# VERIFICATION REPORT FOR “DISTRIBUTION OF ONIL STOVES – MEXICO, SAN FELIPE USILA 1”

Document Prepared by

Earthood Services Limited (Earthood)

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**Summary:**

Earthood Services Limited has been contracted by C-Quest Capital LLC to conduct the verification of the project “Distribution of ONIL Stoves – Mexico, San Felipe Usila 1”, VCS ID 1216, against VCS Standard Version 4.0.

The verification includes confirming the implementation of the monitoring plan of the registered VCS PD and MR (Project ID 1216) and the application of the monitoring methodology as per AMS.II.G, Version 03 “Energy efficiency measures in thermal applications of non-renewable biomass”. A site visit was conducted to verify the data submitted in the monitoring report.

Monitoring period for the current verification is considered from 01-08-2018 to 31-07-2019. The review of the project design documentation, monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and stakeholders have provided Earthood with sufficient evidence to validate the fulfillment of the stated criteria.

The coordinating managing entity of the project activity is C-Quest Capital LLC and the distribution and installation of ONIL stoves is implemented by HELPS International A.C. in Mexico. The installed capacity of the project activity is 31,178 stoves for this monitoring period. As per the test results, The ONIL stoves reduces the firewood consumption up to 58% compared to traditional baseline stoves and single ONIL stove can save up to 2.893 tons of CO2 every year. A total of 29,794 stoves considered for emission reduction calculations during this monitoring period[1].

Since the project activity involves distribution of fuel-efficient stoves to reduce the firewood consumption by households. Therefore, the project reduces greenhouse gas emissions and thereby contributes to sustainable development.

A risk-based approach has been followed to perform this verification. In the course of verification, 02 Corrective Action request (CARs), 00 Forward Action request (FARs), and 01 Clarification request (CLs) were raised and successfully closed.

Summary of the verification conclusion:

- Earthood confirms that the project is implemented in accordance with the registered VCS PD & MR. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the emission reductions from the project activity "Distribution of ONIL Stoves – Mexico, San Felipe Usila 1" in Mexico during the period 01-08-2018 to 31-07-2019 (including both days) amount to 25,444 (round down value) tons of $CO_2e$.

[1] The registered stoves of 2014, 2015 and 2016 which were deployed in the north of Mexico are deemed unsafe to visit due to local safety reason. Hence, these stoves are excluded from the final database for the calculation of emission reduction.

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# 1 INTRODUCTION

## 1.1. Objective

C-Quest Capital LLC has contracted Earthood Services Limited (Earthood) to perform VCS Verification of the 'ONIL Stoves – Mexico, San Felipe Usila 1' in Mexico (hereafter called project). This project has already been registered as a VCS project (VCS ID 1216). The objective of this verification is a thorough and independent assessment of registered project activities against the applicable VCS requirement by the VVB. The verification process shall determine whether the proposed project activity complies with the requirements of latest VCS guidelines, applicability conditions of the selected methodology, relevant host country regulations and guidance issued by the VCS Board.

## 1.2. Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities.

The Verification is not meant to provide any consulting towards the project participants. However, stated requests for clarification and/or correction actions request may have provided inputs for improvement of the project design.

## 1.3. Level of Assurance

The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors. Therefore, Earthood confirms that the verification is conducted with reasonable level of assurance.

## 1.4. Summary Description of the Project

The project activity involves distribution and installation of energy efficient ONIL stoves in Mexico to reduce the amount of firewood required by households. There is only one stove model "ONIL Plancha stove" has been distributed for this project activity.

The coordinating managing entity of the project activity is C-Quest Capital LLC and Fuego Limpio S.A. (FLSA) is the implementer of the CPA. Fuego Limpo S.A. manufactures the ONIL stoves and distributes to the communities throughout Mexico. This project was registered as the CPA “ONIL Stoves – Mexico, San Felipe Usila” of the PoA “Distribution of ONIL Stoves – Mexico” under the CDM program.

# 2 VERIFICATION PROCESS

The registered VCS project is undergoing fifth verification under VCS, the approach adopted to ensure the quality of emission reductions is described in the following sections.

## 2.1. Method and Criteria

Earthood assessed and determined whether the proposed implementation and operation of the project activity, and the steps taken to report emission reductions comply with the criteria and relevant guidance provided by the VCS Board. The validation/verification process consist of the following three phases;

• A desk review of the VCS Project Design and VCS Monitoring Report

• Site visit and follow up interviews with project stakeholders including end users of devices

• The resolution of outstanding issues and issuance of final report and opinion.

## 2.2. Document Review

The verification is performed primarily as a document review of the registered VCS PD/1/, previous MR/23/ and Verification report/2/ and associated documents as stated in detail in appendix 1 of this document. The assessment is performed by a verification team using a protocol. The cross checks between information provided in the Monitoring report, VCS PD and information from sources other than those used, if available, the team’s sectoral or local expertise and, if necessary, independent background investigations.

## 2.3. Interviews

The site visit for the project location, by the assessment team, was conducted on 04/11/2019 to 07/11/2019 and the following stakeholders were interviewed.

| S N | Name | Organization |
|---|---|---|
| 1 | Tridip kumar goswami | CQC |
| 2 | Siddharth pakrashi | CQC |
| 3. | Sergio | CQC |
| 4. | Andrea santos | Fuego Limpio |
| 5. | Oscar troncoso torrez | Fuego Limpio |
| 6. | Reyna lucina | End user |
| 7. | Emiliano pérez reyes | End user |
| 8. | Florencia isabel osorio santiago | End user |
| 9. | Agustina aguilar | End user |
| 10. | Edith reyes gonzalez | End user |
| 11. | Modesta edilberta aguilar | End user |
| 12. | Veneranda carmelita garcia | End user |
| 13. | Marcela demetria ramirez x | End user |
| 14. | Alicia cortez garcia | End user |
| 15. | Deysi arcos zenteno | End user |
| 16. | Sebastiana aguilar | End user |

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration details, monitoring and measuring system and data collection, recording and archiving procedures. The end user of cookstoves was also interviewed to reconfirm the baseline and sample results conducted by PP, as part of acceptance sampling by VVB. The assessment was drawn based on the feedback received during interview coupled with the documentation and on-site observations.

## 2.4. Site Inspections

A site visit was undertaken by Earthood team on 04/11/2019 to 07/11/2019 to carry out the following;

a) An assessment of the implementation and operation of the registered project activity as per the registered VCS PD and VCS MR;

b) A review of information flows for generating, aggregating and reporting the monitoring parameters;

c) Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the PD;

d) A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;

e) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PD, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;

f) A review of calculations and assumptions made in determining the GHG data and emission reductions;

g) 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.

