting WBT? This is not clear from the submitted evidence to DOE. 5. ER calculation shall be linked with the sampling results, sampling sheet shall be linked in ER sheet for maintaining transparency. 6. CME shall also furnish the evidences to verify the life span of each type of ICS distributed in current monitoring period. 				
CME response				Date:23/12/2020
<ol style="list-style-type: none"> 1. <i>fNRB sheet has been submitted to DOE for further review and verification (pls refer to the document folder "Validation documents"). Additionally, a re-assessment of fNBR has been submitted to DOE, via email dated 9 Dec 2020. This re-assessment is as per the current version of the Tool30 of CDM based on data sourced from Ministry of Forest in Fiji.</i> <i>This is to further intimate that the fNRB estimated at the time of Validation (as fixed ex-ante value at POA level, using UN default value guideline ("Default values of fraction of non-renewable biomass for least developed countries and small island developing States", Appendix 2 of the guideline, EB67, Annex 22) is still the most conservative value as compared to the current assessment done (i.e. re-assessment based on the main equation & sub-equations of the Tool30). Therefore, CME has applied that conservative value in the ER calculation and also reported in the MR.</i> 2. <i>CME has submitted the copy of the baseline fuel assessment report (Report Dec 2018). The baseline study was conducted using the CDM Sampling Standard and Best Practice guidelines, as reported under the page no. 7 of the report. The sample size was calculated using 90/10 confidence precision, which can be verified from the Sample Size equation 1 & 2 reported under the page no. 7. Additionally, the primary household survey was also conducted using standard Survey Questionnaire, in line with the CDM methodology, which can be verified from the Annex 1 & Annex 2 of the baseline report.</i> 				

3. With regards to the Baseline fuel consumption value “9.42 tons/yr/household”, CME would like to intimate that this result was based on primary study conducted across the samples (i.e. targeted households using firewood) from various regions of Fiji. The result from the study “avg. firewood consumption of 25.8 kg/day/hh” was derived from the wood consumption as primary fuel, which does not double account any firewood data pertaining to secondary cooking. Therefore, assessment was already very conservative. This can be verified from the ‘Analysis of the results’ reported under the page 13 to 18 in the baseline report.

Additionally, the Survey team of Kasabias had consulted with “Climate Change & Risk Management team of “Ministry of Women, Children & Poverty Alleviation” of Fiji to conduct a comparative study of the result with any official data or previous study. The Ministry had officially confirmed that as per official data and prior survey experience of district officers and women working groups, the avg. fuelwood consumption value is in the range of 29 kg/day/hh. Thus, the result from the baseline survey conducted was found to be conservative.

4. With regards to ICS efficiency, CME would like to inform the considerations as follows:

For Adarsh ICS the Manufacturer’s certified value based on WBT is 30.03% (Oct 2019) which was based on three tests hot start, cold start and simmer and there was an old lab test value of 30.10% as per Lab Test Certificate (March 2014) from Biomass Cookstove Test Centre (College of Technology & Engineering, MPUAT University). However, CME conducted a lab test for the ICS model during the PoA validation (Oct 2018), independently tested by Senior Climate Change Officer from the Ministry for Women, Children, Poverty Alleviation under the Standard Lab conditions of the University of the South Pacific (USP Physics Department) and result was found to be 29.49%, which was based on three tests conducted as per WBT. Therefore, CME has considered 29.49% as the applicable value of Efficiency for Adarsh ICS at the time of CPA inclusion.

Similarly, for 4G Stove there was an IWA Tiers Performance Report from Global Alliance For Clean Cookstove (Dec 2018) which prescribed 30% efficiency for 4G stove, additionally a common Test Report based on WBT which provided the avg. efficiency as 30%. However, an independent test was conducted by CME (Dec 2019) before validating the ICS for CPA, the result confirms 32% as WBT value, which was the most recent value, hence considered as efficiency for the ICS.

However, CME has now revised the ICS efficiency for the 4G model and considered the most conservative WBT test which was performed and certified based on three tests – viz. Hot start, Cold start and Simmer and also the conservative.

Therefore, the final revised WBT results are as follows:

- (a) 29.49% for Adarsh ICS (as per WBT test result which is the most conservative)**
 - (b) 30.00% for 4G ICS (as per WBT test results based on hot, cold & simmer tests, conducted and certified by G-BEL Laboratory, Institute of Technology of Cambodia, which is the most conservative).**
5. The revised ER calculation sheet (version 02) is now linked with the sampling results from the sampling sheet.
6. The lifespan certificates for the two ICS models are submitted to DOE.

