

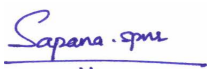


Verification and certification report form for CDM project activities

(Version 01.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the verification and certification report form for CDM project activities" at the end of this form.

VERIFICATION AND CERTIFICATION REPORT

Title of the project activity	ADES Solar and efficient stoves in Madagascar
Reference number of the project activity	GS 464
Version number of the verification and certification report	02
Completion date of the verification and certification report	18/08/2017
Monitoring period number and duration of this monitoring period	2 nd monitoring period Duration: 1 year from 01/01/2016 to 31/12/2016 (both days included)
Version number of monitoring report to which this report applies	4
Crediting period of the project activity corresponding to this monitoring period	Second Crediting period
Project participant(s)	Myclimate Foundation and ADES – Association pour le Développement de l'Energie Solaire
Host Party	Madagascar
Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)	Sectoral scope: Energy demand (3.1) GS Methodology: Technologies and Practices to Displace Decentralized Thermal Energy Consumption
Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PDD	182,692 tCO ₂ e
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	226,182 tCO ₂ e
Name of DOE	Bureau Veritas (India) Pvt Ltd
Name, position and signature of the approver of the verification and certification report	 Sapana Pednekar - Quality Manager- Operations

SECTION A. Executive summary

Bureau Veritas has conducted the 2nd periodic verification for the 2nd crediting period of the project "ADES Solar and efficient stoves in Madagascar"; Gold Standard registration reference number GS 464. The project is developed by MyClimate Foundation and ADES (Association pour le Développement de l'Energie Solaire), and is located in Madagascar. The project is applying the Gold Standard methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)".

The verification was based on:

- a) Requirements for Voluntary Offset Projects under the Gold Standard, including the applied Gold Standard methodology. The Gold Standard requirements are stipulated in the GS Requirements—version 2.2 and The Gold Standard Toolkit version 2.2.
- b) UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The verification scope is defined as an independent and objective review and ex-post determination of the monitored GHG emission reductions, and consisted of the following three phases:

- i) Desk review of the monitoring report, project design, the baseline and monitoring plan;
- ii) Follow-up interviews with project stakeholders;
- iii) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The overall verification, from Contract Review to Verification Report and Opinion, was conducted using Bureau Veritas internal procedures.

In summary, Bureau Veritas confirms that the project is implemented as planned and described in the validated and registered project design documents. Distributed equipment (i.e. efficient cook stoves) being essential for generating emission reduction are in use. The monitoring system is in place and the project is generating GHG emission reductions. The GHG emission reductions are calculated without material misstatements, and the emission reductions verified totalize 226,182 tCO₂e for the monitoring period.

Our opinion relates to the project's GHG emissions and resulting GHG emission reductions reported; and related to the valid and registered project baseline, approved monitoring plan and its associated documents.

Reporting period:	01/01/2016 to 31/12/2016 (both days included)
Baseline emissions:	Integrated in ER calculation formula
Project emissions:	Integrated in ER calculation formula
Leakage emissions:	0 t CO ₂ equivalents
Emission Reductions:	226,182 t CO ₂ equivalents.

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Team Leader	IR	Onsongo	Samuel	Bureau Veritas (India) Pvt Ltd	x	x	x	x

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	IR	Chirchir	James	
2.	Approver	IR	Pednekar	Sapana	Bureau Veritas (India) Pvt Ltd

SECTION C. Application of materiality**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.	<i>Incorrect capture of the date of sale of a stove</i>	<i>High</i>	Likelihood – more likely to occur due to manual data capture and transfer to database. Impact - over estimation of the number of days the stove has been in use. Hence over estimation of ERs claimed	<i>To randomly cross check a sample of receipts with the information in the database during onsite assessment.</i>
2.	<i>Over estimation of the stove usage rate</i>	<i>Medium</i>	Likelihood – may occur due to the use of statistical methods to determine the value. Impact – higher usage rate and hence over estimation of ERs claimed.	<i>Review the statistical analysis done. Randomly cross check a sample of hand-written survey records to determine whether the transfer of information was performed effectively. Visit a sample of survey respondents during on-site assessment.</i>
3	<i>Under estimation of woody biomass consumed in the project scenario</i>	<i>Medium</i>	Likelihood – may occur due to the use of statistical methods to determine the value. However the statistical methods are well defined including the expected confidence/precision level. Impact – higher fuel saving and hence over estimation of ERs claimed.	<i>Review the statistical analysis done to determine whether or not the level of confidence/precision is achieved. Randomly cross check a sample of hand-written survey records to determine whether the transfer of information was performed effectively.</i>
4	<i>Over estimation of the</i>	<i>Medium</i>	Likelihood – may occur due to	<i>Crosscheck the number of</i>

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	
	<i>stove number of sold</i>		<i>data fudging. However there exists a system that minimises the risk. The organisation uses unique identifiers for stoves and an online database system (Salesforce). Impact – higher usage rate and hence over estimation of ERs claimed.</i>	<i>stoves reported against the data retrieved from Salesforce onsite.</i>
5	<i>Incorrect ERs calculation</i>	<i>Medium</i>	<i>Likelihood – less likely to occur since the PP has used the same tools (Salesforce) which automatically calculated the ERs. The tool has been verified in previous verification cycles and the code has been made available for verification if needed. Impact – Over estimation of ERs claimed.</i>	<i>Recalculate ERs using parameters reported by PP to determine if the reported ERs can be reproduced</i>

C.2. Consideration of materiality in conducting the verification

The DOE has applied the concept of materiality in this verification. Consideration of materiality began by determining the materiality threshold to be applied. The DOE used a threshold of 5% as provided for in the methodology (refer to page 34 of the methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption - 11/04/2011).

The DOE assessed the risks indicated in section C.1 above, based on sampling (refer to section D.4 below) and applying the materiality threshold of 5% as follows:

1. Risk No.1 – During onsite assessment, the DOE crosschecked the dates on a random sample of 64 receipts (24 from Antananarivo region, 20 from Antsirabe region and 20 from Morondava region) against the dates entered in the Salesforce Database. One discrepancy was observed and a clarification request was raised (refer to CL 3 in Appendix 4). The response provided was found to be acceptable and the whole set of data was accepted. Refer to Appendix 5 for samples taken and section E.6.2 for additional information related to the parameters affected.

2. Risk No.2 - A random sample of 40 hand-written survey questionnaires (20 entries for wood usage survey and 20 for charcoal usage survey), were compared with information in the survey database. Discrepancies were noted in 7 out of the 40 samples. The discrepancies were assessed on their effect in the value of the usage rate, and consequently on the ERs calculations. It was noted that the discrepancies were not material i.e. they did not affect the usage rate and ERs calculations. A clarification request was raised on the discrepancies (refer to CL 3 in Appendix 4). For interview with monitoring and usage survey participants, the DOE selected, visited and held confirmation interviews with 22 sampled respondents. Refer to Appendix 5 for a list of household visited and section E.6.2 for additional information related to the parameters affected.

3. Risk No.3 - A random sample of 10 hand-written survey records were compared with information in the PFT survey database. No discrepancies were observed. The data was accepted and no more samples were taken. This was followed by a review of the PP's analysis to determine whether or not the desired confidence/precision level was achieved. The DOE concludes that the transfer of information and data analysis had been done correctly and the results are acceptable. Refer to Appendix 5 for samples taken and section E.6.2 for additional information related to the parameters affected.

4. Risk No.4 – The DOE made a comparison of the number of stoves counted for emissions reduction from the year 2012 to 2016 against the data extracted from Salesforce onsite. The comparison shows that there are fewer stoves reported compared to the data retrieved as follows:

	Charcoal Cluster		Wood cluster	
Year	As reported in the MR	As retrieved from Database onsite	As reported in the MR	As retrieved from Database onsite
2012	7187	7778	1312	1468
2013	11966	12507	1927	2115
2014	17909	20595	3706	4172
2015	23451	24932	5206	5326
2016	25477	27360	3976	4470
Total	85990	93172	16127	17551

For stoves claiming ERs, the DOE conducted a variance analysis between the numbers indicated in the ER calculation spreadsheets provided by the PP, against the numbers obtained from the DOE's independent analysis. The analysis showed a variance of 1092 stoves when comparing the total number of stoves (102117 stoves) claiming ERs as reported by the PP and the total number of stoves (101025 stoves) as analysed by the DOE. This is a 1.1% variance. From a materiality threshold of 5%, the DOE considered the variance to be immaterial.

The DOE concludes that the reported numbers are acceptable.

5. Risk No.4 - using the data and parameters reported by the PP, the DOE has been able to reproduce the same amount of ERs being claimed by the PP, by following the formulae provided in the methodology. The ER calculations by the PP are accepted.