## 2.5. Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and onsite assessment. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and non-conformities, which may be of following types;

CAR (Corrective Action Request) is raised if one of the following occurs:

• Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;

• Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;

• Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

• Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the Earthood during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

All the findings that are raised and communicated to project participant during the verification are included under appendix 2. The section also includes the response, if provided, by the project participants and an assessment by the verification team if it was closed out or otherwise.

### 2.5.1. Forward Action Requests

The project activity is undergoing fifth verification; there were no FARs raised during the validation or previous verification.

## 2.6. Eligibility for Validation Activities

Not applicable.

# 3 VALIDATION FINDINGS

Not applicable.

## 3.1. Participation under Other GHG Programs

The project has been registered under Clean Development Mechanism (CDM) on 07/10/2012 with reference number PoA 8521 /3/. As verified through the UNFCCC project webpage, crediting period of the Program of Activity (PoA) under CDM is from 07/12/2012 to 06/12/2019. Earthood has verified through the project UNFCCC web page/24/ that CERs for the period 01/01/2013 to 31/12/2013 have been already issued under CDM. CPA -01 was the only CPA included in this verification which has been verified from the CDM monitoring report version 1.0 dated 16/01/2014/25/. Since the current monitoring period under VCS is considered from 01/08/2018 to 31/07/2019, hence chances of double counting of credits are already ruled out.

This project is also registered under VCS (Project ID-1216) with 10 years crediting period from 01/01/2011 to 31/12/2020/01/. As verified through the records available at VCS registry, VERs for the four monitoring periods are already issued.

Even though the project has been registered under the CDM and crediting periods under both program (CDM & VCS) overlaps, but credits for the same GHG emission reductions under the VCS and the CDM shall not be claimed. This was confirmed through a declaration/11/ submitted by the PP and hence accepted by the assessment team. It was also confirmed through a declaration submitted/11/ by PP that the project activity has not been submitted under any other GHG or environmental related program for validation or verification.

## 3.2. Methodology Deviations

There is no methodology deviation identified during the current monitoring period.

## 3.3. Project Description Deviations

There are 3 project deviation have been observed for this monitoring period. The detailed description of the deviations are as follows-

**1- Change in sampling frame from Multi-Stage Sampling to Simple Random Sampling**

PP required to do the multistage sampling as per the CDM registered PoA DD, however it has been observed that the sampling frame has been changed from multi-stage sampling to simple random sampling. The proposed change is prescribed under Standard “Sampling and Survey for CDM project Activities and Programme of Activities”/20/. The project is implemented in Mexico and demographically it can be categorized as homogeneous region with reference to cooking habits and climatic conditions and the simple random sampling is suited for the homogeneous population as per the Guidelines for “Sampling and survey for CDM project activities and programmes of activities”/21/. The verification team confirms that the population of Mexico using cookstoves have been categorized as homogeneous and thus the simple random sampling is appropriate for the project. Also, since the simple random sampling is applied, the removal of secondary sampling unit is unlikely to lead to a reduction in the calculation accuracy of emission reduction.

The verification team has reviewed the sample size calculation from the corresponding Sample calculation spread sheet and found the calculation consistent as per the Guidelines for “Sampling and survey for CDM project activities and programmes of activities”/21/. The deviation doesn’t affect the accuracy or conservativeness of the emission reduction calculation and therefore has been accepted by the VCS team.

**2- Number of stoves included in the project activity**

At the time of registration of the project the number of cook stoves in the project activity was capped to 13,859 No's. However, a deviation in change of number of cook stoves has been requested to increase the number to 31,178. It is noteworthy that the capped limit was estimated based on an adaption rate of 100% and an average efficiency of cookstove as 24%. But during the actual distribution of the cookstoves the lower than expected efficiency and also the adoption rate was not able to make the project economically sustainable and survive over the years. Therefore, an increase in number of stoves has been requested by CME. As per the applied methodology type II category projects, the threshold limit for small scale project is 180 GWh thermal and this project activity comes under type II category projects. The assessment team has verified that this deviation results in annual savings of 69.24 GWh in 2017 and 109.59 GWh in year 2018, which is lower than the maximum limit of 180 GWh thermal/year. Therefore, the project activity continues to qualifies as small scale project.

The assessment team confirms that the project activity is in compliance with the applied methodology as the small-scale threshold is not surpassed. After this deviation the additionality of the project activity is not affected, and it has been demonstrated as per "Methodological tool: Demonstration of additionality of small-scale project activities version 10.0"/26/.

**3- Extension of crediting period**

The crediting period for this CPA was validated as 07/12/2012 to 06/12/2019 for the CDM registered PoA. However, for VCS issuance PP has requested to extend the crediting period to 31/12/2020 (10 years, Renewable twice). The assessment team confirms that the documents of the previous verification has been assessed and found out the deviation is in compliance with the VCS rules and properly justified in the monitoring report.

## 3.4. Grouped Project

Not applicable. The project activity is not a grouped project.

# 4 VERIFICATION FINDINGS

## 4.1. Project Implementation Status

1- The project installed 3 number of stoves in 2009[2], 4,361 stoves in 2010, 8524 stoves in 2011, 3,833 stoves in 2013, 5,900 stoves in 2014, 4067 stoves in 2015 and 4440 stoves in 2016 and a total of 31,178 stoves installed for this project. However, only 29,794 stoves were considered for emission reduction in this MP to account for some northern parts of Mexico which

are considered unsafe due to local safety concerns. These households were removed from the final project database. The stoves are made of concrete materials with little metal parts in it. As the broken and lost part of the stove is maintained or replaced and thus the stoves are still working even though the few of them were installed in the 2010. The working condition of the old stove has been verified during the site visit and found in the operational condition. The assessment team has confirmed that stoves are working fine.

[2] These 3 stoves installed in 2009 could not be monitored because the area where these were installed presents security problems and are therefore inaccessible for monitoring and removed from ER calculation. Evidence of the security problems was provided to the Validation and Verification Body.

The assessment team has visited the households and confirmed that project has been implemented as planned and as mentioned in the registered VCS-PD, CDM PoA-DD, CDM CPA-DD from the records available and the survey samples.

The assessment team has checked the sample calculation as per the Guideline: “Sampling and Survey for CDM project activities and programme of activities”/21/ and found out that the calculation of confidence/precision is consistent as per the monitoring plan.

The assessment team has done the desk review and the on-site visit of the project activity and confirmed that the project has not received any other form of environmental credit for the project. The project activity was implemented as described in the revised VCS PD/1/ and CDM CPA-DD/4/ and no material discrepancy was identified between the project implementation and the project description.

## 4.2. Safeguards

### 4.2.1. No Net Harm

There is no negative impact to any socio-economic conditions of the region due to the project activity. As per the CDM PoA DD/3/ and CPA-DD/4/, it is confirmed that ONIL stoves presents positive environmental impacts wherever they are applied.

This project activity will not involve any negative environmental or socio-economic impacts, as the project activity involves distribution and installation of the fuel-efficient stoves. Hence no mitigation measures are required.

