

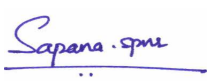


Verification and certification report form for CDM project activities

(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	1.1
Completion date of the verification and certification report	14/06/2018
Monitoring period number and duration of this monitoring period	3rd monitoring period Duration: 1 year from 01/01/2017 to 31/12/2017 (both days included)
Version number of monitoring report to which this report applies	2.0
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(11/04/2011)".
Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PDD	211,797 tCO ₂ e
Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period	287,347 tCO ₂ e
Name of DOE	Bureau Veritas (India) Pvt. Ltd. (BVI), UNFCCC Ref. no. E-0009
Name, position and signature of the approver of the verification and certification report	 Sapana Pednekar Global Quality Manager- Operations

SECTION A. Executive summary

Bureau Veritas (India) Pvt. Ltd. has conducted the 3rd 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 (India) Pvt. Ltd. internal procedures.

In summary, Bureau Veritas (India) Pvt. Ltd. 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 287, 347 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: 01/01/2017 to 31/12/2017 (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: 287, 347 t CO₂ 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	Chirchir	James	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	Onsongo	Samuel	Bureau Veritas (India) Pvt. Ltd.
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 number of stoves sold</i>	<i>Medium</i>	Likelihood – may occur due to 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>Crosscheck the number of stoves reported against the data retrieved from Salesforce onsite.</i>
5	<i>Incorrect ERs calculation</i>	<i>Medium</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>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 Bureau Veritas has applied the concept of materiality in this verification. Consideration of materiality began by determining the materiality threshold to be applied. The Bureau Veritas 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 Bureau Veritas 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 Bureau Veritas crosschecked the dates on a random sample of 60 receipts (20 from Toliara region, 20 from Antsirabe region and 20 from Fianarantsoa region) against the dates entered in the Salesforce Database. One discrepancy was observed and a clarification request was raised (refer to CL 1 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 32 hand-written survey questionnaires (16 entries for wood usage survey and 16 for charcoal usage survey), were compared with information in the survey database. Discrepancies were noted in 2 out of the 16 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 1 in Appendix 4). For interview with monitoring and usage survey participants, the Bureau Veritas selected, visited and held confirmation interviews with 26 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 - Results from the last PFTs (which is done after every two years) conducted in 2016 were valid during this verification circle, hence no further assessment was done.

4. Risk No.4 – The Bureau Veritas made a comparison of the number of stoves counted for emissions reduction from the year 2012 to 2017 against the data extracted from Salesforce onsite. Some discrepancy was noted during the comparison for stoves counted in 2017 and a clarification (refer to CL 2 in Appendix 4) was raised and closed out. However, a forward action request (refer to FAR 1 in Appendix 4) has been raised. The Bureau Veritas concludes that the reported numbers are acceptable.

5. Risk No.4 - using the data and parameters reported by the PP, the Bureau Veritas 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 02/03/2018 (refer to doc 1 in Appendix 3) and later its revised version 2.0 (refer to doc 13 in Appendix 3) and emission reduction calculation spreadsheet (refer to doc 2 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)
- Monitoring and Usage survey report version 1 (refer to doc 5 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 (ref to doc 9 in Appendix 3)
- Monitoring and usage survey version 1 (refer to doc 5 in Appendix 3)
- Project Design Documents with GS passport (refer to doc 3 in Appendix 3)
- Training records (ref to doc 4 in Appendix 3)
- 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: 26/03/2018 to 30/03/2018, excluding 29/03/2018				
No.	Activity performed on-site	Site location	Date	Team member
1.	- Introduction meeting - Interview with ADES Employees in Toliara - Review of records (Employment & Financial) - Crosscheck Questionnaires - Crosscheck receipts with Database information	Toliara	26/03/2018	James Chirchir
2.	- Field visit (Monitoring/Usage Survey participants, and Institutions/schools)	Toliara	27/03/2018	James Chirchir
3.	- Introduction meeting - Crosscheck receipts with Database - Interview with ADES Employees in Fianarantsoa - Field visit (Monitoring/Usage Survey participants)	Fianarantsoa	28/03/2018	James Chirchir
4.	- Introduction meeting - Crosscheck receipts with Database - Interview with ADES Employees in Antsirabe - Field visit (Monitoring/Usage Survey participants)	Antsirabe	30/03/2018	James Chirchir

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	James Chirchir
2.	Ramilson	Faralahy	ADES	Various Dates	Monitoring data and Data collection Salesforce	James Chirchir
3.	Dagobert	Frobel	ADES	26/03/2018	Project implementation	James Chirchir
4.	Manamisoa	Toursaint	ADES	27/03/2018	Salesforce, project database	James Chirchir