SECTION D. Means of verification

D.1. Desk review

The assessment of the project documentation provided by the project participant is based upon both quantitative and qualitative information on emission reductions. Quantitative information comprises the reported numbers in the monitoring report (MR) version 01 dated 15 March 2017 (refer to doc 1 in Appendix 3); the subsequent revision of the report version 4.0 dated 9 January 2017 (refer to doc 13 in Appendix 3) and emission reduction calculation spreadsheet (refer to doc 2 in Appendix 3), as well as its revision (refer to doc 14 in Appendix 3). Qualitative information comprises information on internal management controls, calculation procedures, and data transfer procedures, frequency of emissions reports; and review of calculations. The monitoring report version 1 submitted by the project participant has been made available to Gold Standard.

Information reviewed included documents and records supporting the number of ER calculations claimed by the project participants, as well as documents and records to support the assertions on the sustainable development indicators. These included:

Documents and records for ER calculations:

- Monitoring Report version 1 (ref to doc 1 in Appendix 3)
- Project Design Documents (refer to doc 3 in Appendix 3)
- Emission reduction (ER) Calculations spreadsheets (refer to doc 2 in Appendix 3)
- Project database (refer to doc 2 in Appendix 3)
- Project Field Test report version 01 (refer to doc 4 in Appendix 3)
- Monitoring and Usage survey report version 1 (refer to doc 5 in Appendix 3)
- Monitoring and Usage survey report version 02 (refer to doc 15 in Appendix 3)
- Financial Audit report (refer to doc 6 in Appendix 3)
- Sales receipts

Documents and records for sustainable development indicators:

- Monitoring Report version 1(ref to doc 1 in Appendix 3)
- Employment records
- Monitoring and usage survey version 1 (refer to doc 4 in Appendix 3)
- Monitoring and Usage survey report version 02 (refer to doc 15 in Appendix 3)
- Project Design Documents with GS passport (refer to doc 3 in Appendix 3)
- Training records
- Financial Audit report (refer to doc 6 in Appendix 3)

NOTE: Some of the above documents and records were reviewed off site, while others were reviewed onsite. The full list of the documents and records reviewed is provided in Appendix 3 and Appendix 5.

D.2. On-site inspection

Duration of on-site inspection: 22/05/2017 to 26/05/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	- Introduction meeting - Interview with ADES Employees in Morondava - Review of records (Employment & Financial) - Crosscheck Questionnaires - Crosscheck receipts with Database information	Morondava	22/05/2017	Samuel Onsongo
2.	- Field visit (Monitoring/Usage Survey participants, and Institutions/schools)	Morondava	23/05/2017	Samuel Onsongo
3.	- Introduction meeting - Crosscheck receipts with Database - Field visit (Monitoring/Usage Survey participants)	Antsirabe	25/05/2017	Samuel Onsongo
4.	- Introduction meeting - Crosscheck receipts with Database - Field visit (Monitoring/Usage Survey participants)	Antananarivo	26/05/2017	Samuel Onsongo

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Hoeck	Tobias	Myclimate Foundation	Various Dates	Project implementation, Monitoring data, QA/QC, reporting PFT, Monitoring and Usage Survey ER calculations	Samuel Onsongo
2.	Ramilson	Faralahy	ADES	Various Dates	Monitoring data and Data collection Salesforce	Samuel Onsongo
3.	Ella	Rasoarimalal	ADES	22/05/2017	Employment at ADES	Samuel Onsongo
4.	Tsilairy	Jean	ADES	22/05/2017	Employment at ADES	Samuel Onsongo
6.	Sija	Leonide	ADES	22/05/2017	Employment at ADES	Samuel Onsongo
7.	Rakotonjanahary	Edmond	Collège Agricole Bezezika	23/05/2017	SDI number 4	Samuel Onsongo
8.	Rakotomavo	Balaina	CEG Tsimahavoakely	23/05/2017	SDI number 4	Samuel Onsongo
9.	Randrianasolo	Jeannine	EPP Ankisirasira	23/05/2017	SDI number 4	Samuel Onsongo
10.	Andriamalala	Naomy	ADES	26/05/2017	Stove Salesforce	Samuel Onsongo

D.4. Sampling approach

a) The DOE employed acceptance sampling (as described in CDM Standard for Sampling and surveys for CDM project activities and programme of activities version 07.0) as a means of verification; where the project participant employed sampling to determine parameters/values reported. The following conditions were applied to determine the sample size taken by the DOE:

(i) Acceptable quality level or the Level of Assurance (AQL). AQL = 1%

(ii) Unacceptable quality level (UQL). UQL = 20%

(iii) Producer's risk = 10%

(iv) Consumer's risk = 20%

b) For all other sampling efforts, the DOE employed 90/30 confidence/precision, as the criteria for reliability of sampling efforts. The sample size was determined using the 90/30 rule and an expected value of 50%, since no specific value was being sought. These values were then input into an online tool ref <http://www.raosoft.com/samplesize.html> to determine the sample size.

The table below show the sample sizes for both cases a) and b) above:

Activity verified	Minimum Sample size targeted	Actual sample size taken
Monitoring and usage survey	8 from charcoal cluster and 8 from wood cluster	40 questionnaires assessed (20 from each cluster)
Monitoring and usage survey	8 from charcoal cluster	22 respondents, to Monitoring and Usage survey for the Charcoal Cluster, were interviewed during onsite assessment
Sales records	8 from each of the three region of Morondava, Antsirable and Antananarivo	Receipts for 64 stoves sampled from the database (20 for Morondava, 20 for Antsirable and 24 for Antananarivo)
PFT	8 in total for both clusters	10 questionnaires assessed (5 from each cluster)

The DOE applied simple random sampling to select sample records (i.e. questionnaires and sales receipts). For stove user interviews, the DOE applied multistage sampling. Refer to Appendix 5 for a detailed list of the samples.

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
Compliance of the monitoring report with the monitoring report form	N/A	N/A	N/A
Compliance of the project implementation with the registered PDD	0	0	0
Post-registration changes	N/A	N/A	N/A
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline	1	0	0
Compliance of monitoring activities with the registered monitoring plan	2	0	0
Compliance with the calibration frequency requirements for measuring instruments	0	0	0
Assessment of data and calculation of emission reductions or net removals	0	0	0
Others (Action on FAR)	0	0	0
Total	3	0	0

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	Desk review of monitoring report
Findings	This section is not applicable, since the use of CDM forms is not a requirement of Gold Standard
Conclusion	The PP has used monitoring report template similar to previous monitoring cycles. In the report, the PP has provided all the information as required by Gold Standard.

E.2. Remaining forward action requests from validation and/or previous verification

At the time of renewal of crediting period, Gold Standard raised the following FAR: The PP shall carry out baseline surveys as and when institutional stoves are implemented as a part of the project. The FAR is still open. However, this does not affect the conclusion of this verification since

the PP has indicated, and the DOE has confirmed, that the project does not count emissions reductions from institutional cook stoves in this verification cycle.

E.3. Compliance of the project implementation with the registered project design document

Means of verification	<u>Document review</u> The DOE reviewed the following documents: Monitoring report version 01 (ref doc 1 Appendix 3) and subsequent revision of the report version 4.0 (ref doc 13 Appendix 2), registered PDD (ref doc 3 Appendix 3), employment records (ref to doc 7 in Appendix 3), Financial audit report (refer to doc 6 in Appendix 3). <u>Site visit</u> The DOE further conducted a site visit and held interviews with PP's representative, monitoring team and stove users, and Observation of stove technology implemented
Findings	Compliant
Conclusion	The DOE reviewed documents, performed a site visit and found that implementation and operation of the project activity has been in accordance with the description contained in the registered PDD. The project continues to produce and distribute solar and efficient stoves. The project produces 9 types of stoves namely: Solar box stove, E-solar box stove, Solar parabolic stove, Efficient wood stove OLI-b, Efficient wood stove OLI-45b, Efficient wood stove OLI-60b, Efficient charcoal stove OLI-c, Efficient charcoal stove OLI-45c and Efficient charcoal stove OLI-60c. Since renewal of crediting period, only efficient cook stoves (efficient wood stoves and efficient charcoal stoves) are considered for emissions reduction and they have been clustered into two main clusters namely: wood cluster and charcoal cluster. No changes to the project design were identified during this verification. The organizational structure for project monitoring remains the same as in the registered PDD and previous monitoring periods. Corresponding to paragraph 385 of VVS version 09.0, the DOE can confirm that the implementation and operation of the Project is consistent with the registered PDD.

E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline

Not applicable

E.4.2. Corrections

Not applicable

E.4.3. Changes to the start date of the crediting period

Not applicable

E.4.4. Inclusion of a monitoring plan to a registered project activity

Not applicable

E.4.5. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline

Not applicable

E.4.6. Changes to the project design of a registered project activity

Not applicable

E.4.7. Types of changes specific to afforestation and reforestation project activities

Not applicable

E.5. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline

Means of verification	Document review The DOE reviewed the following documents: Monitoring report version 1.0 (ref doc 1 Appendix 3), registered PDD (ref doc 3 Appendix 3), Applied methodology (ref doc 8 Appendix 3), to establish whether the monitoring plan was in line with the monitoring methodology.
Findings	One clarification request was raised and closed. Refer to CL 1
Conclusion	The DOE has verified the monitoring plan, including the data and parameters required to be monitored, measurement procedures, monitoring frequency and QC/QA procedures and confirms compliancy with the applied methodology. Corresponding to the paragraph 388 of VVS version 09.0, the DOE can confirm that the implemented monitoring plan is in accordance with the approved methodology (Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011) applied by the Project.

