

Gold standard version 2.2

Monitoring Report

Title of the project	Efficient and Clean Cooking for Mozambican Low-Income Households – George Dimitrov VPA 1
Gold Standard project id	GS6155
Version number of the monitoring report	9.0
Completion date of the monitoring report	27/11/2019
Date of project design certification	13/02/2019
Start date of crediting period	14/02/2017
Duration of this monitoring period	14/02/2017 to 31/12/2017
Duration of previous monitoring period	This is the first monitoring period, thus there is no previous monitoring period.
Project representative(s)	South Pole Contact: Tanushree Bagh Address: Technoparkstrasse 1, 8005 Zurich, Switzerland e-mail: t.bagh@southpole.com Phone: +41 43 501 35 50 (reception)
Host Country	Mozambique
Gold Standard statement/product certification sought (GSVER/ADALYs/RECs etc.)	GSVER
Selected methodology(ies)	AMS-II.G. v.10.0: Energy efficiency measures in thermal application of non-renewable biomass. Scope 03.
Estimated amount of annual average verified emission reductions (as per approved PDD)	24,903 tCO ₂ e/yr
Total amount of verified emission reductions (as per approved methodology) achieved in this monitoring period	23,834 tCO ₂ e

Purpose and general description of project

The purpose of this Small-Scale Project Activity (VPA) is the dissemination of improved cooking stoves (ICS) in the neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique. The Project Activity replaces conventional stoves using charcoal fuel with improved stoves using charcoal fuel.

Stoves disseminated under this VPA are portable devices serving domestic users. The use of improved cookstoves represents a life-transforming agent for the Mozambican community, by means of the implementation of energy-efficient devices that reshape their daily activities into more sustainable practices and promote the environmental awareness within the community and outside it. The basic principle that guarantees an improvement in the cooking practices relies on the fact that the devices concentrate the heat, therefore the amount of charcoal used as fuel is significantly reduced, along with the associated Greenhouse gas emissions such as CO₂ and other emissions like carbon monoxide and particulate matter derived from the combustion process.

The replacement of traditional stoves by ICS reduces the amount of GHG emitted into the atmosphere. Verified Emission Reductions (VERs) are calculated following the version 10.0 of methodology AMS.II.G.

The proposed SSC-VPA is a voluntary action by the CME.

The SSC-VPA has maximum energy saving of less than or equal to 180 GWh/year, thus meeting the small-scale eligibility criteria. It is developed and implemented by MozCarbon. The additionality analysis for the SSC-VPA was performed as per the CDM TOOL21 Demonstration of additionality of small-scale project activities version 12.0.

Air pollution from cooking with solid fuel is a key risk factor for childhood pneumonia as well as many other respiratory, cardiovascular and ocular diseases. According to the "Emissions and Performance Test Protocol", with emissions measurements based on the stove testing protocol developed by Colorado State University (available at www.eecl.colostate.edu), the average CO₂ emissions resulting from the ICS installation show an improvement above 60%, compared to a metal stove (charcoal stoves) or three stone fire (wood fuel stoves).

By this means, the improved cookstoves project aims towards mitigating the impacts of climate change with the undertaking of actions such as tackling the depletion of forestry resources and the reduction of GHG emissions related to energy consumption, and moreover it promotes the employment and a better livelihood for the poor, besides access to energy services.

Regarding the relevant dates for the project, the programme started as a pilot on July 2015 in the suburbs of Maputo, and its implementation began on January 2016, thus it is considered a retroactive programme. The project will last for a 7-year spectrum, having two renewal opportunities for the crediting period during the project's lifetime.

Location of project

The project is located in the neighbourhood of 25 de Junho, Bagamoyo, George Dimitrov, Inhagoia, Inhagoia A, Nsalene, Magoanine A, Malhazine and Zimpeto (south) in Maputo, Mozambique. The projects' GPS coordinates are 25°53'19.16"S 32°33'56.76"E.



Figure 1 - VPA 1 boundary

Reference of applied methodology

AMS-II.G. v.10.0: Energy efficiency measures in thermal application of non-renewable biomass. Scope 03.

Crediting period of project

The start date is 14/02/2017 and the duration are seven years with the possibility to renew the crediting period twice.

SECTION B. Implementation of project

B.1. Description of implemented project

The project was registered in the Gold Standard version 2.2 on 13 February 2019 (project ID 6155). The crediting period is 14/02/2017 - 13/02/2024.