No .	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
5.	Rajaonarison	Rija	ADES	27/03/2018	Project implementation Stoves production & distribution	James Chirchir
6.	Razafindrafeno	Ametolie	ADES	27/03/2018	Project implementation, Monitoring data, QA/QC	James Chirchir
7.	T. Girene		ADES	27/03/2018		James Chirchir
8.	Razafimaharavo	Angelphine	ADES	27/03/2018	Project implementation	James Chirchir
9.	Raherindfay	Raymong	ADES	27/03/2018		James Chirchir
10.	Nomenjanahary	Esther	ADES	27/03/2018	Employment at ADES	James Chirchir
11.	Rahaliarisea	W.	ADES	27/03/2018	Employment at ADES	James Chirchir
12.	Randrianarisoa	Bien Aime	ADES	30/03/2018	Employment at ADES	James Chirchir
13.	Zafitiana	Lueria	ADES	30/03/2018	SDI number 4	James Chirchir
14.	Rasoanirina	Omega	ADES	27/03/2018	SDI number 4	James Chirchir
15.	RAZONAMBINI NA	Marthe Docilie	ADES	28/03/2018	SDI number 4	James Chirchir
16.	RANDRIAMAMP IANINA	Odilon Philibert	ADES	28/03/2018	SDI number 4	James Chirchir
17.	NOHENOINA	Za-Daniela	ADES	28/03/2018	SDI number 4	James Chirchir
18.	RAKOTONIRIN A	François Régis	ADES	27/03/2018	SDI number 4	James Chirchir
19.	ANDRIAMPARA NY	Lapa Jim Martin	ADES	27/03/2018	SDI number 4	James Chirchir
20.	RAHERINDRAI NY	Claude	ADES	27/03/2018	SDI number 4	James Chirchir
21.	RASOLOMANA NA	Lydia	ADES	28/03/2018	Salesforce, project database	James Chirchir
22.	Mahavatsy	Arson	Randrianiriwa Jean Albert	27/03/2018	SDI number 4	James Chirchir
23.	Amyka	Centse	Les Colinots Primaire	27/03/2018	SDI number 4	James Chirchir
24.	Ravaoelisoa	Fanjanirina Marie	College Prive -Alpha	28/03/2018	SDI number 4	James Chirchir
25.	Razanamanana	Angele	Sacre Coew	27/03/2018	SDI number 4	James Chirchir
26.	Saholiarimanana		TTM Shop	28/3/2018	FAR #1	James Chirchir
27.	Vanohasina	Fihaso Elysiane	PM. KNV Shop	27/03/2018	FAR #1	James Chirchir
28.	Razanamanana	Angelie	Sacre Coeus Mahavatse school	27/03/2018	FAR #1	James Chirchir
29.	Le Proserie Ilena		An Institution	28/3/2018	FAR #1	James Chirchir
30.	Les diabolains school		School	28/3/2018	FAR #1	James Chirchir
31.	Rafaharisoa	Marie- Elasisse		28/3/2018	FAR #1	James Chirchir
32.	Mr. Ralambosoa	jn Claude		30/3/2018	FAR #1	James Chirchir
33.	Razafinindriana	Joe	Mpanaomiz	30/3/2018	FAR #1	James

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
			ana RG			Chirchir

D.4. Sampling approach

a) The Bureau Veritas 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 Bureau Veritas:

- (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 Bureau Veritas 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	32 questionnaires assessed (16 from each cluster)
Monitoring and usage survey	8 from charcoal cluster	26 respondents, to Monitoring and Usage survey: 12 for the Charcoal Cluster, and 14 for wood cluster were interviewed during onsite assessment
Sales records	8 from each of the three region of Toliara, Antsirable and Fianarantsoa	Receipts for 60 stoves sampled form the database (20 for Toliara, 20 for Antsirable and 20 for Fianarantsoa)

The Bureau Veritas applied simple random sampling to select sample records (i.e. questionnaires and sales receipts). For stove user interviews, the Bureau Veritas applied multistage sampling. Appendix 5 details the list of the samples taken.

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	1	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	0	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	2	0	0
Others (Action on FAR)	0	0	0
Total	4	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 Bureau Veritas has confirmed, that the project does not count emissions reductions from institutional cook stoves in this verification cycle.

During the last verification period, the following FARs were raised by GS;

FAR #1 - "The Bureau Veritas shall at the time of next verification interview at least 5 clients having purchased more than three stoves and confirm with them that they act as resellers."

During this verification site visit, the Bureau Veritas visited 8 randomly selected clients (listed in section D.3 above) with more three stoves. 3 of the sampled clients were institutions who had purchased multiple stoves and distributed for their staff members. The stoves were seen to be actually used during the visit for the visited households. In addition, the other 5 clients were actually resellers and multiple stoves and filled warranty cards were found in each of the visited retailers. The FAR #1 is deemed addressed.

FAR # 2 - "The PP shall ensure that for future KPTs an appropriate sampling approach will be chosen and stoves from each age group will be included in a representative way in the sample group."

The PP has stated that no KPTs were conducted during this monitoring period. The PP will consider this FAR for next.

The Bureau Veritas has assessed and confirmed that the KPT, which is conducted after every two years was last conducted in 2016 and results verified in the previous verification period. The results from the last KPT are thus valid for this verification circle and a KPT was necessary. The FAR remains open.

FAR # 3 - "The PP shall ensure for the next KPT that the visits on each of the days during the KPT are properly documented and the verifying Bureau Veritas shall check on a few sample households if the same were visited indeed on each of the days during the KPT by the surveyors."

The PP has stated that no KPTs were conducted during this monitoring period. The PP will consider this FAR for next KPTs to be conducted in 2018.