E.6. Compliance of monitoring activities with the registered monitoring plan

E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

Means of verification	Document review For the parameters determined and fixed ex ante, the DOE has crosschecked the values, as reported in the monitoring report, with values provided in the registered PDD and IPCC default values. The DOE also assessed the application of the values in calculation of emission reductions.
Findings	Values have been reported and applied correctly
Conclusion	The following parameters were determined and fixed ex ante: - EF_{b,CO_2} - CO₂ emission factor arising from use of fuel in baseline scenario (wood scenario: 1.7472 tCO₂/t wood, and charcoal scenario: 6.344 tCO₂/t charcoal) - EF_{p,CO_2} - CO₂ emission factor arising from use of fuel in project scenario (wood scenario: 1.7472 tCO₂/t wood, and charcoal scenario: 6.344 tCO₂/t charcoal). - $EF_{b,non-CO_2}$ - Non-CO₂ emission factor arising from use of wood-fuel in baseline scenario (wood scenario: 0.1356 tCO₂eq/t wood, and charcoal scenario: 0.1563 tCO₂eq/t charcoal). The PP used the GWP for CH₄ & N₂O, valid from 01/01/2013 (ref EB69 annex 3). - $EF_{p,non-CO_2}$ - Non-CO₂ emission factor arising from use of wood-fuel in project scenario (wood scenario: 0.1356 tCO₂eq/t wood, and charcoal scenario: 0.1563 tCO₂eq/t charcoal). The PP used the GWP for CH₄ & N₂O, valid from 01/01/2013 (ref EB69 annex 3). - $f_{NRB,i,y}$ - Non-renewability status of woody biomass fuel in scenario i during year y (72%). This is an approved default f_{NRB} for Madagascar (ref link). - $P_{b,y}$ - Quantity of woody biomass consumed in the baseline scenario in year y and per day in year y (Wood scenario: 3.95 t wood/year and 0.0108 t wood/day, Charcoal scenario: 1.09 charcoal/year and 0.0030 t charcoal/day) The DOE confirms that the parameters have been correctly reported and applied in emission reductions calculation

E.6.2. Data and parameters monitored

E.6.2.1. Data and parameters monitored for GHG emission reductions calculation

Means of verification	Parameter 1 – $P_{p,y}$ (Quantity of woody biomass consumed in the project scenario in year y and per day in year y) MoV: The DOE has reviewed the registered PDD and monitoring methodology to determine the monitoring and reporting requirement of the parameter. The parameter is required to be updated every two years through Project Field Tests (PFT). During the monitoring period (2016), the PP has complied with the requirement by carrying out a PFT the previous PFT was done in 2014. The DOE assessed the results of the PFT as follow: the DOE reviewed the PFT report (ref do 4 in Appendix 3) and statistical analysis done by the PP, to determine
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whether or not the desired level of confidence/precision was achieved. For analysis, the DOE employed the t-based Confidence Interval for the Mean. Further, during onsite assessment, the DOE crosschecked a random sample of 10 PFT records (refer to Appendix 5) against the information in the excel spreadsheets (ref doc 9 in Appendix 3) to ascertain that information transfer was without material error. From the assessment, the DOE concludes that the results of the PFT are reliable. The following valued reported by the PP are thus acceptable:

Wood scenario: 1.54 t wood/year and 0.0042 t wood/day

Charcoal scenario: 0.52 charcoal/year and 0.0014 t charcoal/day

Parameter 2 – U_{py} (Usage rate in project scenario during year y)

MoV: According to the registered PDD and the methodology the parameter is monitored annually through usage survey. The PP has carried out a usage survey as required.

The DOE assessed the results of the survey as follows: the DOE reviewed the Monitoring/Usage survey report (ref doc 5 in Appendix 3) and subsequent revision of the report (ref doc 15 in Appendix 3) to determine whether or not the PP had implemented the sampling plan described in the PDD and methodology. The DOE then reviewed the PP's data analysis in the provided excel sheets (ref doc 10 in Appendix 3) as well as the revised version (ref doc 16 in Appendix 3). During onsite assessment, the DOE crosschecked the transfer of survey information, from random sample of 40 hardcopy questionnaires (20 for each cluster) against the information in the excel sheets, to ascertain that information transfer was without material error. The DOE further visited and interviewed 22 respondents who participated in the survey. From the assessment clarification requests were raised and closed (refer to CL 2 and CL 3 in Appendix 4). The DOE concludes that the results are reliable and the following values obtained are acceptable:

Wood scenario: 87.5%

Charcoal scenario: 96.1%

Parameter 3 – $N_{p,y}$ (Project technologies days)

MoV: Verification of this parameter was as done in 3 steps indicated below:

Step 1: The DOE began by assessing the number of stoves credited. This was done by reviewing the Financial Audit Report (ref doc 6 in Appendix 3) and Previous verification report (ref doc 11 in Appendix 3). Further, during onsite assessment the DOE obtained raw sales data from 2012 to 31st December 2016 from Salesforce. This data was later filtered and compared to the actual numbers reported. The result obtained, as shown in section C above, show that the PP has not over estimated the number of stoves credited and thus the data was accepted.

Step 2: During onsite assessment, the DOE cross checked a random sample of 64 receipts (20 from Morondava site, 20 from Antsirabe site and 24 from Antananarivo site), against the 2016 sales data obtained from Salesforce. This was done to establish that the information in the database correspond to an actual stove sold and correspond to the date of sale. Clarification requests were raised and closed (refer to CL 2 and CL 3 in Appendix 4). The data provided was thus accepted.

Step 3: Using the reported values by the PP in i) above the DOE calculated the parameter N_p by multiplying all stoves, from 2012 to 2015, by 366 days and all stove in 2016 by 154 days (an average of the number of days from the date of stove sale to 31/12/2016, for all stoves sold in 2016 as obtained from the database by the DOE). The result obtained by the DOE indicated minimal variation from the values reported by the PP as follows:

N_p	PPs reported values	DOE's analysis	Variation
Charcoal Cluster	26,356,904 days	26,071,216 days	1.08%
Wood Cluster	5,044,463 days	5,059,570 days	-0.30%

Based on the above assessment the DOE concludes that the values reported by the PP are acceptable.

Parameter 4 – AF_{var} (ratio to account for seasonal and weekly variation of biomass fuel consumption)

	MoV: The parameter was assessed together with and in the same manner as Parameter 2 above. The DOE concludes that the following values reported by the PP are acceptable: Wood scenario: 0% Charcoal scenario: 0% Parameter 5 – Similar cook stove project activities in the project area MoV: The DOE has reviewed project listing in the registries provided i.e. Gold Standard registry, UNEP Risoe CDM Pipeline. The DOE has also looked at the CMD registry and confirm that one PoA has been registered as a GS CDM PoA covering the same geographical area and a similar technology. However the PoA is implemented by a different entity. Further the PP has already implementing a tagging system that can uniquely identify each stove being credited under this project activity. The DOE concludes that the PP is monitoring the parameter and there is no risk of double counting for this project. Parameter 6 – Incentive scheme to surrender charcoal baseline stove MoV: The DOE reviewed the Financial audit report to confirm the number reported (534 stoves) and considers the number acceptable.
Findings	Verification resulted in 2 clarification request which have been responded to and closed (refer to CL 2 and CL 3 in Appendix 4)
Conclusion	Corresponding to the paragraph 392 of VVS version 09.0, the DOE can confirm that: - The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. - All parameters required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow and found acceptable.

E.6.2.2. Data and parameters monitored for Sustainable Development Indicators (SDIs)

Means of verification	<u>SDI 1: Air quality</u> Parameter monitored is the number of positive comments from stove users on air quality improvement with project stove MoV: The indicator was assessed together with and in the same manner as Parameter 2 in E.6.2.1 above. The DOE concludes that the PP is monitoring the SDI; and the SDI is considered to have a positive score in this monitoring period. <u>SDI 2: Livelihood of the poor</u> Parameter monitored: Time (hours) and money (Ariary) saved per household per year due to fuel savings achieved by project stoves MoV: The indicator was assessed together with and in the same manner as Parameter 2 in E.6.2.1 above. The DOE concludes that the PP is monitoring the SDI; and the SDI is considered to have a positive score in this monitoring period. <u>SDI 3: Access to affordable and clean energy services</u> Parameter monitored: Number of persons that benefit from efficient and clean cooking technologies MoV: The indicator was assessed together with Parameter 3 in E.6.2.1 above following step i) and ii) only. The DOE concludes that the PP is monitoring the SDI; and the SDI is considered to have a positive score in this monitoring period. <u>SDI 4: Human and institutional capacity</u> Parameter monitored: Number of school visits conducted and number of people reached by awareness creation MoV: The DOE assessed this indicator through a visit of three schools in Morondava and held interviews with school representatives. From the assessment, the DOE considers that the PP is monitoring the indicators and in this monitoring
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	period the SDI has a positive score. SDI 5: Quantitative employment Parameter monitored: Number of jobs offered by ADES to local employees at very good conditions: Non-limited (permanent) contracts; cover for school fees for all children; and cover for health insurance for entire family. MoV: The DOE assessed this indicator through interviews with ADES employees in Morondava and a review of a sample of employment contracts for 3 employees. From the assessment, the DOE considers that the PP is monitoring the indicators; and in this monitoring period the SDI has a positive score.
Findings	Compliant
Conclusion	Corresponding to the paragraph 392 of VVS version 09.0, the DOE can confirm that: - The monitoring has been carried out in accordance with the monitoring plan contained in the registered PDD. - All parameters required by the monitoring plan have been sufficiently monitored and correctly listed. The monitored data for required parameters have been verified by checking the whole information flow.