Documentation provided by CME

- 1) (a) fNRB sheet as per UN Default value guideline, validated at the time of PoA Validation.
(b) fNRB re-assessment sheet, as per equations & sub-equations of CDM Tool 30.
- 2) Baseline Report "Baseline Household Fuel Assessment-Fiji, Dec 2018".
- 3) Letter from Ministry Of Women, Children and Poverty Alleviation (27 Feb 2019).
- 4) WBT test reports for both the ICS models.
- 5) Revised ER sheet (version 02)
- 6) Proof of Lifespan for the two ICS models.

DOE assessment	Date: 09/01/2021
<ol style="list-style-type: none"> 1. The provided both fNRB calculation sheets i.e. i) as per UN Default value guidelines and ii) fNRB re-assessment sheet as per CDM Tool 30 has been checked and found that CME has now used 90.97% fNRB value for ER calculation. The same has been checked and found conservative and appropriate. Thus, this part of CL is closed. 2. The CME has submitted baseline survey report titled, " Baseline Household Fuel Assessment – Fiji regarding cooking practice and fuel consumption survey in Rural Households of Fiji dated December 2018 prepared by Kasabias Pte Ltd. The same has been checked and found that baseline sampling equations and design template of survey form, sample copy of survey form/record in the report are inline with sampling requirements. Thus, this part of CL is closed. 3. CME has now provided baseline survey report and letter from Ministry Of Women, Children and Poverty Alleviation dated 27 Feb 2019. The same has been checked and found that the baseline fuel consumption value of 9.42 tons/yr/household based on 25.80 kg/hh/day value. The considered baseline fuel consumption value (kg/hh/day) is the lowest value as per baseline survey report and letter from Ministry Of Women, Children and Poverty Alleviation dated 27 Feb 2019. Hence accepted as conservative approach and conformance with applied methodology. Thus, this part of CL is closed. 4. The provided WBT reports for both ICS model i.e. Adarsh ICS and 4G ICS have been checked and found that during WBT -3 test i.e. cold, hot and simmer approach has been followed. Further, CME has now used lowest value i.e. Adarsh ICS (29.49%) and 4G ICS(30.00%) for calculation. The same is acceptable as conservative approach. Thus, this part of CL is closed. 5. The revised ER calculation sheet version 02 dated 22/12/2020 has been checked and now found that sampling results spreadsheet values has been linked with provided sample size and monitoring survey sheet. Thus, this part of CL is closed. 6. The CME has now provided life time supportive for ICS models by respective manufacturer i.e. Adarsh ICS dated 10/10/2019 and 4G ICS dated 15/04/2019 both claimed the life time of 5 years for respective ICS model. The same has been checked and found appropriate. Thus, this part of CL is closed. 	

CL ID	02	Section no.	ER Spreadsheet	Date: 19/12/2020
Description of CL				
How the technological days of ICS have been accounted in ER calculation? Explicitly e.g. how the days considered for the ICS distributed between 12th Feb to 28th Feb 2020, the approach shall also be described in monitoring report for maintaining transparency.				

CME response	Date: 23/12/2020
<p>In order to be conservative in emission reduction calculation, CME has considered the last date of distribution of a particular month as the date of complete commissioning of the stoves distributed for that particular month. Therefore, start date of accounting of emission reductions for stoves distributed in a particular month has been considered as the next day of the last date of stove distribution for that month.</p> <p>For example, the total number of ICS distributed under CPA-2 in the month of Feb2020 is 3371 and the date of last ICS distributed in Feb month was on 28th Feb.</p> <p>Hence, date of commissioning of the entire 3371 ICS shall be considered as 28th Feb, thus ER accounting has been considered from the next day, i.e. 29 Feb 2020 for all these 3371 ICS, which makes the ER accounting the most conservative. The DOE is requested to refer to the respective ICS distribution sheets for monthly aggregated values and please refer to Cell "I12" of the "ER-CPA02" spreadsheet (of ER sheet version 02) for further clarity.</p> <p>Whereas, for the purpose of identification of vintage-wise ICS numbers (i.e. technological days of operation for each ICS), the year fraction for each ICS shall be calculated from the date of its distribution. Which means, out of the 3371 ICS distributed under CPA-2 in Feb2020, the technological days of operation for each ICS shall be considered from their respective day of distribution (such as 01, 02, 03 Feb.....upto 28 Feb). Thus, vintage calculation of each ICS is the most conservative approach.</p> <p>This entire practice is the most conservative approach for both the purposes – i.e. for ER calculation and calculation of yearly efficiency as per para 32 of the applied methodology. The similar practice has been followed by CME for other registered PoA and verifications are successfully concluded with this practice. (PoA ref. 10443)</p> <p>This explanation is already included under the Appendix 1 of the MR and also referred specifically under the parameter for Commissioning, under section E.2 of the MR</p>	
Documentation provided by CME	
NA	
DOE assessment	Date: 09/01/2021
The provided justification for approach adapted to calculated technical days to be accounted for ER calculation has been checked with revised MR and ER calculation sheet and found traceable, conservative and acceptable. Thus, this CL is closed.	