The Bureau Veritas has assessed the FAR 3 like FAR 2 above. The results of the previous KPT are still valid and the next KPT, which is done after every two years is due in 2018. FAR 3 remains open.

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

Means of verification	Document review The Bureau Veritas reviewed the following documents: Monitoring report version 01
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	(ref doc 1 Appendix 3), registered PDD (ref doc 3 Appendix 3), employment records (ref to doc 7 in Appendix 3) and (ref to doc 9 in Appendix 3), and Financial audit report (refer to doc 6 in Appendix 3). Site visit The Bureau Veritas 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 Bureau Veritas 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 359 of VVS for CDM PA version 01.0, the Bureau Veritas 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 Bureau Veritas 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	Compliant
Conclusion	The Bureau Veritas 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 362 of VVS for CDM PA version 01.0, the Bureau Veritas 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 Bureau Veritas has crosschecked the values, as reported in the monitoring report, with values provided in the registered PDD and IPCC default values. The Bureau Veritas 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: - $EF_{b,co2}$ - 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) - $EF_{p,co2}$ - 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). - $EF_{b,non-co2}$ - 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). - $EF_{p,non-co2}$ - 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 Bureau Veritas 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 Bureau Veritas 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 (2017), the PP did not carry out a PFT since the previous PFT was done in 2016, which were verified in the previous circle. The results are hence valid for this verification period. The following valued reported by the PP in the last verification 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
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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 Bureau Veritas assessed the results of the survey as follows: the Bureau Veritas reviewed the Monitoring/Usage survey report (ref doc 5 in Appendix 3) to determine whether or not the PP had implemented the sampling plan described in the PDD and methodology. The Bureau Veritas then reviewed the PP's data analysis in the provided excel sheets (ref doc 10 in Appendix 3). During onsite assessment, the Bureau Veritas crosschecked the transfer of survey information, from random sample of 32 hardcopy questionnaires (16 for each cluster) against the information in the excel sheets, to ascertain that information transfer was without material error. The Bureau Veritas further visited and interviewed 26 respondents who participated in the survey. From the assessment a clarification request was raised and closed (refer to CL 3 in Appendix 4). The Bureau Veritas concludes that the results are reliable and the following values obtained are acceptable:

Wood scenario: 82.6 %

Charcoal scenario: 97.1 %

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

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

Step 1: The Bureau Veritas 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 Bureau Veritas obtained raw sales data from 2012 to 31st December 2017 from Salesforce. This data was later filtered and compared to the actual numbers reported. The result obtained, as shown in section C above, showed that the PP has not over estimated the number of stoves credited and thus the data was accepted.

Step 2: During onsite assessment, the Bureau Veritas cross checked a random sample of 60 receipts (20 from Toliara site, 20 from Antsirabe site and 20 from Fianarantsoa site), against the 2017 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 1 and CL 2 in Appendix 4). The data provided was thus accepted.

Step 3: Using the reported values by the PP in i) above the Bureau Veritas calculated the parameter N_p by multiplying all stoves, from 2013 to 2016, by 365 days and all stove in 2017 by 156days (an average of the number of days from the date of stove sale to 31/12/2017, for all stoves sold in 2017 as obtained from the database by the Bureau Veritas). The result obtained by the Bureau Veritas indicated minimal variation from the values reported by the PP as follows:

N_p	PPs reported values	Bureau Veritas's analysis	Variation
Charcoal Cluster	33,948,172 days	33,530,611 days	1.23%
Wood Cluster	6,020,697 days	5,952,135 days	1.14%

Based on the above assessment the Bureau Veritas 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 Bureau Veritas 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 Bureau Veritas has reviewed project listing in the registries provided i.e. Gold Standard registry, UNEP Risoe CDM Pipeline. The Bureau Veritas 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

(https://cdm.unfccc.int/ProgrammeOfActivities/poa_db/XKB4WH1SU0CNG6O9IQV2T3DAEPZYJL/view)

	& https://mer.markit.com/brrg/public/project.jsp?project_id=103000000010202). However the PoA is implemented by a different entity, and its stoves have unique numbering plate and clearly labelled "TsinjoHarena". Further the PP has already implemented a labelling system that uniquely identify each stove being credited under this project activity. The Bureau Veritas 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 Bureau Veritas reviewed the Financial audit report to confirm the number reported (53 stoves) and considers the number acceptable.
Findings	Verification resulted in 2 clarification request which have been responded to and closed (refer to CL 1 and CL 2 in Appendix 4), and 1 Forward action request (refer to FAR 1)
Conclusion	Corresponding to the paragraph 363 of VVS for CDM PA version 01.0, the Bureau Veritas 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 Bureau Veritas 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 Bureau Veritas 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 Bureau Veritas 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 Bureau Veritas assessed this indicator through a visit of three schools in Toliara and another one school in Fianarantsoa and held interviews with school representatives. From the assessment, the Bureau Veritas considers that the PP is monitoring the indicators and in this monitoring period the SDI has a positive score. <u>SDI 5: Quantitative employment</u> Parameter monitored: Number of jobs offered by ADES to local employees at very good conditions: Permanent contracts; cover of school fees for all children; and cover of health insurance for entire family.
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	MoV: The Bureau Veritas assessed this indicator through interviews with ADES employees in Toliara and a review of a sample of employment contracts for 3 employees. From the assessment, the Bureau Veritas 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 363 of VVS for CDM PA version 01.0, the Bureau Veritas 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	<u>Document review</u> 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 Bureau Veritas further assessed the survey procedures, sampling method, data entry and analysis. The Bureau Veritas 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. <u>Site visit</u> 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 out (refer to CL 3 in Appendix 4)
Conclusion	The Bureau Veritas 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	<u>Document review</u> 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).
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). The last project Field Test (PFTs) were conducted in 2016. Since the results are valid for 2 years, the next test is due in 2018.
Conclusion	In 2016, a PFT was carried out and the scales used to perform the PFT were calibrated as stated in the previous certification report (refer to doc 11 in Appendix 3). No assessment was required during this verification circle