E.6.3. Implementation of sampling plan

Means of verification	Document review The following documents were reviewed: monitoring and usage survey report (ref doc 5 Appendix 3) and monitoring and usage survey data (ref doc 10 Appendix 3). The DOE further assessed the survey procedures, sampling method, data entry and analysis. The DOE applied acceptance sampling as described in section D.4 above to verify the PP's implementation of the sampling plan described in the registered PDD. Site visit Further interviews with PP's representative, monitoring and a sample of respondents to the monitoring and usage survey were held during onsite assessment.
Findings	A clarification request was raised and closed (refer to CL 1 in Appendix 4)
Conclusion	The DOE confirms that, for the parameter monitored and determined through sampling (refer to section E.6.2 above), the sampling efforts and surveys comply with the validated sampling plan in the registered PDD and applied methodology.

E.7. Compliance with the calibration frequency requirements for measuring instruments

Means of verification	Document review The following documents were reviewed: Monitoring report (refer to doc 1 in Appendix 3), registered PDD (refer to doc 3 in Appendix 3), previous verification report (refer to doc 11 in Appendix 3) and onsite assessment of calibration records (ref doc 12 in Appendix 3)
Findings	The project activity does not involve direct measurement of parameters using measuring equipment. However, measuring equipment are used when carrying out Project Field Test (PFTs).
Conclusion	In 2016, a PFT was carried out and the scales used to perform the PFT were calibrated as seen in the calibration certificates. The DOE confirms that the PP has complied with the calibration requirements and the values of Parameters determined through the measuring equipment that require calibration are acceptable.

E.8. Assessment of data and calculation of emission reductions or net removals

E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

Means of verification	Document review The following documents were reviewed: applied methodology (ref doc 8 Appendix 3), registered PDD (ref doc 3 Appendix 3), monitoring report (ref doc 1 Appendix 3) and ER calculation spreadsheet (ref doc 2 Appendix 3)
Findings	Compliant

Conclusion	Baseline emissions calculations are integrated in emissions reduction calculation formula
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E.8.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	Document review The following document were reviewed: applied methodology (ref doc 8 Appendix 3), registered PDD (ref doc 3 Appendix 3), monitoring report (ref doc 1 Appendix 3) and ER calculation spreadsheet (ref doc 2 Appendix 3)
Findings	Compliant
Conclusion	Project emissions calculations are integrated in emissions reduction calculation formula

E.8.3. Calculation of leakage GHG emissions

Means of verification	Document review The following document were reviewed: applied methodology (ref doc 8 Appendix 3), registered PDD (ref doc 3 Appendix 3), monitoring report (ref doc 1 Appendix 3) and ER calculation spreadsheet (ref doc 2 Appendix 3) and monitoring and usage survey report (ref doc 5 Appendix 3)
Findings	Compliant
Conclusion	No leakage

E.8.4. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	Document review The review involved crosschecking the values of the parameters used in ER calculations with the referenced sources. The following document were reviewed: applied methodology (ref doc 8 Appendix 3), registered PDD (ref doc 3 Appendix 3), monitoring report (ref doc 1 Appendix 3), ER calculation spreadsheet (ref doc 2 Appendix 3), Previous verification report (ref doc 11 Appendix 3), IPCC default values. The DOE applied the verified parameter in section E.6.2 above in the ER calculation following the PP applied formulae.																		
Findings	Compliant																		
Conclusion	The details for emission reductions calculation during the monitoring period from 01/01/2016 to 31/12/2016 are provided in the ER calculation spreadsheet (ref doc 2 Appendix 3). The PP calculated emission reductions for each cluster by first determining the following: the number of project technology days ($\sum_{b,y} N_{p,y}$), the usage rate, the fuel savings in t wood/day-stove, then converted the emission factors EF_{fuel,CO_2} and $EF_{fuel, nonCO_2}$ into appropriate units (i.e. tCO₂e/t Charcoal and tCO₂e/t wood respectively) and then took a product of all these values including the $f_{NRB,b,y}$ and finally subtracting leakage as follows: $ER_y = (\sum_{b,y} N_{p,y}) * U_{p,y} * P_y * (f_{NRB,b,y} * EF_{fuel,CO_2} + EF_{fuel, nonCO_2}) - \sum LE_y$ The total emission reductions are the sum of emission reductions of the two clusters i.e. $ER = ER_{charcoal} + ER_{wood}$ Where: <table><tr><th>Parameter</th><th>Value</th><th>Source of value</th></tr><tr><td>$\sum_{b,y} N_{PY}$</td><td>Charcoal cluster = 26,356,904 days Wood cluster = 5,044,463 days</td><td>ADES sales Database</td></tr><tr><td>U_{PY}</td><td>Charcoal cluster = 100% Wood cluster = 91.9%</td><td>Usage Survey 2016</td></tr><tr><td>P_Y</td><td>Charcoal cluster = 0.0014t charcoal/day Wood cluster = 0.0042 t wood/day</td><td>Updated PFT 2016</td></tr><tr><td>$f_{NRB,b,y}$</td><td>Charcoal cluster = 72% Wood cluster = 72%</td><td>CDM default value for Madagascar</td></tr><tr><td>EF_{fuel, CO_2}</td><td>Charcoal cluster = 6.344tCO₂/t charcoal Wood cluster = 1.7472 tCO₂/t wood</td><td>IPCC 2006 default</td></tr></table>	Parameter	Value	Source of value	$\sum_{b,y} N_{PY}$	Charcoal cluster = 26,356,904 days Wood cluster = 5,044,463 days	ADES sales Database	U_{PY}	Charcoal cluster = 100% Wood cluster = 91.9%	Usage Survey 2016	P_Y	Charcoal cluster = 0.0014t charcoal/day Wood cluster = 0.0042 t wood/day	Updated PFT 2016	$f_{NRB,b,y}$	Charcoal cluster = 72% Wood cluster = 72%	CDM default value for Madagascar	EF_{fuel, CO_2}	Charcoal cluster = 6.344tCO ₂ /t charcoal Wood cluster = 1.7472 tCO ₂ /t wood	IPCC 2006 default
Parameter	Value	Source of value																	
$\sum_{b,y} N_{PY}$	Charcoal cluster = 26,356,904 days Wood cluster = 5,044,463 days	ADES sales Database																	
U_{PY}	Charcoal cluster = 100% Wood cluster = 91.9%	Usage Survey 2016																	
P_Y	Charcoal cluster = 0.0014t charcoal/day Wood cluster = 0.0042 t wood/day	Updated PFT 2016																	
$f_{NRB,b,y}$	Charcoal cluster = 72% Wood cluster = 72%	CDM default value for Madagascar																	
EF_{fuel, CO_2}	Charcoal cluster = 6.344tCO ₂ /t charcoal Wood cluster = 1.7472 tCO ₂ /t wood	IPCC 2006 default																	

	EF _{fuel, nonCO2}	Charcoal cluster = 0.1563 tCO ₂ e/t charcoal Wood cluster = 0.1356 tCO ₂ e/t wood	IPCC 2006 default (CH ₄ + N ₂ O)
	Σ LE _y	Charcoal cluster = 0 tCO ₂ e/t wood Wood cluster = 0 tCO ₂ e/t wood	Leakage assessment
The DOE confirms that the approach is the same as provided in the methodology i.e. $ER_y = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b, fuel} * (f_{NRB,b,y} * EF_{fuel, CO2} + EF_{fuel, nonCO2})) - \sum LE_{p,y}$ The DOE confirms: (a) All data was available for this monitoring period (b) Crosschecks have been done on the values used in ER calculation with their respective sources of data (refer to section E.6.2 above). (c) Appropriate methods and formulae for calculating GHG emission reductions have been followed; (d) Assumptions, emission factors and default values that have been applied in the calculations have been justified; (e) A pro-rata approach was correctly applied to the calculations of GHG emission reductions; (f) The first day in which CERs are being claimed has been correctly specified.			

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	Document review The following document were reviewed: registered PDD (ref doc 3 Appendix 3) and monitoring report (ref doc 1 Appendix 3)
Findings	Compliant
Conclusion	The total estimated ex ante emission reductions for this monitoring period according to the PDD is 182,692 tCO ₂ e. The corresponding actual emission reduction in the monitoring period as reported in the monitoring report and verified by the DOE is 226,182 tCO ₂ e, over the 1 year monitoring period. This indicates that the project achieved 23.8% more ERs than projected in the registered PDD.