### 4.2.2. Local Stakeholder Consultation

Not applicable for this verification.

## 4.3. AFOLU-Specific Safeguards

Not applicable for the project activity. For non-AFOLU projects, this section is not required.

## 4.4. Accuracy of GHG Emission Reduction and Removal Calculations

The assessment team has reviewed the monitoring plan and found out that the monitoring of GHG emission reduction from the project activity was implemented in accordance with the registered project document/1/, CDM PoA-DD/3/ and CDM CPA-DD/4/. The monitoring plan has been implemented as per the applied methodology and all parameters in the monitoring plan had been sufficiently monitored as per the applied methodology and relevant EB decisions.

Data measurement, recording and Sampling Approach; There are several approaches for collecting the data depending on the applied methodology for each step. The PP has followed the following steps:

1. **HELPS international A.C.: User registered stove**. HELPS International A.C. field personnel collected the information in the Registration Card from the users. Information was collected via a Registration Card filled by HELPS International A.C. staff and partner organizations. HELPS International A.C. staff double-checked the accuracy of the information and requested clarifications if needed. PP has presented details of the registration card to the VVB which has been verified during the site visit and found correct are per the requirement.

2. **HELPS international A.C.: Data logged into database**. HELPS International A.C.'s trained staff inputted the information from the Registration Card into the database. HELPS International A.C. and CQC checked the database records and removed duplicates (this included completing the serial number, checking for name duplicates, etc...). The registration card data have been checked from the ER sheet and verified from the database during the site visit and found correct.

3. **HELPS international A.C.: Spot-checks (ongoing).** HELPS International A.C. visited locations in the field and reported updates to office either via telephone or forms. HELPS International A.C. personnel corrected the database and clearly marked stoves that were not installed, were given away, the end user died or left town, or had any other issues that made the stove no longer eligible to participate in the CPA. These stoves were excluded from the emission reduction calculations. PPs presented the DOE with evidences that spot checks were performed independently from monitoring during monitoring period.

4. **Third Parties: Monitoring.** Third Parties followed the simple random sampling plan.

5. **CME Preparation of monitoring report**. CQC prepared the final monitoring report and retained copies of the document.

Step 1,2 and 3 collects the end user information and fill the database and step 4 involves survey to capture data on continuous use of stoves ($n_{y,j}$) and use of baseline or secondary fires ($SS_y$) and stove efficiency ($\eta_{new,i}$) as described in the below table:

| Parameter | Description of Parameter | Sampling approach (outcome in brackets) |
|---|---|---|
| $n_{y,j}$ | Proportion of ONIL Stoves still in operation | Visual inspection of the premises to see if ONIL stove is operational and in use. Interview with end user if required to verify that ONIL stove is still in use [Yes/No] |

| | | |
|---|---|---|
| $SS_y$ | Percentage of continued baseline stove use among ONIL stove households in the database | Interview with end user and visual inspection to determine if a baseline (replaced) stove is still being used in addition to ONIL stove [Yes/No] |
| $\eta_{new,i}$ | Thermal Efficiency of operational ONIL Stoves | ONIL Stoves were tested using WBTs [ONIL stove thermal efficiency] |

PP has taken two different type of sampling surveys. One survey to collect the information of ($n_{y,j}$) and ($SS_y$), another second survey to collect the information of ($\eta_{new,i}$).

The sampling has been done as per the monitoring plan which requires confidence/precision of 90/10 for annual monitoring. A simple random sampling has been proposed in place of multi-stage sampling as per the options provided in the Standard: "Sampling and Survey for CDM Project Activities and Programme of Activities version 7.0". The deviation doesn't affect the project design and detailed described in the section 3 of this report.

The sample size calculation has been conducted in the corresponding sample calculation spreadsheet. The assessment team has reviewed the revised information and found them consistent as per the Guidelines:" Sampling and survey for CDM project activities and programme of activities/21/. The assessment team has considered the procedure for sampling following the applied methodology AMS-II.G version 3.0/9/ and the EB guidelines for sampling.
During the site visit the assessment team has verified that the project has been implemented as per the registered project document by visiting a sample of 8 households selected at random from the survey samples.

**Data and monitoring parameters**

The PP has used ex-ante fixed data and monitored data by the applied methodology. The value used for calculation of GHG emission reductions have been thoroughly checked by the verification team and found appropriate and correct. The input values have been verified from the reliable and authentic sources including monitoring records and applied methodology. The emission reduction calculation verified from the emission reduction spread sheet and found to be correct. The details of the parameters are provided below-

1- Number of ONIL Stoves in operation during the monitoring period, $n_{y,i}$

| Criteria/Requirements | Assessment/ Observation |
|---|---|
| Measuring /Reading /Recording frequency | Biennially |
| Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) | Yes, measuring and reporting frequency is in accordance with monitoring plan/1/ and methodology/9/. |

| | |
|---|---|
| Monitoring equipment | NA |
| Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification? | NA |
| Calibration frequency /interval: | There are no calibration requirements since the value is obtained from physical surveys (to calculate the drop-off rate). |
| How were the values in the monitoring report verified? | The value of 29,485 which was previously verified was obtained by multiplying 0.9458 by 31,175 stoves eligible in the database. 94.58 was the percentage of the ONIL stoves in the operations. PP has submitted the survey sheets and which were assessed. They have considered 277 samples for the survey and found that 262 ICS were in good working condition. Hence, ny,i of 262/277 = 94.58% was considered for ER calculation for this MP. Further, Verification team has checked 11 samples (inline with Standard for Sampling and surveys for CDM project activities and programmes of activities, Version 9) out of 277 total stoves surveyed during monitoring survey and found all ICS in working condition, means 100% ICS operating as against 94.58% considered in the MR.<br><br>However, internal investigations by PP management revealed new information regarding the monitoring surveys which indicated issues with the monitoring practices which could potentially result in the monitoring survey |

showing higher operationality rate than actual in target sampled population.

Due to the unreliability of the monitoring survey data, the resulting 94.58% operationality rate has now been discarded. As an alternative, the operational stove percentage was determined by assuming 0% usage rate in year 2023, which is the last year after any verification was conducted for the project by a VVB (and continued usage of project devices by at least some proportion of the population was confirmed through VVB assessment). This was followed by application of annual deration to previous years, thus basing the calculation on linear loss rate- indicating an annual drop of 7.14% in usage by population each year, starting from the first year of distribution or the base year when operationality is assumed 100%. The database was cross checked with the previous verification /2/ and also cross checked from the records submitted for the monitoring period.