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	<u>Document review</u> 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

E.8.2. Calculation of project GHG emissions or actual net GHG removals by sinks

Means of verification	<u>Document review</u> 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)
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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 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) 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 Bureau Veritas 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 01/01/2017 to 31/12/2017 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: $ER_y = (\sum_y N_{p,y}) * U_{p,y} * P_y * (f_{NRB,b,y} * EF_{fuel,CO_2} + EF_{fuel, nonCO_2}) - \sum LE_y$ 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>$\sum_y N_{PY}$</td><td>Charcoal cluster = 33,948,172 days Wood cluster = 6,020,697 days</td><td>ADES sales Database</td></tr><tr><td>U_{PY}</td><td>Charcoal cluster = 97.1 % Wood cluster = 82.6 %</td><td>Usage Survey 2017</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><tr><td>$EF_{fuel, nonCO_2}$</td><td>Charcoal cluster = 0.1563tCO₂e/t charcoal Wood cluster = 0.1356 tCO₂e/t wood</td><td>IPCC 2006 default (CH₄ + N₂O)</td></tr><tr><td>$\sum LE_y$</td><td>Charcoal cluster = 0 tCO₂e/t wood Wood cluster = 0 tCO₂e/t wood</td><td>Leakage assessment</td></tr></table> The Bureau Veritas confirms that the approach is the same as provided in the methodology i.e. $ER_v = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,y} * NCV_{b, fuel} * (f_{NRB,b,y} * EF_{fuel, CO_2} + EF_{fuel, nonCO_2})) - \sum LE_{p,y}$	Parameter	Value	Source of value	$\sum_y N_{PY}$	Charcoal cluster = 33,948,172 days Wood cluster = 6,020,697 days	ADES sales Database	U_{PY}	Charcoal cluster = 97.1 % Wood cluster = 82.6 %	Usage Survey 2017	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	$EF_{fuel, nonCO_2}$	Charcoal cluster = 0.1563tCO ₂ e/t charcoal Wood cluster = 0.1356 tCO ₂ e/t wood	IPCC 2006 default (CH ₄ + N ₂ O)	$\sum LE_y$	Charcoal cluster = 0 tCO ₂ e/t wood Wood cluster = 0 tCO ₂ e/t wood	Leakage assessment
Parameter	Value	Source of value																							
$\sum_y N_{PY}$	Charcoal cluster = 33,948,172 days Wood cluster = 6,020,697 days	ADES sales Database																							
U_{PY}	Charcoal cluster = 97.1 % Wood cluster = 82.6 %	Usage Survey 2017																							
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																							
$EF_{fuel, nonCO_2}$	Charcoal cluster = 0.1563tCO ₂ e/t charcoal Wood cluster = 0.1356 tCO ₂ e/t wood	IPCC 2006 default (CH ₄ + N ₂ O)																							
$\sum LE_y$	Charcoal cluster = 0 tCO ₂ e/t wood Wood cluster = 0 tCO ₂ e/t wood	Leakage assessment																							

	The Bureau Veritas 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.
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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	Verification resulted in 1 clarification request which have been responded to and closed (refer to CL 4 in Appendix 4)
Conclusion	The total estimated ex ante emission reductions for this monitoring period according to the PDD is 211,797 tCO ₂ e. The corresponding actual emission reduction in the monitoring period as reported in the monitoring report and verified by the Bureau Veritas is 287,347 tCO ₂ e, over the 1 year monitoring period. This indicates that the project achieved 35.7 % 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 Bureau Veritas 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 2017(34,146 stoves compared to 20,200 stoves in PDD) 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 (India) Pvt. Ltd. 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 VVB) has conducted the 3rd 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 (India) Pvt. Ltd. has verified the project Monitoring Report version 2.0 dated 22nd May 2018 for the reporting period 01/01/2017 to 31/12/2017 (both days included). Bureau Veritas (India) Pvt. Ltd. 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 (India) Pvt. Ltd. can confirm that the GHG emission reductions are calculated without material misstatements and that the project activity continues to 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 (India) Pvt. Ltd. confirms the following statement:

Reporting period:	01/01/2017 to 31/12/2017 (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:	287,347 t CO ₂ equivalents

SECTION H. Certification statement

Bureau Veritas (India) Pvt. Ltd. (the VVB) has conducted the 3rd 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.