E.8.6. Remarks on difference from estimated value in registered PDD

Means of verification	Document review The following document were reviewed: registered PDD (ref doc 3 Appendix 3) and monitoring report (ref doc 1 Appendix 3)
Findings	Compliant
Conclusion	From the overall assessment in indicated above, the DOE considers the reason provided for the difference in the actual ERs achieved and the estimates in the PDD, to be justifiable. The variation is due to more stoves sold in the year 2016 and a higher usage rate, than projected in the PDD.

E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Means of verification	Document review The following document were reviewed: registered PDD (ref doc 3 Appendix 3) and monitoring report (ref doc 1 Appendix 3)
Findings	Compliant
Conclusion	All emission reductions claimed in this monitoring period fall under the period 1 January 2013 onwards. Relevant GWPs for the period were used.

SECTION F. Internal quality control

The verification report underwent an Internal Technical Review (ITR) before requesting issuance of VERs for the project activity. The ITR is an independent process performed to examine thoroughly that the process of verification has been carried out in conformance with the requirements of the verification scheme as well as internal Bureau Veritas procedures.

The Team Leader provides a copy of the verification report to the reviewer, including any necessary verification documentation. The reviewer reviews the submitted documentation for conformance with the verification scheme. This will be a comprehensive review of all documentation generated during the verification process.

When performing an Internal Technical Review, the reviewer ensures that:

- The verification activity has been performed by the team, by exercising utmost diligence and complete adherence to the CDM rules and requirements, as well as requirements for Voluntary Offset Projects under the Gold Standard, including the applied Gold Standard methodology.
- The review encompasses all aspects related to the project which includes: project design, baseline, monitoring plan and emission reduction calculations, internal quality assurance systems of the project participant, as well as the project activity, closure of CARs, CLs and FARs during the verification exercise, and review of sample documents.

The reviewer may raise Clarification Requests to the verification team and discusses these matters with Team Leader. After the agreement of the responses on the Clarification Requests from the verification team as well as the PP, the finalized verification report is accepted for further processing such as final approval, submission to the PP or uploading via the GS registry.

SECTION G. Verification opinion

Bureau Veritas (India) Pvt Ltd (the DOE) has conducted the 2nd periodic verification for the 2nd crediting period of the project “ADES Solar and efficient stoves in Madagascar”; Gold Standard registration reference number GS 464. The project is developed by MyClimate Foundation and ADES (Association pour le Développement de l'Energie Solaire), and is located in Madagascar. The project is applying the Gold Standard methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)”.

The verification was based on:

- a) Requirements for Voluntary Offset Projects under the Gold Standard, including the applied Gold Standard methodology. The Gold Standard requirements are stipulated in the GS Requirements–version 2.2 and The Gold Standard Toolkit version 2.2, and
- b) UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The management of MyClimate Foundation (Switzerland) are responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the Project on the basis set out within the monitoring plan contained in the registered PDD. The development and maintenance of records and reporting procedures, in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas has verified the project Monitoring Report version 04 dated 09 January 2018 for the reporting period 01/01/2016 to 31/12/2016 (both days included). Bureau Veritas confirms that the project is implemented as described in the validated and registered project design documents. Distributed equipment (efficient cook stoves) being essential for generating emission reductions are in use. The monitoring system is in place and the Project is generating GHG emission reductions as a Gold Standard VER project.

Bureau Veritas can confirm that the GHG emission reductions are calculated without material misstatements and that the project activity continues have a positive impact on the development of the community in which it is implemented. Our opinion relates to the project's GHG emissions, resulting GHG emission reductions, the validated and registered project baseline, approved monitoring plan and its associated documents. Based on the evidence and information that is considered necessary to guarantee that GHG emission reductions are appropriately calculated, and sustainable development indicators are monitored and reported; Bureau Veritas confirms the following statement:

Reporting period: 01/01/2016 to 31/12/2016 (both days included)

Baseline emissions: Integrated in ER calculation formula

Project emissions: Integrated in ER calculation formula

Leakage emissions: 0 t CO₂ equivalents

Emission Reductions: 226,182 t CO₂ equivalents

SECTION H. Certification statement

Bureau Veritas (India) Pvt Ltd (the DOE) has conducted the 2nd periodic verification for the 2nd crediting period of the project "ADES Solar and efficient stoves in Madagascar"; Gold Standard registration reference number GS 464. The project is developed by MyClimate Foundation and ADES (Association pour le Développement de l'Energie Solaire), and is located in Madagascar. The project is applying the Gold Standard methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption (11/04/2011)". The verification was based on:

- a) Requirements for Voluntary Offset Projects under the Gold Standard, including the applied Gold Standard methodology. The Gold Standard requirements are stipulated in the GS Requirements–version 2.2 and The Gold Standard Toolkit version 2.2, and
- b) UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The verification consisted of the following three phases:

- i) Desk review of the project design, the baseline and monitoring plan;
- ii) Follow-up interviews with project stakeholders;
- iii) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of MyClimate Foundation (Switzerland) are responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the Project on the basis set out within the monitoring plan contained in the registered PDD. The development and maintenance of records and reporting procedures, in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas has verified the project Monitoring Report version 04 dated 09 January 2018 for the reporting period 01/01/2016 to 31/12/2016 (both days included). Bureau Veritas confirms that the project is implemented as described in the validated and registered project design documents. Distributed equipment (efficient cook stoves) being essential for generating emission reductions are in use. The monitoring system is in place and the Project is generating GHG emission reductions as a Gold Standard VER project.

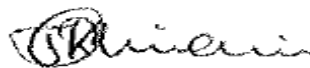
Bureau Veritas can confirm that the GHG emission reductions are calculated without material misstatements and that the project activity continues have a positive impact on the development of the community in which it is implemented. Our opinion relates to the project's GHG emissions, resulting GHG emission reductions, the validated and registered project baseline, approved monitoring plan and its associated documents.

Based on the evidence and information that is considered necessary to guarantee that GHG emission reductions are appropriately calculated, and sustainable development indicators are monitored and reported; Bureau Veritas confirms the following statement:

Reporting period: 01/01/2016 to 31/12/2016 (both days included)
Baseline emissions: Integrated in ER calculation formula
Project emissions: Integrated in ER calculation formula
Leakage emissions: 0 t CO₂ equivalents
Emission Reductions: 226,182 t CO₂ equivalents



Mr. Samuel Mayieko
Team Leader
18/08/2017



Mr. James Chirchir
Internal Technical Reviewer
18/08/2017

Appendix 1. Abbreviations

Abbreviations	Full texts
ADES	Association pour le Développement de l'Energie Solaire
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DOE	Designated Operational Entity
EB	CDM Executive Board
FAR	Forward Action Request
GHG	Green House Gas(es)
GS	Gold Standard
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
PDD	Project Design Document
PFT	Project Field Test
PoA	Programme of Activities
PP	Project Participant
SD	Sustainable Development Indicator
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reductions
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

Lead Verifier – Samuel Mayieko

He has a degree in Physics with over 9 years of experience in renewable energy, energy efficiency and climate change, out of which 6 years have been in CDM. He has been trained on CDM verification, QMS (ISO 9001) and EMS (ISO 14001), as Lead auditor. He has been involved in validation and verification of CDM and Gold Standard projects covering sectoral scope 1 and 3. Some of the GS projects he has been involved in included: Previous cycles of verification of GS 879, verification of GS 477, verification of GS 464 and verification of GS 2457.

Internal Reviewer – James Chirchir

He holds a Bachelor's degree in Chemical and Process Engineering and had 4 years' experience in manufacturing before joining Bureau Veritas. He is Lead Auditor in ISO 9001 and ISO 14001 and a trained CDM Verifier. He has conducted at least 5 CDM projects as validator/verifier. He has been involved in the verification of the following GS projects GS 879, GS 477 and GS 464. He is technically qualified to conduct projects falling under sectoral scope 3

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Myclimate Foundation	Monitoring report, version 01	15 March 2017	PP
2	Myclimate Foundation	Database and ER calculation	2017	PP
3	Myclimate Foundation	Project Design Documents version 8.3	26/05/2015	PP
4	Myclimate Foundation	Project Field Test report version 01	Feb 2017	PP
5	Myclimate Foundation	Monitoring/Usage Survey Report version 01	Jan 2017	PP
6	Haja Razafimahazo	Financial Audit report (confidential document)	April 2017	PP
7	ADES	Employment records for: Jean Tsiliary, Ella, and Leonide Sija (Confidential documents)	(confidential documents)	PP
8	GS	Technologies and Practices to Displace Decentralized Thermal Energy Consumption - 11/04/2011	11/04/2011	Other
9	Myclimate Foundation	PFT_Update_2016_analysis_V01	170206	PP
10	Myclimate Foundation	Monitoring_Usage_Analysis_2016_V01	161219	PP
11	BVCH	Verification report		DOE
12	Ministere Du Commerce et De La Consommation	Measuring equipment verification certificate	07/02/2016	PP
13	Myclimate Foundation	Monitoring report, version 4.0	09/01/2018	PP
14	Myclimate Foundation	Database and ER calculation version 03	09/01/2018	PP
15	Myclimate Foundation	Monitoring and Usage survey report version 02	Jan 2018	PP
16	Myclimate Foundation	Monitoring_Usage_Analysis_2016_V02	09/01/2018	PP

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

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

FAR ID	FAR 1	Section no.	B.3	Date: 11/08/2017
Description of FAR				
<i>The PP shall carry out baseline surveys as and when institutional stoves are implemented as a part of the project."</i>				
Project participant response				Date: 11/08/2017
<i>The project does so far not count emissions reductions from institutional cook stoves. Baseline surveys will be conducted once institutional stoves have reached a sufficient scale.</i>				
Documentation provided by project participant				
N/A				
DOE assessment				Date: : 11/08/2017
The FAR is still open. However, this does not affect the conclusion of this verification since the PP has indicated, and the DOE has confirmed, that the project does not count emissions reductions from institutional cook stoves in this verification cycle.				