Based on this, calculations in the excel file "20250125 VERRA 6.1 LATAM VCS 1216 Mexico Loss rate (Deration) & Usage rate"/27/ were reviewed and ERs for following vintages were found to be consistently reported:

| year | Determination of the operational cookstoves based on the distributed year | | | $n_{y,l}$ of 2018 and 2019 |
|---|---|---|---|---|
| 2018 | Stoves of year (vintage) | Registered stoves in database | Operational cookstoves with annual drop percentage | 10,639 |
| | 2010 | 4361 | 1557 | |
| | 2011 | 8524 | 3044 | |

| | | | | |
|---|---|---|---|---|
| | 2013 | 3883 | 1387 | |
| | 2014 | 5443 | 1944 | |
| | 2015 | 3416 | 1220 | |
| | 2016 | 4167 | 1488 | |
| 2019 | Stoves of year (vintage) | Registered stoves in database | Operational cookstoves with annual drop percentage | 8,512 |
| | 2010 | 4361 | 1246 | |
| | 2011 | 8524 | 2435 | |
| | 2013 | 3883 | 1109 | |
| | 2014 | 5443 | 1555 | |
| | 2015 | 3416 | 976 | |
| | 2016 | 4167 | 1191 | |

The number of stoves distributed at the time of that monitoring period and the percentages indicate the operationality rate calculated based on linear deration rate[3] and provided for the MP5 in the above table. This is accepted as a conservative approach to calculate usage rate in absence of actual data records

The value obtained from these surveys was further cross-checked against the similar projects in the LATAM region across different registries and and the average stove operationality rate from these projects is found to be higher than assumptions applied in this MP using annual deration rate /28/.

[3] Excel spread sheet for calculation of Operational stove percentage as per annual deration rate applied is provided to VVB

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|---|---|
| | Based on the principle of conservativeness, the lowest value of the parameter obtained from sources discussed above has been accepted. |
| If applicable, has the reported data been cross-checked with other available data? | - |
| Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | Yes |

2- The fraction of ongoing baseline stove use within the population of in-use ONIL Stoves during a monitoring period, $SS_y$

| **Criteria/Requirements** | **Assessment/ Observation** |
|---|---|
| Measuring /Reading /Recording frequency | Biennially |
| Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) | Yes, measuring and reporting frequency is in accordance with monitoring plan/1/ and methodology/9/. |
| Monitoring equipment | NA |
| Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or | NA |

| | |
|---|---|
| as per the manufacturer's specification? | |
| Calibration frequency /interval: | There are no calibration requirements since the value is obtained from physical surveys (to calculate the drop-off rate). |
| How were the values in the monitoring report verified? | The value of this paramater is 90.61% which has been collected during the same survey for the fraction of ny,j (appliances in operation). The database has been cross checked with the actual data available at the time of site visit and also cross checked from the the records for the monitoring period. |
| If applicable, has the reported data been cross-checked with other available data? | - |
| Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | Yes |

3- If baseline stoves continue to be used, monitoring shall ensure that fuel-wood consumption of those stoves is excluded from Bold, $B_{old\_Adjusted}$

| **Criteria/Requirements** | **Assessment/ Observation** |
|---|---|
| Measuring /Reading /Recording frequency | Biennially |
| Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) | Yes, measuring and reporting frequency is in accordance with monitoring plan/1/ and methodology/9/. |
| Monitoring equipment | NA |
| Is accuracy of the monitoring equipment as stated in the monitoring | NA |

| | |
|---|---|
| plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification? | |
| Calibration frequency /interval: | There are no calibration requirements since the value is obtained from physical surveys (to calculate the drop-off rate). |
| How were the values in the monitoring report verified? | The monitoring ensures that (a) Either the replaced low efficiency appliances are disposed of and not used within the boundary or within the region; or (b) If baseline stoves continue to be used, monitoring shall ensure that the fuel-wood consumption of those stoves is prorated in $B_{old}$. Since the CME cannot require end users to dispose of stoves, option (b) is used and the wood used for any baselines stoves that continue to be in use was discounted from $B_{old}$.<br><br>The baseline survey captured the number of households using a baseline stove in addition to the ONIL stove. The difference between the amount of wood used by households with a second baseline stove (2 stoves) and all households with an ONIL stove gives the amount of wood attributed to the use of the baseline stove. This amount is multiplied by the proportion of households using the 2 stoves and then subtracted from $B_{old}$. |
| If applicable, has the reported data been cross-checked with other available data? | The reported data was cross-checked during the site visit from complete sales database and also for samples which were randomly selected the data was found to be consistent to the surveys and monitored results. |
| Does the data management ensure correct transfer of data and reporting of | Yes |

| | |
|---|---|
| emission reductions and are necessary QA/QC processes in place? | |

4- Efficiency of the ICS, $n_{new,i}$

| **Criteria/Requirements** | **Assessment/ Observation** |
|---|---|
| Measuring /Reading /Recording frequency | Biennially |
| Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) | Yes, measuring and reporting frequency is in accordance with monitoring plan/1/ and methodology/9/. |
| Monitoring equipment | Digital scales<br>Firewood moisture meters<br>Digitel thermometers<br>Thermocouple<br>The water Boiling test (WBT) protocol used was the WBT version 4.2.2 published by the Global Alliance for clean Cook stoves. |
| Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification? | NA |
| Calibration frequency /interval: | Not Applicable as WBT is done by third party . The calibration details of the equipment have been submitted by PP and the all the equipment are calibrated for this monitoring |

<table>
<tr><td></td><td>period. The calibration details of the equipments are listed in the reference/19/.</td></tr>
<tr><td>How were the values in the monitoring report verified?</td><td>The value of the paramater has been taken from the water boiling test implemented over stoves samples of 2010, 2011, 2013, 2014, 2015 and 2016 vintage publised by the Global Aliance for cook stoves. The value of the paramater-
<table>
<tr><td>Vintage</td><td>Efficiency</td></tr>
<tr><td>$n_{new,2010}$</td><td>23.65%</td></tr>
<tr><td>$n_{new,2011}$</td><td>23.79%</td></tr>
<tr><td>$n_{new,2013}$</td><td>23.55%</td></tr>
<tr><td>$n_{new,2014}$</td><td>23.94%</td></tr>
<tr><td>$n_{new,2015}$</td><td>23.72%</td></tr>
<tr><td>$n_{new,2016}$</td><td>23.44%</td></tr>
</table>
Has been checked from the WBT test reports/18/ and WBT version 4.2.2 calculation methods by the Grupo Interdisciplinario de Tecnologia Rural Apropiada, A.C. (GIRA).</td></tr>
<tr><td>If applicable, has the reported data been cross-checked with other available data?</td><td>The reported data was cross-checked during the site visit from complete sales database and also for samples which were randomly selected the data was found to be consistent to the surveys and monitored results.</td></tr>
<tr><td>Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?</td><td>Yes</td></tr>
</table>