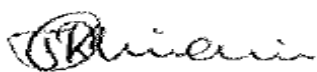
The management of MyClimate Foundation (Switzerland) are responsible for the preparation of the GHG emissions data and the reported GHG emission reductions of the Project on the basis set out within the monitoring plan contained in the registered PDD. The development and maintenance of records and reporting 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 (India) Pvt. Ltd. has verified the project Monitoring Report version 2.0 dated 22nd May 2018 for the reporting period 01/01/2017 to 31/12/2017 (both days included). Bureau Veritas (India) Pvt. Ltd. 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 (India) Pvt. Ltd. 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 (India) Pvt. Ltd. confirms the following statement:

Reporting period:	01/01/2017 to 31/12/2017 (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:	287,347 t CO ₂ equivalents



Mr. James Chirchir

Team Leader

14/06/2018



Mr. Samuel Mayieko

Internal Technical Reviewer

14/06/2018

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
PA	Project Activity
VVB	Validation Verification Body

Appendix 2. Competence of team members and technical reviewers

Lead Verifier – 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.

Internal Reviewer –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.

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Myclimate Foundation	Monitoring report, version 01	02/03/2018	PP
2	Myclimate Foundation	Database and ER calculation	02/03/2018	PP
3	Myclimate Foundation	Project Design Documents version 8.3	26/05/2015	PP
4	Myclimate Foundation	List of Schools visited 2017	20/02/2018	PP
5	Myclimate Foundation	Monitoring/Usage Survey Report version 01	02/03/2018	PP
6	Haja Razafimahazo	Financial Audit report (confidential document)	March 2018	PP
7	ADES	Employment records for: Rasoanirina Omega, RAHERINDRAIN Claude, ANDRIAMPARANY Lapa Jim Martin, and RAKOTONIRINA François Régis (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	ADES Employee records		
10	Myclimate Foundation	Monitoring_Usage_Analysis_2017_V01	28/02/2018	PP
11	BVCH	Verification report		Bureau Veritas
12	UNFCCC	CDM Standard for Sampling and surveys for CDM project activities and programme of activities	version 07.0	UNFCCC
13	Myclimate Foundation	Monitoring report, version 02	22/05/2018	PP
14	Myclimate Foundation	Database and ER calculation	10/04/2018	PP
15	Myclimate Foundation	Monitoring/Usage Survey Report version 02	10/04/2018	PP
16	Myclimate Foundation	Monitoring_Usage_Analysis_2017_V02	10/04/2018	PP
17	UNFCCC	VVS for CDM PA	version 01.0	UNFCCC

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 Crediting period renewal	Section no.	B.3	Date: 11/04/2018
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: 11/04/2018
<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: 11/04/2018
The FAR is still open. However, this does not affect the conclusion of this verification since the PP has indicated, and the Bureau Veritas has confirmed, that the project does not count emissions reductions from institutional cook stoves in this verification cycle.				
FAR ID	FAR 1 Previous verification	Section no.	B.3	Date: 11/04/2018
Description of FAR				
"The DOE shall at the time of next verification interview at least 5 clients having purchased more than three stoves and confirm with them that they act as resellers."				
Project participant response				Date: 11/04/2018

N/A	
Documentation provided by project participant	
N/A	
DOE assessment	Date: 11/04/2018
Clients with multiple stoves were extracted from the salesforce and 8 clients were randomly selected for assessment as to whether all were resellers. During this verification site visit, the Bureau Veritas visited 8 the randomly selected clients with more three stoves. 3 clients were institutions who had purchased multiple stoves and distributed for their staff members. The stoves were seen to be actually used during the visit for the visited households. The other 5 clients were actually resellers and multiple stoves and filled warranty cards were found in each of the visited retailers. The FAR is deemed addressed	

FAR ID	FAR 2 Previous verification	Section no.	B.3	Date: 11/04/2018
Description of FAR				
"The PP shall ensure that for future KPTs an appropriate sampling approach will be chosen and stoves from each age group will be included in a representative way in the sample group."				
Project participant response				Date: 11/04/2018
No KPTs were conducted during this monitoring period. The PP will consider this FAR for next KPTs to be conducted in 2018				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 11/04/2018
The Bureau Veritas has assessed and confirmed that the KPT, which is conducted after every two years was last conducted in 2016 and results verified in the previous verification period. The results from the last KPT are thus valid for this verification circle and a KPT was necessary. The FAR remains open.				

FAR ID	FAR 3 Previous verification	Section no.	B.3	Date: 11/04/2018
Description of FAR				
"The PP shall ensure for the next KPT that the visits on each of the days during the KPT are properly documented and the verifying Bureau Veritas shall check on a few sample households if the same were visited indeed on each of the days during the KPT by the surveyors."				
Project participant response				Date: 11/04/2018
No KPTs were conducted during this monitoring period. The PP will consider this FAR for next KPTs to be conducted in 2018.				
Documentation provided by project participant				
N/A				
DOE assessment				Date: 11/04/2018
The Bureau Veritas has assessed the FAR 3 like FAR 2 above. The results of the previous KPT are still valid and the next KPT, which is done after every two years is due in 2018. FAR 3 remains open.				