Table 2. CL from this verification

CL ID	CL 1	Section no.	PFT Update Report 2016 v01	Date: 17/06/2017
Description of CL				
<i>In this monitoring period the PP performed a PFT, however the sampling method used was not simple random sampling. The PP is requested to provide the details of the statistician who carried out the analysis as required by the methodology (section 7 page 12 of the methodology)</i>				
Project participant response				Date: 06/07/2017
The request for expert statistical analysis was only mentioned in version 1 of the applied methodology. The latest version of the applied methodology (version 2, April 2015, page 13) does no more include this request. The statistical analysis was carried out by Tobias Hoeck, project manager at myclimate, who carried out statistical analysis of ADES monitoring data since 2008. The sampling approach applied is in line with CDM guidelines for sampling and surveys. For revalidation of the project a detailed KPT analysis with different approaches for multi-stage cluster sampling was carried out (see file: 150112_KPT_Analysis_2014_V02.xls). It showed that the mean value was always the same, only the precision attained differed in the approaches (the analysis of multi-stage cluster sampling had higher precision). Since the precision attained in all approaches fulfilled the 90/30 rule in the methodology, the mean value was used. Thus, as long as the precision attained fulfils the 90/30 rule, there is no need for a more detailed analysis for cluster sampling. Further, the simple analysis showed the lowest precision (meaning the highest percentage) as compared to the sophisticated approaches. It is thus conservative to carry out the simple analysis for the 90/30 rule or 90/10 respectively.				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 21/07/2017
The response has been reviewed. However additional clarification is required. As per the latest PDD version 8.3 dated 26.05.2015 and the Monitoring report Version 1.0, 15 March 2017, it is indicated that the project is applying Gold Standard Methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption -11/04/2011". Has the PP obtained approval to apply provisions of version 2 of the methodology?				
CL1 is not closed				
Project participant response				Date: 31/07/2017

Version 02 of the applied methodology was not yet available at time of revalidation of the project and therefore could not be applied in the PDD. However, as explained above the statistical approach for simple random samples shows lowest precision and thus we are conservative and on the safe side, when applying the 90/30 rule. Performing a sophisticated analysis for multi-stage cluster sampling would lead to a higher precision, which has no influence on the result, because the current precision already fulfils the 90/10 rule and the mean value is applied. Therefore it is reasonable to apply the analysis approach for a simple random sample to the sample of the PFT Update. This is based on the sophisticated statistical analysis (with expert advise) including different approaches conducted with BFT/PFT for revalidation in 2014/2015. The statistical analysis was discussed during revalidation and reregistration reviews. The chosen approach and way of analysis had been approved. For further information the DOE is requested to see the corresponding responses and discussions in the final revalidation report (2015-03-12_GS464_FVR.pdf, p. 20-22,) and the final GS reregistration review (4 weeks review GS 464 Renewal Crediting Period Final Round 08072015.pdf, p. 2).	
Documentation provided by project participant	
2015-03-12_GS464_FVR.pdf, p. 20-22, 4 weeks review GS 464 Renewal Crediting Period Final Round 08072015.pdf, p. 2.	
DOE assessment	Date: 01/08/2017
The DOE has reviewed the response and documents provided. The DOE considers the response is acceptable and CL 1 is closed.	

CL ID	CL 2	Section no.	D.2	Date: 17/06/2017
Description of CL				
<i>The PP is requested to clarify how its managements system ensures that information necessary for cross verification is maintained and made available when needed.</i>				
<i>During onsite assessment the following records were not available for cross verification:</i>				
- <i>Surveys: From a sample of 20 entries one entry (refer to the attached spreadsheet) could not be traced to its hardcopy questionnaire.</i> - <i>Sales database: Corresponding records (i.e. receipts) could not be found for two stoves (OLI-c 92540 and OLI-c 93241) sold in Antsirabe</i>				
Project participant response				Date: 06/07/2017
- Surveys: The missing hardcopy (Stove user "TIRINE") is provided to the DOE. See file "attached_1.zip". - Sales database: the receipts of the two stoves are provided to the DOE. The stoves were sold in two different region which are: OLI-c 92 540, date of sale: 25/09/2016, customer: RAHERINANDRASANA Jean François, Fianarantsoa region but this customer is living in Antsirabe that's why the address registered. (see file "attached_2") OLI-c 93 241, sold in Toliara region, customer: BERY, date of sale: 24/11/2016, the address provided in salesforce is in Antsirabe. (see file "attached_3")				
Documentation provided by project participant				
DOE assessment				Date: 21/07/2017
The response has been reviewed. However it is not clear what measure(s) the PP has put in place to ensure that this issue does not recur in future and that such records are easily accessible for spot checking and cross referencing by a third party.				
CL 2 is not closed				
Project participant response				Date: 31/07/2017

Surveys:	
All hardcopies from surveys are stored in a folder with the monitoring coordinator in Toliara. Information from hardcopy questionnaires is copied to the excel file, crosschecked and then sent to myclimate for analysis. During analysis and based on feedback from myclimate hardcopy questionnaires are again consulted. During this handling process the corresponding questionnaire was filed in a wrong folder and could therefore not be found during site-visit.	
Sales database:	
The DOE checked receipt of stoves sold in Antsirabe centre. For the mentioned two stoves, the original receipt could not be found in ADES's Antsirabe centre, because the stoves were not sold through Antsirabe centre. Receipts are always stored at the centre where stove sale was made. For these two stoves, sale was made by centres in Finanarantsoa and Toliara, but the client's address is in Antsirabe. Salesforce also provides information by which centre sales was made. In this way the original receipts can be found. They are located in Toliara and Fianarantsoa centres and were submitted to DOE for review.	
There is no need to implement any measure, since traceability of original documents is guaranteed when checking salesforce.	
Documentation provided by project participant	
N/A	
DOE assessment	Date: 01/08/2017
The DOE has reviewed the response provided and considers the response acceptable. CL 2 is closed.	

CL ID	CL 3	Section no.	D.2	Date: 17/06/2017
Description of CL				
<i>The PP is requested to clarify how it has ensure that transfer of information from physical records (e.g. questionnaires and receipts) to the database is accurate and does not lead to overestimation of the parameters for calculating ERs.</i>				
<i>During onsite assessment the following discrepancies were observed:</i>				
<i>Surveys: From a sample of 20 entries for wood usage survey and 20 for charcoal usage, the transferred information for 7 questionnaire entries does not entirely match the information in the hardcopy questionnaires (refer to the attached spreadsheet for the entries in question).</i> <i>The date of sale for one stove (OLI-c 88545) sold in Antananarivo does not match the date on the receipt</i>				
Project participant response				Date: 06/07/2017
Surveys:				
For the wood usage survey we missed to categorize the questionnaire in the archive file.				
The inconsistencies between excel and hardcopy questionnaires originate from mishandling of different types of excel files. Please find responses to DOE's comments in the excel file "questionnaire_samples", which is submitted to the DOE.				
Date of sale:				
The inconsistency of date of sale on OLI-c 88 545 comes from forgetting to put it on the moment of sale. But, we put systematically a methodology of a monthly verification of customers in the database. We take 50 samples to verify all information to check for inconsistencies.				
The inconsistencies have been corrected in the excel file (see 170705_Monitoring_Usage_Analysis_2016_V02.xlsx). The inconsistencies did not affect usage rates or ER calculation.				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 21/07/2017

For surveys: The response has been reviewed and corrections in the Monitoring & Usage Analysis datasheets are accepted. However it is not clear what measure(s) the PP has put in place to ensure that the error in transfer of information from hardcopy records to analysis datasheets does not recur in future. For date of sale: The response has been reviewed. The DOE wishes to find out what action has been taken on the inconsistency on the date of sale for stove (OLI-c 88545). Also in the response, it is indicated that a sample of 50 is taken for crosschecks; is this the current practice or a proposed measure and what method of sampling is applied? CL 3 is not closed	
Project participant response	Date: 31/07/2017
Surveys: ADES has already a comprehensive data quality assurance system in place for monitoring data. After transferring data from hardcopies to the excel file, all information from all questionnaires are checked twice by the monitoring coordinator and his assistant before sending it to myclimate for analysis. During analysis process myclimate also checks data for plausibility and checks with ADES monitoring coordinator in case of any questionable data. The inconsistencies are typos and have no influence on ER calculations or usage rates. ADES monitoring coordinator and his assistant will conduct cross checks even more carefully in order to avoid any inconsistencies in the future. Date of sale: The DOE checked the original receipt of the mentioned stove and on the receipt there was no date of sale indicated. The reason for this is, that the stove was sold through a reseller and that after the reseller reported back to ADES the sales he made during the month, the date of actual sale was forgotten to be written on the ADES receipt. However, the date of sale was correctly registered in salesforce (based on the reseller sales data sheet). To ensure complete and consistent sales data in salesforce, ADES has put in place a data quality check mechanism from 2017 on. At the end of every month each ADES centre checks and verifies data entries of a sample of at least 50 clients randomly selected from the sales made in that month.	
Documentation provided by project participant	
N/A	
DOE assessment	Date: 01/08/2017
The DOE has reviewed the response provided and considers the response acceptable. CL 3 is closed.	