5- Fraction of project's monitoring period the stove is in operation (weeks in operation/total weeks in monitoring period), $\mathbf{t_{y,j}}$

| **Criteria/Requirements** | **Assessment/ Observation** |
|---|---|

| | |
|---|---|
| Measuring /Reading /Recording frequency | Recorded annually |
| Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No) | Yes, measuring and reporting frequency is in accordance with monitoring plan/1/ and methodology/9/. |
| Monitoring equipment | NA |
| Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification? | NA |
| Calibration frequency /interval: | There are no calibration requirements since the value is obtained from physical surveys (to calculate the drop-off rate). |
| How were the values in the monitoring report verified? | The value of the paramater is 1.00 (average) for $t_{2018,j}$ and 1.00 (average) for $t_{2019,j}$. The data has been calculated from the days in operation during monitoring period devided by total number of days in monitoring period. The data has been verified from the database to ensure installation dates. |
| If applicable, has the reported data been cross-checked with other available data? | The reported data was cross-checked during the site visit from complete sales database and also for samples which were randomly selected the data was found to be consistent to the surveys and monitored results. |

| | |
|---|---|
| Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place? | Yes |

**Ex-ante Parameters-**

| Ex-Ante Parameter | Assessment |
|---|---|
| Quantity of Biomass used in the absence of the project activity (per appliance); $B_{old}$; Tonnes per annum | The value was calculated to be 5.34 tonnes/annum. This parameter has been determined during the baseline study done at the time of validation by conducting a kitchen performance test. The value is consistent with the PDD/1/, MR/6/ and the ER sheet /7/ |
| Net to gross adjustment factor to account for leakage; **L**; Fraction | The value of this parameter is 0.95 which was fixed at the time of validation. This value has been given as a default in the methodology/9/. The validated value is consistent with the MR/6/ and ER spreadsheet/7/ |
| Efficiency of the system being replaced; ηold; Fraction | The value of the parameter is 0.10 which is given in the para 6 of the applied methodology/9/. The value is consistent with the MR/6/ and ER sheet/7/ |
| Fraction of non-renewable biomass saved by the project activity; $\mathbf{f}_{NRB,y}$; fraction | The value of this ex-ante parameter is 0.87. This value has been applied from the methodology/9/ and For biomass savings to be calculated, the portion of biomass used that is renewable must be accounted for based on the methodology. The FAO 2010 |

| | |
|---|---|
| | report[4] gives a reforested area value of 247,600 ha/yr.<br><br>The $B_{old}$ number (5.34 tonnes of fuel wood per household per year) obtained from the baseline survey is multiplied by the estimated number of homes in Mexico (5.44 million) that still use open fires to obtain an estimate of the total amount of fuel wood used in Mexico ($B_{old,mexico}$).<br><br>NRB is $B_{old,Mexico}$ (excluding fuel wood used in baseline stoves) minus the DRB component (excluding trees that did not survive). Then, fNRB = NRB/(NRB +DRB)<br><br>The value is consistent with the MR/6/ and ER sheet/7/ |
| Net calorific value of non-renewable biomass that is substituted; $NCV_{biomass}$; TJ/t | The value of this ex-ante parameter is 0.015 TJ/tonne. This value has been fixed at the time of validation and applied from IPCC default value of the methodology/9/. The value is consistent with the MR/6/ and ER sheet /7/. |
| Emission factor for the substitution of non-renewable biomass by similar consumers, $EF_{projected\_fossilfuel,}$ $tCO_2/TJ$ | The value of this parameter is 81.6 t CO2/TJ. This value has been fixed at the time of validation and applied from default value of the methodology/9/. The value is consistent with the MR/6/ and ER sheet /7/. |

**Emission reduction:**

The methodology does not calculate baseline and project emission separately.

Instead, the methodology calculates emission reduction using the following equations:

$$ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected\_fossilfuel} * L$$

[4] FAO, *Evaluacion de los Recursos Forestales Mundiales, Informe Nacional, 2010, Mexico*, World Forest Resources Assessment, National Report, 2010, Mexico. www.fao.org/forestry/fra/67090/en/mex/; Data on reforested hectares on Page 38, data on average tree density and percentage of each on Page 43

Where:

| | |
|---|---|
| $ER_y$ | Emissions reductions during the year in tCO2e |
| $B_{y,savings}$ | Quantity of woody biomass that is saved in tonnes |
| $f_{NRB,y}$ | Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass (0.87) |
| $NCV_{biomass}$ | Net calorific value of non-renewable woody biomass that is substituted (IPCC default value for fuel wood 0.015 TJ/tonne) |
| $EF_{projected\_fossilfuel}$ | Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 $tCO_2$/TJ |
| L | A net to gross adjustment factor (0.95 default) is applied above (equation (1) of AMS II.G, version 3) in order to adjust $B_{old}$ to account for leakages as per paragraph 13 (a) of the methodology. |

To calculate $B_{y,savings}$, we use Option 2 of paragraph 6 of AMS II.G

$$B_{y,savings} = B_{old} * (1 - \frac{\eta_{old}}{\eta_{new}})$$

Where:

| | |
|---|---|
| $B_{old}$ | Quantity of wood fuel used in the absence of the project activity in tonnes |
| $\eta_{old}$ | A default value of 0.10 may be optionally used if the replaced system is a three stone fire, or a conventional system with no improved combustion air supply or flue gas ventilation system, i.e. without a grate or a chimney |
| $\eta_{new}$ | Efficiency of the system being deployed as part of the project activity (fraction), as determined using the Water Boiling Test (WBT) protocol. |

And

$$B_{y,savings} = B_{old,adjusted} \cdot \left[ \sum_{i=1}^{n} N_{y,i} \left( 1 - \frac{\eta_{old}}{\eta_{new,i}} \right) \right]$$

Where:

| | |
|---|---|
| $N_{y,i}$ | Total number of stoves in operation for a full monitoring period equivalent in the project |

$\eta_{old}$ Efficiency of the baseline system/s being replaced. The 0.10 default value is used as the replaced systems are three-stone fires or conventional systems lacking improved combustion air supply mechanism and flue gas ventilation system i.e., traditional stoves.

$\eta_{new,i}$ Efficiency of the system being deployed as part of the project activity (fraction), as determined using the Water Boiling Test (WBT) protocol.

The assessment team checked the formula and calculation used for baseline calculation in the MR and ES sheet and found that it is in compliance with the registered CDM PoA_DD, CDM CPA-DD and VCS project document. And the appropriate methods and formulae for calculating emission reduction have been followed and assumptions and emissions factors correctly applied.

### Project Emissions

Not applicable.

### Leakage

According to the applied methodology, a net-to-gross adjustment factor of leakage of 0.95 is applied to calculate the emission reductions for the monitoring period.

PP has provided the spreadsheet used for calculation and assessment is in confidence that the quantified value in the ER sheet is in accordance with the project description and applied methodology and consistent with the evidence provided.