Table 2. CL from this verification

CL ID	CL 1	Section no.	ERs Calculations	Date: 11/04/2018
Description of CL				
The PP is requested to clarify how it has ensured that transfer of information from physical records (questionnaires and receipts) to the database is accurate and does not lead to overestimation of the parameters for calculating ERs for the following observations made during site visit;				
- In monitoring survey (wood) 2017, physical stove serial number Oli-b 10432 was captured as Oli-b 21673 in the questionnaire. - In Usage survey (wood) 2017, physical stove serial number Oli-b 4605 was captured as Oli-b 4237 in the questionnaire. - The details of sale for one stove (OLI-c 105454, receipt number 559) sold in Antsirabe on 26/05/2017 was posted as 31/08/2017 in the Salesforce				

Project participant response	Date: 11/04/2018
Regarding monitoring and usage survey wood: This is a mistake originating from entering data from the hard copy survey sheets to the excel file, which was already populated with the sample data extracted from salesforce for households to be surveyed. The excel already contained the stove ID and stove user information and data from the survey was then added to file and allocated to the wrong stove ID. The stove ID numbers have been corrected in the survey excel file. See 180410_Monitoring_Usage_Analysis_2017_V02.xlsx Regarding date of sale: This is a typing error. The wrong date of sale for this specific stove sold in Antsirabe was entered in sales force. The date of sale in salesforce is later than the actual date of sale on the receipt. Thus, it is conservative to calculate with the later date for ER calculation. Monitoring and usage survey: The PP has conducted additional household visits in March 2018 for the usage survey for wood and charcoal scenario in order to comply with minimum sample size per age category. Usage and monitoring survey data analysis and report have been updated with additional data and ER calculation and monitoring report has been revised accordingly. See following files: • 180410_Monitoring_Usage_Analysis_2017_V02.xlsx • 180410_ADES_MS_US_Report_2017_V02.pdf • 180410_ADES_Project_Database_2017_V02.xlsx • 180411_ADES_monitoring_report_2017_V02_track.pdf (clean and in tack change mode)	
Documentation provided by project participant	
• 180410_Monitoring_Usage_Analysis_2017_V02.xlsx • 180410_ADES_MS_US_Report_2017_V02.pdf • 180410_ADES_Project_Database_2017_V02.xlsx • 180411_ADES_monitoring_report_2017_V02_track.pdf (clean and in tack change mode)	
DOE assessment	Date: 11/04/2018
The verification team has reviewed the explanations provided and are deemed plausible. CL 1 is closed out.	

CL ID	CL 2	Section no.	ERs Calculations	Date: 11/04/2018
Description of CL				

Sales for 2017 as captured in the Salesforce were extracted during site visit and compared with the spreadsheet data provided as project database. The following were observed;

Stove Type	Project Database	Extracted from Salesforce on site	Difference
Box	181	182	-1
Ebox	2	2	0
OLI-45b	184	168	16
OLI-45c	930	925	5
OLI-60b	63	63	0
OLI-60c	139	139	0
OLI-b	3692	3519	173
OLI-c	31655	32805	-1150
Parabolic	62	61	1
School Box	10	10	0
Yoyo	0	0	0
Total	36918	37872	-954

The PP is requested to clarify the differences observed.

Project participant response

Date: 11/04/2018

Data from salesforce for monitoring report was extracted on 02.03.2018. Verification site visit was conducted 25-31 March 2018. We extracted data from salesforce again on 11.04.2018 and got the following figures:

	Box	EBox	OLI-45b	OLI-45c	OLI-60b	OLI-60c	OLI-b	OLI-c	Parabolic	School Box	Yoyo	Total
2017	181	2	184	930	63	139	3692	32241	62	10	0	37504

Latest extraction shows identical figures except for sales of oli-c stoves, which is higher (32,241) than reported in the project database (31,655).

The higher figures for oli-c stoves in latest extraction (11.04.2018) is due to some late recordings of oli-c stoves in salesforce. In early 2018 ADES conducted some revisions and checks in one centre (Antsirabe) and discovered some inconsistencies regarding stove sales reporting. For this, additional stove sales from 2017 was entered only in March 2018.

Since figures in project database show lower sales for 2017 than in the extraction during site visit and on 11.04.2018 and thus provides a more conservative number for ER calculations, it is justified to use values from extraction on 02.03.2018.

Documentation provided by project participant

N/A

DOE assessment

Date: 11/04/2018

Based on the PP submission, the overall variance from the affected stoves ((OLI-45 b(+16), Oli-45c – (+5), oli-6(+173) and Oli-c (-564) as compared to the database stove values is conservative, since the overall technology days will be negative. This will not lead to overestimation of ER. CL 2 is thus closed out based on explanations provided.