Table 3. CAR from this verification

N/A

Table 4. FAR from this verification

N/A

Appendix 5. Samples verified

Risk 1: Sampled receipts

Stove ID	Buyer	Date of sale	Region	Receipt no.
OLI-c 49973	Ramamiarison Alxendre	1/15/2016	Morondava	29882
MP 99	ONG Fanoitra	1/27/2016	Morondava	29939
OLI-c 72717	TAHINA,promotion fête de pâques du 24/03/16	3/24/2016	Morondava	30024
OLI-c 71574	Perline (Promotion JME)	6/8/2016	Morondava	30159
OLI-c 82405	Patricia	8/22/2016	Morondava	30278
OLI-c 82357	Yolande	8/23/2016	Morondava	30288
OLI-c 82662	RASOARIVAO	8/23/2016	Morondava	30285
OLI-c 87376	Projet de collaboration entre WWF/ADES District Mahabo CR Ampanihy FKT Ankilimida	8/30/2016	Morondava	33956
OLI-c 87230	Projet de collaboration entre WWF/ADES District Mahabo CR Ampanihy FKT Anjatelo	8/31/2016	Morondava	33958
OLI-b 19711	Projet de collaboration entre WWF/ADES District Mahabo CR Ampanihy FKT Besara	8/31/2016	Morondava	33960
OLI-c 87352	Projet de collaboration entre WWF/ADES District Mahabo CR Ampanihy FKT Manamby	9/3/2016	Morondava	33965
OLI-c 87483	Projet de collaboration entre WWF/ADES District Mahabo CR Ampanihy FKT Manamby	9/3/2016	Morondava	33965
OLI-b 19775	Projet de collaboration entre WWF/ADES District Mahabo, CR Ampanihy,FKTmananjaky	9/3/2016	Morondava	33978
OLI-c 86579	Projet de collaboration entre WWF/ADES District Mahabo CR Ampanihy FKT Ankilimida	9/3/2016	Morondava	33966
OLI-c 82875	Mme Jocelyne	9/9/2016	Morondava	33980
OLI-b 14710	Randriamamonjy Adomis	10/21/2016	Morondava	33815
OLI-c 93564	Sahondra	10/27/2016	Morondava	33838
OLI-c 93512	Tovo	11/5/2016	Morondava	34066
OLI-c 93371	Mme LESILINE	12/7/2016	Morondava	33890
OLI-c 92908	Mr Tavazy	12/7/2016	Morondava	34026
M 1420	MME RAKOTOARIVOLOLOMINA	2/1/2016	Antsirabe	35822
OLI-45c 3643	MME RAMAMPIANDRA PAULINE	4/1/2016	Antsirabe	35878
OLI-b 15203	RANIVONIRIANTSOA HANITRINIAINA	10/24/2016	Antsirabe	36291
OLI-c 65556	RANAIVO	11/17/2016	Antsirabe	60223
OLI-c 70566	RAKOTOBENARIVO SAFIDY	1/14/2016	Antsirabe	2784

OLI-c 70969	MME RAKOTONJOHARY DANNIELLA	1/7/2016	Antsirabe	2762
OLI-c 77793	FARAVOLOLONA	4/11/2016	Antsirabe	35888
OLI-c 80279	MME RANDRIAMBOLOLONA HOLIARIMANANA	5/29/2016	Antsirabe	36027
OLI-c 82963	RAZANAJANAHARY FANJAVOLOLONA JOELINE	5/28/2016	Antsirabe	36022
OLI-c 83075	RAKOTONDRA SOA JEAN CLAUDE	8/3/2016	Antsirabe	36385
OLI-c 85706	RAKOTONDRA SOA JEAN CLAUDE	8/3/2016	Antsirabe	36385
OLI-c 87914	VOAHANGINIAINALALAINASOA GERMAINE	9/22/2016	Antsirabe	36259
OLI-c 88414	TSIKIVY HARIMBOLA RATEFIMAHENINA	10/5/2016	Antsirabe	36272
OLI-c 88425	RAVELOMANANTSOA PIERRETTE	9/21/2016	Antsirabe	36256
OLI-c 88453	ANDRIAMAROJAONA TAFITANIAINA	10/7/2016	Antsirabe	36275
OLI-c 92540	BERY	11/24/2016	Antsirabe	
OLI-c 93241	RAHERINANDRASANA Jean François	9/25/2016	Antsirabe	
OLI-c 96472	LALAOTSIADIANA MAHERIZO	11/28/2016	Antsirabe	60234
T 7272	MR RAKOTOARISOA RENE	11/4/2016	Antsirabe	36300
T 7277	RASOAVOLOLONIRINA PERLINE	11/14/2016	Antsirabe	60214
OLI-c 97613	Mme Myriame	12/20/2016	Antananarivo	58890
OLI-c 99726	Paposse	12/9/2016	Antananarivo	41038
OLI-c 75845	Rasoavololona	11/3/2016	Antananarivo	40913
OLI-c 89453	Mme Fanja	10/13/2016	Antananarivo	36765
OLI-c 89487	HAIFY Mampiavana	9/24/2016	Antananarivo	36601
OLI-c 89645	Charles	9/23/2016	Antananarivo	35044
OLI-c 88545	Mr Christian	9/23/2016	Antananarivo	35046
OLI-c 88305	Mr Rabarivelo solofoniaina	9/2/2016	Antananarivo	34994
OLI-c 83439/2	Andrianaivo Tony	8/6/2016	Antananarivo	36533
OLI-c 81183	Rahajamanana Sahondra	7/6/2016	Antananarivo	36147
OLI-c 81153	Mme Tavahy	6/22/2016	Antananarivo	36158
OLI-c 81361	Andrianarivelo Tahina	6/18/2016	Antananarivo	36107
OLI-c 80614	Mme Rakotosoa Johanna	6/3/2016	Antananarivo	36055
OLI-c 80902	Mme Andriamanantena	5/24/2016	Antananarivo	35788
OLI-c 81226	Mr Jocelyn	5/14/2016	Antananarivo	35667
OLI-c 81864	Berthine	5/10/2016	Antananarivo	35425

OLI-c 81920	Mme Eulalie	5/7/2016	Antananarivo	35910
OLI-c 75337	Mr Ramanantso	5/4/2016	Antananarivo	35414
OLI-c 74103	Mme Olivia	4/29/2016	Antananarivo	35624
OLI-c 68053	Rasamoelina Edmond	1/11/2016	Antananarivo	35084
OLI-45b 953	Olivier	7/7/2016	Analamanga	36234
OLI-45c 3599	RAKOTOMALALA MARIEDOROTHEE	3/7/2016	Analamanga	35239
OLI-45c 4033	RAMILIJAOANA Charle dit Charly	12/15/2016	Analamanga	58861
OLI-45c 4035	RAMILIJAOANA Charle dit Charly	12/15/2016	Analamanga	58861