## 4.5. Quality of Evidence to Determine GHG Emission Reductions and Removals

The assessment team can confirm that the calculation is based on the authentic data. The quality of supporting documents submitted for verification are adequate. The assessment team has checked the quality and maintenance of the supporting documents during the site visit to confirm the authenticity of the documents and to check the appropriate calculations. The assessment team confirms that the proper evidence is available for the whole monitoring period and the same is verifiable and the data collection system meets the requirement of the monitoring plan and the applied methodology according to the assessment carried out.

The assessment team confirms the quality of evidence to determine the GHG reductions is satisfactory and the detailed information regarding the roles and responsibilities have been provided in the monitoring report.

## 4.6. Non-Permanence Risk Analysis

Not applicable for the project activity.

# 5. VERIFICATION CONCLUSION

Earthood Services Limited (Earthood), contracted by C-Quest Capital LLC, has performed the independent verification of the emission reductions for the VCS project activity (VCS ID-1216) “Distribution of ONIL Stoves – Mexico, San Felipe Usila 1” in Mexico for the monitoring period 01-08-2018 to 31-07-2019 as reported in the Monitoring Report Version 02.2 dated 27/01/2025. The C-Quest Capital LLC is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity

Earthood commenced the verification based on the baseline and monitoring methodology AMS.II.G. version 03, the monitoring plan contained in the registered VCS PD Version 3.0 and VCS guidelines version 04, Monitoring Report Version 02.2 dated 27/01/2025 as per the process described under Section 2 of this report.

Earthood verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Earthood planned and performed the verification by obtaining evidence and other information and explanations that Earthood considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01-08-2018 to 31-07-2019 are fairly stated in the Monitoring Report Version 02.2 dated 27/01/2025. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology AMS.II.G., Version 03, and the VCS standard.

Verification period: From 01-08-2018 to 31-07-2019 (including both days)

Verified GHG emission reductions and removals in the above verification period:

| Year | Baseline emissions or removals ($tCO_2e$) | Project emissions or removals ($tCO_2e$) | Leakage emissions ($tCO_2e$) | Net GHG emission reductions or removals ($tCO_2e$) |
|---|---|---|---|---|
| 01-August-2018 to 31 - December-2018 | 12,067 | 0 | 0 | 12,067 |
| 01-January-2019 to 31-July-2019 | 13,377 | 0 | 0 | 13,377 |
| Total | 25,444 | 0 | 0 | 25,444 |

Approved by

Dr. Kaviraj Singh

CEO

Earthood Services Limited

Date: 17-03-2025

Place: Gurugram, Haryana

# APPENDIX 1: REFERENCES

| S.No | Title of Document | Version | Date |
|---|---|---|---|
| 1. | Revised VCS PD https://registry.verra.org/mymodule/ProjectDoc/Project_ViewFile.asp?FileID=25854&IDKEY=diofj09234rm9oq4jndsma80vcalksdjf98cxkjaf90823nmq3j35652666 | 1.0 | 28-08-2018 |
| 2. | VCS Verification Reports and monitoring reports (For the previous monitoring periods ) | 1.0 | |

| S.No | Title of Document | Version | Date |
|---|---|---|---|
| | https://registry.verra.org/app/projectDetail/VCS/1803 | | Last accessed on 25-04-2022 |
| 3. | CDM 8521 PoA-DD | 15.0 | 23-11-2012 |
| 4. | CPA 8521-P1-0002-CP1 "Distribution of ONIL stoves- Mexico, CPA 002" | 2.0 | 21-07-2018 |
| 5. | VCS Monitoring Report | 1.0 | 01-09-2021 |
| 6. | VCS Monitoring Report (Final) | 02.2 | 27-01-2025 |
| 7. | ER spread sheet (corresponding to the final monitoring report) | - | 27/01/2025 |
| 8. | CDM Monitoring report PoA 8521 | 1.0 | 16-01-2014 |
| 9. | AMS.II.G.- Energy efficiency measures in thermal applications of non-renewable biomass | 3.0 | - |
| 10. | VCS webpage for the project, VCS ID 1803; https://www.vcsprojectdatabase.org/#/project_details/1803 | - | Last accessed on 18-11-2021 |
| 11. | Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period | - | - |
| 12. | VCS Standard | 4.1 | 22-04-2021 |
| 13. | VCS Program Guide | 4.0 | 19-09-2019 |
| 14. | Remote site assessment –interviews of staff personnel, video recording | - | 08-11-2021 and 10-11-2021 |
| 15. | ONIL stove registration data | - | 04-04-2010 |
| 16. | Training records | - | - |
| 17. | Operational ONIL stoves data | - | - |
| 18. | WBT test results | - | |
| 19. | WBT measuring equipment Calibration certificates-<br>1- Weighing scale<br>2- Moisture meter<br>3- Thermometers | - | - |
| 20. | Standard: Sampling and survey for CDM project activities and programmes of activities | 9.0 | - |
| 21. | Guidelines for Sampling and survey for CDM project activities and programme of activities | 4.0 | - |
| 22. | CQC- Fuego Service Agreement for WBT | | 30-08-2017 |
| 23. | Previous VCS monitoring report (For the previous monitoring period 01-08-2018 to 31-07-2019) | | |
| 24. | CDM UNFCCC webpage for the project, UNFCCC reference no. 8521; https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/2BH1T0SFERD67JCZXAIWMKLO8PN5UQ/view | - | - |
| 25. | Previous CDM monitoring report (For the monitoring period 01/01/2013 to 31/12/2013) | 1.0 | 16-01-2014 |
| 26. | "Methodological tool: Demonstration of additionality of small-scale project activities" | 10.0 | |
| 27. | Deration rate calculations: "*20250125 VERRA 6.1 LATAM VCS 1216 Mexico Loss rate (Deration) & Usage rate*" | - | 25/01/2025 |
| 28. | Secondary data: other projects in the host country: *"44.03.05 Stoves in Operation - Verified Secondary Data (2024-08-05)"* | | 05/08/2024 |

# APPENDIX 2: Competency Statement

| Competence Statement | | | |
|---|---|---|---|
| **Name** | Kaviraj Singh | | |
| **Country** | India | | |
| **Education** | Ph.D. (Environmental Engineering), IIT Delhi<br>Masters (Energy & Environmental), DAVV Indore | | |
| **Experience** | 15 Years + | | |
| **Field** | Climate Change & Environment | | |
| **Approved Roles** | | | |
| **Team Leader** | YES | | |
| **Validator** | YES | | |
| **Verifier** | YES | | |
| **Methodology Expert** | AMS-I.D., AMS-II.D., ACM0006, AMS-I.A., AMS-I.C., AMS-II.B., AMS-III.H, ACM0002, ACM0001, AM0080 | | |
| **Local expert** | YES (India) | | |
| **Financial Expert** | YES | | |
| **Technical Reviewer** | YES | | |
| **TA Expert** | YES (TA 1.1, TA 1.2, TA 13.1, 13.2) | | |
| | | | |
| **Reviewed by** | Abhishek Mahawar | **Date** | 01/03/2018 |
| **Approved by** | Ashok Gautam | **Date** | 01/03/2018 |