Table 2. CAR from this Verification

CAR ID	01	Section no.	Cover Page	Date: 19/12/2020
Description of CAR				
Emission reduction achieved during the monitoring period are not consistent with the ER sheet. Monitoring report, version 1.1 report total CERs as 25,278 whereas the ER sheet has reported 25,787 t CO ₂ e.				
Project participant response				Date: 23/12/2020
CME has now revised the values of ER calculation in the MR (version 02) in line with the updated ER sheet (version 02). The final ER value is marginally higher than the value reported in the previous version. This is mainly because of the corrections made into the application of input values in the main equations for CPA-02; and also the update values of the parameter N_y & u_y as per the sampling results. The final values are also consistently applied across the MR.				
Documentation provided by project participant				
ER sheet, version 02 MR, version 02				
DOE assessment				Date: 09/01/2021
Now, the claimed emission reductions during the current monitoring period i.e. 26, 616 tCO ₂ e is consistently mentioned in the revised MR version 02 dated 22/12/2020 and ER calculation sheet version 02 dated 22/12/2020. Thus, this CAR 01 is closed.				

CAR ID	02	Section no.	C.1	Date: 19/12/2020
Description of CAR				
<p>The monitoring survey frequency and the corresponding confidence/precession is not reported in section C.1 of published MR, version 1.1. Refer the guidance to fill MR.</p> <p>Sampling results are not linked with the ER sheet. CME shall link the sampling results in ER spreadsheet. Moreover the expected proportion/standard deviation. Actual precession/actual standard deviation etc. shall be part of ER sheet. Refer the standard for sampling and surveys, registered monitoring plan and methodological requirements.</p>				
Project participant response				Date: 23/12/2020
<p><i>The sampling survey related information are now reported under the MR section E.3. and also referred under the section C.1 of the MR. Additionally, in the ER sheet, the input values of the survey are now linked with the sampling result sheet.</i></p> <p><i>Also, an additional spreadsheet has been included under the ER sheet to report the Sampling results, precision, etc. and the values are linked with the master files for Sampling Survey Results.</i></p>				
Documentation provided by project participant				
ER sheet, version 02.				
DOE assessment				Date: 09/01/2021
<p>Now, the survey frequency the corresponding confidence/precession has been now found incorporated in the section C.1 of the revised MR version 02 dated 22/12/2020. Further, the now the standard deviation of 95/10 has been incorporated and sampling sheet has also been linked with revised ER calculation sheet. Thus, this CAR 02 is closed.</p>				

CAR ID	03	Section no.	E	Date: 19/12/2020
Description of CAR				
<p>Details of sampling e.g. expected standard deviation, expected proportion/mean, actual precession/actual standard deviation etc. are not part of MR? Refer the standard for sampling and surveys, requirement of methodology, registered monitoring plan.</p>				
Project participant response				Date: 23/12/2020
<p><i>The required details of sampling survey such as expected deviation, expected proportion, precision etc. are now included under the MR, under the section E.3 and also under the Appendix 3.</i></p>				
Documentation provided by project participant				
Revised MR, version 02				
DOE assessment				Date: 09/01/2021
<p>Now, CME has incorporated required details of sampling e.g. expected standard deviation, expected proportion/mean, actual precession/actual standard deviation in the section E.3 and Appendix 3 of the revised MR. The information is found consistent with corresponding ER calculation sheet and sample size and monitoring survey sheet. Thus, this CAR 03 is closed.</p>				

CAR ID	04	Section no.	F	Date: 19/12/2020
Description of CAR				
<p>The demonstration of ER calculation is missing in section F of monitoring report viz sample ER calculation. Refer the guidance to fill monitoring report, it states , "provide sample calculations for all formulae used to calculate baseline GHG emissions or baseline net GHG removals, applying actual values.</p>				
Project participant response				Date: 23/12/2020
<p><i>The MR has been revised to incorporate required information under the section F in line with the MR filling guidelines.</i></p>				
Documentation provided by project participant				

<i>Revised MR, version 02</i>	
DOE assessment	Date: 09/01/2021
Now the CME has incorporated the sample calculation of B_y , saving, i,j for each model ICS in the section F of the revised MR consistent with revised ER calculation sheet. Thus, this CAR 04 is closed.	

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31May 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); • Make structural and 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	5June 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: programme of activities, verifying and certifying		