Samples for Risk 2 – Monitoring and usage survey

A: Questionnaires Sampled

Wood Cluster			Respondent	Location	Sector	Stove ID	DOE's Comment
No	Interviewer	Survey date					
10	Faralahy / Alphène	3/14/2016	FARAVELO	Satragnarivo	E4	OLI-b 2044	Transfer OK
20	Faralahy / Alphène	3/22/2016	HONORINE	Eboro	T6	OLI-b 10 489	Transfer OK
12	Alphène/Faralahy	4/11/2016	LALYH	Amborovy Belinta	MG4	OLI-b 16 170	Transfer OK
23	Alphène/Faralahy	6/30/2016	Sela	Ambohitse	MB1	OLI-b 3696	Transfer OK
7	Alphène/Faralahy	4/11/2016	MAMY Ralijaona	Tsararivotra-Est_Amborovy	MG4	OLI-b 31 91	Transfer OK
12	Alphène/Faralahy	6/24/2016	SOANARA	Ambiky	T6	OLI-b 93 83	Transfer not entirely accurate
18	Alphène/Faralahy	6/30/2016	SOLONDRAINY	TSINJORANO CISCO	MB1	OLI-b 14260	Transfer OK
11	Alphène/Faralahy	12/14/2015	NIRY	Andranomena Ejeda sud	E1	OLI-b 11066	Transfer OK
6	Alphène/Faralahy	12/14/2015	VORIRAZA	Andranomena Ejeda sud	E1	OLI-b 10872	Transfer OK
21	Alphène/Faralahy	12/15/2015	RAVAOMIALY Noro	Andranomena Ejeda sud	E1	OLI-b 11155	Transfer OK
9	Alphène/Faralahy	6/30/2016	Berthien	Tsihake	MB1	OLI-b 3629	Transfer OK
11	Alphène/Faralahy	4/11/2016	RASOANANAHARY Yvonne	Amborovy	MG4	OLI-b 16 21	Transfer OK
13	Faralahy / Alphène	3/14/2016	HOBY	Satragnarivo	E4	OLI-b 3926	Transfer OK
18	Alphène/Faralahy	12/15/2015	MASY	Andranomena Ejeda sud	E1	OLI-b 11148	Transfer OK
13	Alphène/Faralahy	12/15/2015	TIRINE	Andranomena Ejeda sud	E1	OLI-b 11032	Missing
5	Alphène/Faralahy	6/24/2016	AVISOA	Ambiky	T6	OLI-b 57 70	Transfer not entirely accurate
29	Alphène/Faralahy	7/1/2016	NOMENY	Ankida Fkt Mahasoa	MB1	OLI-b 1012	Transfer OK
2	Alphène/Faralahy	3/1/2016	VIVI Marie	Ambatomilo	MB2	OLI-b 8988	Transfer OK
8	Alphène/Faralahy	4/11/2016	RANDRIATAHIRY Harisker	Tsararivotra-Est_Amborovy	MG4	OLI-b 50 19	Transfer OK
5	Alphène/Faralahy	3/1/2016	MASIO Bano	Ambatomilo	MB2	OLI-b 9004	Transfer not entirely accurate

Charcoal Cluster							
15	Alpène/Faralahy	8/4/2016	FANIRISOA Domoina Hanitriniala	Mahafaly_Antsirabe	AB1	OLI-c 33 993	Transfer OK
22	Alphene/Faralahy	1/27/2016	FANOMEZANTSOA Christina	Manakara	FC1	OLI-c 29474	Transfer OK
17	Alphène/Faralahy	5/28/2016	JACQUELINE	Anja Mahabo	M7	OLI-c 32 906	Transfer OK
18	Alphène/Faralahy	5/28/2016	RAHERIMAMONJY Salizafy Alfred	Anja FJKM Mahabo	M7	OLI-c 62 755	Transfer OK
1	Alphène/Faralahy	4/5/2016	RIJA	Ivato	A2	OLI-c 36 501	Transfer OK
12	Alphène/Faralahy	4/6/2016	RAZAFINIRINA Lalaina	Ivato Bani	A2	OLI-c 36 743	Transfer OK
13	Alphene/Faralahy	1/27/2016	RAVAONIRINA Jeanne d'Arc	Ifanadiana	FC1	OLI-c 65727	Transfer not entirely accurate
23	Alphène/Faralahy	4/7/2016	VOAHANGINIRINA	Ivato Aeroport	A2	OLI-c 54 567	Transfer OK
19	Alphene/Faralahy	1/27/2016	JACQUES	Manakara	FC1	OLI-c 65789	Transfer not entirely accurate
16	Alphène/Faralahy	2/24/2016	HENRIETTE	Tsihake	MB1	OLI-c 11747	Transfer OK
1	Alphene/Faralahy	1/26/2016	BLANDINE	MORAFENO	FC1	OLI-c 57944	Transfer not entirely accurate
19	Alphène/Faralahy	12/8/2015	EMILIE	ANKILIMAROVAHATSE	T2	OLI-G 118	Transfer OK
9	Alphène/Faralahy	2/24/2016	Noëline MIZA	CNaPS Tsinjorano Sud	MB1	OLI-45c 820	Transfer OK
11	Alpène/Faralahy	8/3/2016	Mme LAURANCE	Mahafaly_Antsirabe	AB1	OLI-c 19 941	Transfer OK
7	Alphène/Faralahy	5/30/2016	RAHARIMANANA Simonette	Sanfily_Morondava	M1	OLI-c 88 60	Transfer OK
4	Alphène/Faralahy	12/1/2015	BIEN-AIME	Ankisirasira Nord	M3	OLI-c 46 887	Transfer OK
19	Alphène/Faralahy	2/24/2016	RAILLAH	Tsihake	MB1	OLI-c 10353	Transfer OK
16	Alphène/Faralahy	1/13/2016	LALAINA	Mahavoky Nord-Amborovy	MG4	OLI-c 18899	Transfer OK
15	Alphène/Faralahy	5/31/2016	NASY	Nosy kely_Morondava	M1	OLI-c 46 630	Transfer OK
7	Alphène/Faralahy	4/5/2016	HANITRA	Ivato	A2	OLI-c 53 716	Transfer OK

B. Stove Users visited

No	User visited	Village	Sector	Stove ID
14	SILY	Nosy kely_Morondava	M1	OLI-c 47 092
16	LEJEAN	Nosy kely_Morondava	M1	OLI-c 48 534
12	MISHOU	Nosy kely_Morondava	M1	OLI-c 48 586
16	RAJAONARIVELO Noelinoro Arivole A.	Est Lycée Agricole_Vatofotsy_Antsirabe	AB1	OLI-c 25 955
22	RAZANAMALALA Félicité	Miaramasoandro_Antsirabe	AB1	OLI-c 64 190
5	AIME RANTIAH	Mahafaly sect. 0910 C117_Antsirabe	AB1	OLI-c 63 486
24	VOAHANGINIRINA Hanitriniaina	Miaramasoandro_Antsirabe	AB1	OLI-c 44 937
21	LALAONIRINA Hortense	Tanambao-velondrome_Antsirabe	AB1	OLI-c 19 621
19	RAHELIARISOA Simone	Tanambao sect. 0906 J300_Antsirabe	AB1	OLI-c 55 695
15	RAMASIARIVONY	Ivato Camp Militaire	A2	OLI-c 38 132
6	RAHERINIRINA Zo Clara	Ivato	A2	OLI-c 36 565
13	MILAVONJY Refaha	Ivato Bani	A2	OLI-c 41 272

2	RASOANANDRASANA Victoire	Ivato	A2	OLI-c 36 438
8	MANALINA	Ivato	A2	OLI-c 44 289
9	VERO	Ivato	A2	OLI-c 43 404
13	ELLA	Ambalanomby	M3	OLI-c 1450
16	FATIMA	Ambalanomby	M3	OLI-45c 450
15	RAVAONIRINA Jeanne d'Arc	Ambalanomby	M3	OLI-45c 1598
14	TSIAZONALY Eugène Perle	Ambalanomby	M3	OLI-c 16 481
10	VOAHANGINIRINA J.	Stantionnement Mahabo	M7	OLI-c 424
11	RAZAFIARIDONA Nasoloniaina	Anja FJKM Mahabo	M7	OLI-c 71 388
19	ELISOA Raharivavy Cyrine	Mahabo kely	M7	OLI-c 48 497

Samples for Risk 3: PFT Samples

Charcoal Custer							
NO.	Interviewer	Date of PFT	Participant	Location	sector	Stove ID	Quantity of Fuel Kg/3 days
1	Alphène/Faralahy	10/25/2016	HERY ROJO	Cité Communale-Miandrivazo	M9	OLI-c 4786	6
1	Alphène/Faralahy	5/24/2016	OSTERMINE	Andabatoara_Morondava	M2	OLI-c 5305	3.7
1	Alphène/Faralahy	9/12/2016	ABDALLAH	MOTOMBE TANAMBAO	T4	OLI-c 3438	4.0
8	Alphène/Faralahy	9/26/2016	RAFALIMANANA	Andriampamaky	A2	OLI-c 2051	3.74
3	Alphène/Faralahy	7/19/2016	ANDRIATSITOHAINA	Tsianolondroa	F1	OLI-c 45959	5
Wood cluster							
NO.	Interviewer	Date of PFT	Participant	Location	sector	Stove ID	Quantity of Fuel Kg/3 days
1	Alphène/Faralahy	6/6/2016	HERMINE	Bekoaky	T5	OLI-b 6615	14.31
1	Alphène/Faralahy	11/1/2016	PELANIE Charles	Belo sur mer	M7	OLI-b 6821	11.72
2	Alphène/Faralahy	7/15/2016	ZAFISOA	Sakavilany	T7	OLI-b 42 37	10.48
1	Alphène/Faralahy	8/22/2016	DOLISOA	Besasavy	E5	OLI-b 5719	12.5
4	Alphène/Faralahy	7/15/2016	RANDRIANANTENAINA Charles	Satramafana	T7	OLI-b 46 05	10.4

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