| Competence Statement | | | |
|---|---|---|---|
| **Name** | Deepika Mahala | | |
| **Country** | India | | |
| **Education** | M. Sc. (Environmental Management), GGSIP University<br>B.Sc. Hons. (Chemistry), Sri Venkateshwar College, DU | | |
| **Experience** | 3 Years + | | |
| **Field** | Climate Change | | |
| **Approved Roles** | | | |
| **Team Leader** | YES | | |
| **Validator** | YES | | |
| **Verifier** | YES | | |
| **Methodology Expert** | ACM0002, AMS.I.D., AMS.I.A, AMS.III.AV, AMS.II.G | | |
| **Local expert** | YES (India) | | |
| **Financial Expert** | NO | | |
| **Technical Reviewer** | YES | | |
| **TA Expert** | YES (TA 1.2 & TA 3.1) | | |
| | | | |
| **Reviewed by** | Shreya Garg | **Date** | 14/09/2018 |
| **Approved by** | Anshika Gupta | **Date** | 14/09/2018 |

| Competence Statement | | | |
|---|---|---|---|
| **Name** | Anshika Gupta | | |
| **Country** | India | | |
| **Education** | M.Sc. (Climate Science & Policy), TERI University | | |
| **Experience** | 4 Years + | | |
| **Field** | Climate Change | | |
| **Approved Roles** | | | |
| **Team Leader** | YES | | |
| **Validator** | YES | | |
| **Verifier** | YES | | |
| **Methodology Expert** | AMS-I.A., AMS-II.G., ACM0002, AMS-III.A.V. | | |
| **Local expert** | YES (India) | | |
| **Financial Expert** | NO | | |
| **Technical Reviewer** | YES | | |
| **TA Expert** | Yes (TA 1.2, TA 3.1) | | |
| | | | |
| **Reviewed by** | Shreya Garg | **Date** | 12/03/2019 |
| **Approved by** | Kaviraj Singh | **Date** | 12/03/2019 |

| Competence Statement | | | |
|---|---|---|---|
| **Name** | Gaurav Shresth | | |
| **Education** | B.Tech (Mechanical Engineering)<br>M.E. (Thermal Engineering) | | |
| **Experience** | 4+ years | | |
| **Field** | Mechanical and thermal engineering | | |
| **Approved Roles** | | | |
| **Team Leader** | NO | | |
| **Validator** | Yes (Trainee) | | |
| **Verifier** | Yes (Trainee) | | |
| **Methodology Expert** | NO | | |
| **Local expert** | NO | | |
| **Financial Expert** | NO | | |
| **Technical Reviewer** | NO | | |
| **TA Expert (TA 1.2, 3.1)** | YES | | |
| | | | |
| **Reviewed by** | Shreya Garg (Quality Manager) | **Date** | 01/05/2019 |
| **Approved by** | Anshika Gupta (Technical Manager) | **Date** | 02/05/2019 |

| Competence Statement | | | |
|---|---|---|---|
| **Name** | Shifali Guleria | | |
| **Education** | M.Sc. (Environmental Studies and Resource Management), TERI University | | |
| **Experience** | 3+ year | | |
| **Field** | Climate Change | | |
| **Approved Roles** | | | |
| **Team Leader** | YES | | |
| **Validator** | YES | | |
| **Verifier** | YES | | |
| **Methodology Expert** | YES (AMS-I.A., AMS-II.G., AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002) | | |
| **Local expert** | YES | | |
| **Financial Expert** | NO | | |
| **Technical Reviewer** | YES | | |
| **TA Expert** | YES (1.2, 3.1) | | |
| | | | |
| **Reviewed by** | Deepika Mahala | **Date** | 18/02/2022 |
| **Approved by** | Ashok Gautam | **Date** | 18/02/2022 |

# APPENDIX 3: Abbreviations

| Abbreviations | Full texts |
|---|---|
| BEF | Baseline Emission Factor |
| CO2 | Carbon dioxide |
| CEA | Central Electricity Authority |
| CERC | Central Electricity Regulatory Commission |
| CMS | Central Monitoring System |
| CL | Clarification Request |
| CMP | Conference of Parties Serving as Meeting of Parties |
| CAR | Corrective Action Request |
| EB | Executive Board |
| FAR | Forward Action Request |
| GHG | Green House Gas |
| MR | Monitoring Report |
| O&M | Operation and Maintenance |
| PD | Project Description |
| PP | Project Proponent |
| QA/QC | Quality Assurance and Quality Control |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VCS PD | VCS Project Description |
| VCS | Verified Carbon Standard |
| VCSA | Verified Carbon Standard Association |
| VCUs | Verified Carbon Units |

# APPENDIX 4: Findings Overview

CAR: Corrective Action Request

CL: Clarification Request

FAR: Forward Action Request

**Table 1. Remaining FAR from validation and/or previous verification**

| | | | | |
|---|---|---|---|---|
| **FAR ID** | 00 | **Section no.** | NA | **Date :** DD/MM/YYYY |
| **Description of FAR** | | | | |
| NA | | | | |
| **Project participant response** | | | | **Date :** DD/MM/YYYY |
| *NA* | | | | |
| **Documentation provided by project participant** | | | | |
| *NA* | | | | |
| **VVB assessment** | | | | **Date:** DD/MM/YYYY |
| NA | | | | |

**Table 2. CL from this verification**

| | | | | |
|---|---|---|---|---|
| **CL ID** | 1 | **Section no.** | 4.1 | **Date :** 09/11/2019 |
| **Description of CL** | | | | |
| PP is requested to include the technical specification of the stove disseminated under section 1.1 of MR along with the stove operational years as per the template guidelines. | | | | |
| **Project participant response** | | | | **Date :** 28/11/2019 |
| Technical specification of the stove in section 1.1 of MR has been included now. | | | | |
| **Documentation provided by project participant** | | | | |
| *MR* | | | | |
| **VVB assessment** | | | | **Date:** 03/12/2019 |
| PP has included the technical specification of the stove disseminated under section 1.1 of MR which has been verified from the HELPS International's "The ONIL Plancha Stove Technical Information" brochure. Thus the CL stands closed. | | | | |

**Table 3. CAR from this verification**

| | | | | |
|---|---|---|---|---|
| **CAR ID** | 02 | **Section no.** | 3.3 | **Date :** 09/11/2019 |
| **Description of CAR** | | | | |

1. The MR and CPA-DD mentions CPA implementer as Helps International A.C. However, as per the UN webpage (CDM project webpage), it was found that Helps International A.C. has withdrawn (as of 30/03/2017) from the project.
2. As per section 1.6 of the VCS-MR, the crediting period is mentioned as 01/01/2011 to 31/12/2020. PP is requested to justify how is the duration of crediting period is in-line with the clause 3.8.1 of the VCS standard version 4.0 which states 'crediting period for ten years remains fixed whereas for 7 years it can be renewed twice'.