CL ID	CL 3	Section no.	Sampling Plan	Date: 16/05/2018
Description of CL				
It is observed from the revised monitoring and usage analysis version 2.0(wood usage monitoring survey), for the stoves age 3-4 yrs, 27 samples were analyzed and for the stoves 4-5 yrs, 23 samples were analyzed. Please clarify how the analyzed samples meets the methodology threshold for the number of samples to be analyzed for each age group.				
Project participant response				Date: 16/05/2018
The requirements in the methodology with minimum sample size per age categories applies to the usage survey. For the monitoring survey the sample size requirements are minimum 100 (see methodology pages 12 and 30). Please see discussion of sample representativeness for each scenarios in the monitoring and usage survey report, pages 2-5.				
Documentation provided by project participant				
None				
DOE assessment				Date: 16/05/2018
The explanation provided is clear enough, CL3 is closed out				

CL ID	CL 4	Section no.	MR	Date: 16/05/2018
Description of CL				
An inconsistency has been observed for the estimated Emission reductions for 2017 stated in the registered PDD, stated as 211, 797 tCO ₂ e, compared with those indicated in the Monitoring report, indicated as 211, 637 tCO ₂ e. Please clarify.				
Section E.4 of the MR refers to ERs for 2016 instead of 2017.				
Project participant response				Date: 16/05/2018
The PDD V8.3 states on page 15 expected ER for 2017: 211,797 tCO ₂ e. This is the correct figure. The value in the monitoring report has been corrected. Please see monitoring report V2.0 dated 22.05.2018.				
Section e.4 has been corrected to reflect ER in 2017. Please see monitoring report V2.0 dated 22.05.2018.				
Documentation provided by project participant				
Amended MR, Ver 2.0 of 22/05/2018				
DOE assessment				Date: 16/05/2018
The revised MR has been reviewed and is Ok, CL4 is closed out.				

Table 3. CAR from this verification
N/A

Table 4. FAR from this verification
N/A

Appendix 5. Samples verified

Risk 1: Stoves ID whose receipt numbers were checked:

Toliara: OLI-c 100250, OLI-c 100121, OLI-c 100558; OLI-c 100365; OLI-c 100396, OLI-c 100100, OLI-b 19135, OLI-c 100419, OLI-b 19010, OLI-c 96735, OLI-c 121539, OLI-c 11167, OLI-c 121203, OLI-c 121234, OLI-c 114117, OLI-c 114271, OLI-c 114853, OLI-45-c 4890, OLI-b 19110, OLI-b 19058

Fianarantsoa: OLI-c 99926, OLI- 45 c 4047, OLI-c 99882, OLI- c 91485/2, OLI-c 91906, OLI-b 21952, OLI-c 100765, OLI-c 91643, OLI- 45 b 1060, OLI-c 100774, OLI-c 120347, OLI-60c 0530, OLI-c 123539, OLI-c 123555, OLI-45c 4528, OLI-c 120265, OLI-c 123562, OLI-c 123612, OLI-c 123521, OLI-45c 4631

Sampled Stoves from sales receipts

NO	Stove ID	Date of sale	Region	Receipt no.
1	OLI-c 105904	May 2017	Antsirabe	036551
2	OLI-c 105293	May 2017	Antsirabe	036554
3	OLI-c105964	May 2017	Antsirabe	036556
4	OLI-c 107447	May 2017	Antsirabe	036557
5	OLI-c 105553	May 2017	Antsirabe	036558
6	OLI-c 105332	May 2017	Antsirabe	036561
7	OLI-c 102623	May 2017	Antsirabe	036560
8	OLI-c 105454	May 2017	Antsirabe	036559
9	OLI-b 22237	May 2017	Antsirabe	036555
10	OLI-60c 0504	May 2017	Antsirabe	036562
11	OLI-c 131560	November 2017	Antsirabe	036833
12	OLI-60c 0514	November 2017	Antsirabe	036834
13	OLI-45b 3665	November 2017	Antsirabe	036836
14	OLI-c 131461	November 2017	Antsirabe	036845
15	OLI-45b 3667	November 2017	Antsirabe	036846
16	OLI-c 131515	November 2017	Antsirabe	036854
17	OLI-c 131339	November 2017	Antsirabe	036856
18	OLI-131375	November 2017	Antsirabe	036850
19	OLI-45c 4735	November 2017	Antsirabe	036843
20	OLI-131312	November 2017	Antsirabe	036838

Samples for Risk 2 – Monitoring and usage survey

A: Questionnaires Sampled

No	Survey date	Respondent	Location	Sector	Stove ID	Bureau Veritas's Comment
1	2/27/2017	DABISON Daniella	Maroamalona	T6	OLI-b 10 230	OK
2	2/27/2017	GASTRO Fidel	Maroamalona	T6	OLI-b 9987	OK
3	2/27/2017	FLORENTINE	Maroamalona	T6	OLI-b 10 298	OK
4	4/13/2017	RATSIMANDRESY Gaëlle Naomie	Andranovato_Manakara	FC2	OLI-b 21 673	Transfer of data not entirely correct(Refer CL 1)
5	2/27/2017	ZANDRILAHY Pierre	Ambohimahavelo	T6	OLI-b 10 409	OK
6	6/28/2017	JUSTINE	Antanimena	T5	OLI-b 8314	OK
7	6/28/2017	REPELA	Antanimena	T5	OLI-b 8073	OK
8	2/27/2017	RANDRIAMANANTENA Sylvestse	Maroamalona	T6	OLI-b 10 013	OK
9	6/12/2017	GENA	Anjaposa	T7	OLI-b 4546	OK
10	6/13/2017	ZAFISOA	Sakavilany	T7	OLI-b 4237	Transfer of data not entirely correct(Refer CL 1)
11	1/19/2017	RAZAFINDRAVELO Olga	Ilena	F1	OLI-b 17 162	OK
12	1/19/2017	RAZAFINDRINA Suzane	Ilena	F1	OLI-b 17 162	OK
13	1/19/2017	RAZANANIVO Marie Rosette	Ilena	F1	OLI-b 17 169	OK
14	1/19/2017	RASONIRINA Blandine	Ilena	F1	OLI-b 17 160	OK
15	1/18/2017	RAZAFINDRANORO Tahina	Idada_Arrondissement	F1	OLI-c 45635	OK
16	1/17/2017	RAZAFY Cécile	Idada	F1	OLI-c 58 044	OK
17	1/17/2017	BOTO Joseph	Idada_Ambodirano lot 397/3306	F1	OLI-c 69907	OK
18	1/17/2017	RASOANIRINA Bernadette	Idada_Ambodirano Nord	F1	OLI-c 77674	OK
19	9/5/2017	AFANOMEZANTSOA Tolonjanahary M. R.	Mahazengy	F1	OLI-c 16 472	OK
20	7/12/2017	HANTA	Aérogare_Bezaha	T8	OLI-c 69 796	OK
21	9/5/2017	BOTOZAKAMANA	Ankazobe	F1	OLI-45c 4025	OK
22	9/5/2017	RANDRIANARIVO Maurice François	Mahazengy	F1	OLI-c 44 024	OK
23	4/11/2017	RABOTOSON Sitrakaniaina	Antsenavolo	FC1	OLI-c 62 327	OK
24	4/10/2017	RAFARANOMANJANAHARY Anne Raymonde	lot 54 20N Ambalakajaha sud Manakara	FC1	OLI-c 86 285	OK
25	4/13/2017	RAVAONIRINA Olivia	Ambohimiadanana_Vohipeno	FC2	OLI-b 19 820	OK
26	4/13/2017	RASOLOMAMPIONONA	Anjavidy_Manakara	FC2	OLI-b 21 671	OK

No	Survey date	Respondent	Location	Sector	Stove ID	Bureau Veritas's Comment
		Noëlson				
27	7/11/2017	RAHARIJAONA Christophe	Ouest cité FLM_Bezaha	T8	OLI-c 69 493	OK
28	7/12/2017	CB	Caserne GN_Bezaha	T8	OLI-c 37 350	OK
29	9/4/2017	RAZAFIJAONA Bako	Cité n°23 Ankidona	F1	OLI-c 4847	OK
30	4/11/2017	MBOLATIANA Ruphine Viviane	cité GN Manakara	FC1	OLI-c 95 250	OK
31	8/15/2017	CERISE Tolérance	Anakao bas	T6	OLI-c 77 267	OK
32	1/18/2017	SUZANNE	Ivory Nord	F1	OLI-c 47252	OK

B. Stove Users visited

No	Respondent	Location	Sector	Stove ID
1	DABISON Daniella	Maroamalona	T6	OLI-b 10 230
2	GASTRO Fidel	Maroamalona	T6	OLI-b 9987
3	FLORENTINE	Maroamalona	T6	OLI-b 10 298
4	RATSIMANDRESY Gaëlle Naomie	Andranovato_Manakara	FC2	OLI-b 21 673
5	ZANDRILAHY Pierre	Ambohimahavelo	T6	OLI-b 10 409
6	JUSTINE	Antanimena	T5	OLI-b 8314
7	REPELA	Antanimena	T5	OLI-b 8073
8	RANDRIAMANANTENA Sylvestse	Maroamalona	T6	OLI-b 10 013
9	GENA	Anjaposa	T7	OLI-b 4546
10	ZAFISOA	Sakavilany	T7	OLI-b 4237
11	RAZAFINDRAVELO Olga	Ilena	F1	OLI-b 17 162
12	RAZAFINDRINA Suzane	Ilena	F1	OLI-b 17 162
13	RAZANANIVO Marie Rosette	Ilena	F1	OLI-b 17 169
14	RASONIRINA Blandine	Ilena	F1	OLI-b 17 160
15	RAZAFINDRANORO Tahina	Idada_Arrondissement	F1	OLI-c 45635
16	RAZAFY Cécile	Idada	F1	OLI-c 58 044
17	BOTO Joseph	Idada_Ambodirano lot 397/3306	F1	OLI-c 69907
18	RASOANIRINA Bernadette	Idada_Ambodirano Nord	F1	OLI-c 77674
19	AFANOMEZANTSOA Tolonjanahary M. R.	Mahazengy	F1	OLI-c 16 472
20	MBOLATIANA Ruphine Viviane	cité GN Manakara	FC1	OLI-c 95 250
21	BOTOZAKAMANA	Ankazobe	F1	OLI-45c 4025
22	RANDRIANARIVO Maurice François	Mahazengy	F1	OLI-c 44 024
23	RASOARIMALALA Sylvie Alice	Ambalakajaha Nord Manakara	FC1	OLI-c 82 300
24	MIRELA	Anakao bas	T6	OLI-c 90 239
25	HARISOA Vincentine Prisca	lot 3 D100 Tanambao Ombimena Manakara	FC1	OLI-c 86 248
26	RANAIVOSOA Mialy	Antarandolo_cité 114	F1	OLI-c 22 270

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