3. As per section 2.3.2, the sampling method has been changed from multi-stage sampling to simple random sampling, whereas the section 4.3 (Monitoring Plan) of the MR mentions that Multi-stage sampling has been applied. PP is requested to clarify the discrepancy in the sampling method applied. Also, please clarify the period for which the deviation is applicable.

| **Project participant response** | **Date :** 28/11/2019 |
|---|---|

1. HELPS international is still the implementer of the project who with the help of Fuego Limpio is implementing the project on ground, while HELP has withdrawn voluntarily as the project promoter.
2. At the time of validation of the project, applicable version of the VCS standard was Version 3.5. VCS standard version 3.5 paragraph 3.8.1 states that "For non-AFOLU projects and ALM projects focusing exclusively on reducing N2O, CH4 and/or fossil-derived CO2 emissions, the project crediting period shall be a maximum of ten years which may be renewed at most twice." Same is clarified in the footnote also in MR in the relevant section.
3. Simple random sampling method has been applied for the current monitoring period. Sampling method has been revised to simple random sampling in section 4.3 of the revised monitoring report.

**Documentation provided by project participant**

*MR*

| **VVB assessment** | **Date:** 03/12/2019 |
|---|---|

1- The assessemtn team has verified during the site visit by interviewing help personnel and document records that HELPS international is still the implementer of the project and working with Fuego Limpio for this monitoring period.
2- The information regarding the project crediting period has been verified from the registered project document and it was found that the VCS standard version 3.5 was applicable at the time of project validation and as per the standard the crediting period had been fixed to 10 years renewal in the registered document. Therefore The crediting period from 01/01/2011 to 31/12/2020 mentioned in the section 1.6 of the MR is acceptable.And the stated crediting period in the section 1.6 of the VCS-MR is consistent as per the registered project document.
3- Sampling method has been corrected to simple random sampling in revised monitoring report section 4.3. Therefore, no discrepancy is observed, and no further discussion is required.

Thus, the CAR stands closed.

| **CAR ID** | 03 | **Section no.** | ER sheet, | **Date :** 09/11/2019 |
|---|---|---|---|---|

**Description of CAR**

1. Parameter $B_{old\_adjusted}$ is not listed under section 4.2 of MR, which is inconsistent with the POA-DD and CPA DD, which list this under monitored parameter section.
2. The database presented was reviewed and few repetitive entries were identified. For. Eg:Alejo Vasquez Villa, ICS S.No.7001706067 603, Location: Rincon Grande , Atzacan, Veracruz;

and Alejo Vasquez Villa, ICS S.No.7001706067 811, Location: Rincon Grande, Atzacan, Veracruz (In worksheet title:2017 stoves in 2018 in ER sheet). Both people have same name and address. PP shall clarify how it has been ensured that one house is not receiving more than one stove and ER has not been claimed for the multiple stoves in the same house

3. PP needs to clarify on the designed operational lifetime of the stoves because the stoves disseminated in 2010 are considered operational in 2018. The average age of improved stove is 5-7 years. However, the auditor has observed during the site visit that these stoves are working fine and hasn't deteriorated.

4. As per page 11 of the CPA DD, the design efficiency of ONIL stove is 24%. However, during the current MP, the efficiency determined through WBTs are 24.36% for 2017 and 25.03% for 2018. PP shall explain how the efficiency calculated through WBTs are higher than the design efficiency.

| **Project participant response** | **Date :** 28/11/2019 |
|---|---|

1. Parameter $B_{old\_adjusted}$ is now included under section 4.2 of the revised MR.
2. In the database of the project activity, there is no specific address for any particular entry. There is only the name of state, name of municipality and name of locality available in the address. PP has captured the information of unique serial number, the household addresses, GPS coordinates and owners' names in the database for identification of each user. There may be more than one person living in the same locality. If we refer the particular case mentioned in the query, their geographical coordinates are different. That proves that both the stoves are not installed at the same place. Therefore, there is no duplicate entry in the database.

4- The stoves are made of concrete materials with little metal parts in it. As part of the program, the stoves are being maintained religiously and whenever there is a broken part, or a lost part was reported by household, the same was replaced and thus the stoves are still working even though the few of them were installed in the 2010. The same has been observed by verifier during on site audit.

5- There is no empirical data or research those have shown that the efficiency of plancha stoves decreases with time as long as the stoves parts are intact. However repeatability can be expected as long as the conditions are kept same. The stoves efficiencies are carried out as per APROVECHO standard. This standard is modified time to time to include the feedback from users, however this is the only standard which is considered best among improved cookstove implementers. CME with its experienced resources are doing the WBTs in field instead of carrying out in lab to get more accurate performance result (which is also suggested in the standard). However the performance of stoves depend not only on stove, fuel, pot used but also on the operator. It is impossible to use only one operator for so many WBTs and in so many different places. Also the characteristics of fuel vary even one uses one type of firewood. At the same time the pot used for WBTs are also not the same or not the only one as numbers of operators are more than one to carry out the WBTs in different places simultaneously. The WBT is designed to test many stoves in many places, but comparisons become less reliable as testing conditions vary. Due to different test conditions the performance varies, however to get the repeatability CME trains it personnel and tries to get the same conditions (other than external, such as humidity, weather condition, wind flow etc) to carry out the WBTs. Also as the standard suggests CME from its concluded WBTs tries to improve its training for the operators so that more accuracy can be achieved. Moreover, the latest technical specification provided by the project implementer shows stove efficiency as 31.67% (same is being provided to VVB). Thus in conclusion, CME feels that the results are accurate and don't have any data or research to show that stove efficiency decreases with time. CME has facilitated Auditor's visit to all the households having stoves where WBTs were carried out and also has submitted the WBT result sheet along with interview of the resources those who carried out the tests.

| **Documentation provided by project participant** | |
|---|---|
| *MR* | |
| **VVB assessment** | **Date:** 03/12/2019 |

1- PP has included the Parameter $B_{old\_adjusted}$ under section 4.2 of the revised MR and it was found consistent as per the registered CPA-DD on page 25.
2- The unique serial number and the geographical coordinates of the same name entries have been checked and it was found that both entries have different serial number and geographical coordinates. Therefore it has been ensured by PP that one house is not receiving more than one stove and ER has not been claimed for the multiple stoves in the same house. Closed.
3- The working condition of the old stove has been verified during the site visit and found in the operational condition. As the broken and lost part of the stove is maintained or replaced thus the installation time VVBsn't impact the performance of the stoves. The assessment team has confirmed that stoves are working fine.
4- The design efficiency of ONIL stove in the section 4.2 of the VCS MR is less than the 24% as per the page 11 of the CPA DD, which is conservative and appropriate as per the design efficiency. Closed Thus, The CAR stands closed.