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Energy savings of approximately 11,903 kWh/year per stove were determined for the registered VPA. During the monitoring period. During this monitoring period, 5,731 of stoves were operational, resulting in energy savings of approximately 68,204 MWh/yr. This is below the small-scale threshold of 180 GWh/yr.¹

In comparison with the approved project, no deviations were identified, except a correction for the leakage inclusion allowed by AMS-II G v.10.0 methodology, which considers a 5% leakage out of the 95% of biomass savings. According to the section 5.4 of the methodology, paragraph 34, the leakage can be accounted for by multiplying $B_{y,savings,i,j}$ by a 0.95 factor, for which case, surveys are not required.

B.2. Post-registration changes

B.2.1. Temporary deviations from Certified Key Project Information, Project Design Document, Monitoring & Reporting Plan, applied methodology or applied standardized baseline

So far, no deviations have been applied during the monitoring period.

B.2.2. Corrections

Concerning the project information, the tool 16, v.4.0 for "Project and leakage emissions from biomass" initially allowed to determine the lack of necessity for leakage accounting.

Nevertheless, after examining the energy efficiency measures in thermal application of non-renewable biomass, contained in the AMS-II G v.10.0 methodology, a 5% leakage was considered out of the total biomass savings for the project's activities. As per the methodology AMS-II.G., section 5.4, paragraph 34, the leakage can be accounted for by multiplying $b_{y,savings,i,j}$ by a 0.95 factor, for which case, surveys are not required.

B.2.3. Changes to start date of crediting period

The first crediting period has been adjusted as per the maximum of 2-years retroactivity before the registration date, which is 14/02/2017 to 13/02/2024 .

B.2.4. Permanent changes from registered monitoring plan, applied methodology or applied standardized baseline

The original monitoring plan stated that leakage was not accounted for. As per the methodology AMS-II.G. the leakage must be accounted for. In section 5.4, paragraph 34, the leakage can be accounted for by multiplying $b_{y,savings,i,j}$ by a 0.95 factor, for which case, surveys are not required. This method for leakage accounting was added to the monitoring plan.

B.2.5. Changes to project design of approved project

N/A

SECTION C. Description of monitoring system applied by the project

A statistically valid sample of the locations where the devices were deployed was used to determine parameter values used to calculate emission reductions, as per the relevant

¹ Take into account that the energy savings actually might be lower due to the loss of efficiency. However, using the highest achievable efficiency for this calculation is conservative when assessing the small-scale limit.

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requirements for sampling in the “Standard for sampling and surveys for CDM project activities and programmes of activities”.

In this case, annual surveys are conducted. A survey for the first monitoring period was conducted in March 2018. While this is shortly after the end of the monitoring period, it assures that it covers fully the monitoring period up to the end date. The survey is carried out annually. A subsequent survey was conducted in March 2019. Although this is not relevant for this first monitoring period, it shows the commitment of the project participant to conduct annual surveys. This is also needed to monitor some sustainability parameters. For annual inspection, a 90 per cent confidence interval and a 10 per cent margin of error has to be achieved for the sampled parameters.

As per the applied methodology and selected option for the project, a default schedule of linear decrease in efficiency up to the terminal efficiency assumed as 20 per cent is applied through the life span of the project device. As shown in the ERs calculation sheet, the efficiency is around 5.24% per year.

Furthermore, the PO maintained a record for the date of commissioning of project devices of each type i and batch j .

According to the AMS-II.G, leakage can be accounted for by multiplying $b_{y,savings,i,j}$ by a factor of 0.95.

Relevant parameters were monitored and recorded during the crediting period as indicated in section D.2 above. The applicable requirements specified in the Annex 27 “General guidelines for SSC CDM methodologies” are also an integral part of the monitoring guidelines and therefore were followed by the project participants.

MozCarbon, the PO, was responsible for overall monitoring management. The sampling effort, data collection, consolidation and results analysis were undertaken by a team adequately trained, well aware of CDM requirements/Gold standard foundation requirements and supervised by the PO.

The human resources dedicated to the monitoring tasks consisted of:

- A monitoring manager;
- A data manager;
- Field supervisors;
- Field agents.

Their role description is displayed in the table below.

Role	Description
Monitoring manager	The person responsible for: - Ensuring that all the VPAs and units within each VPA are following the monitoring steps in accordance with the registered monitoring; - Plan as required by the UNFCCC guidelines and approved applied methodologies;

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	- Ensuring that the equipment and measurements in the field are in line with the measurement methods and recording frequency and storing approaches; - Ensuring that all the monitoring data collected from project sites are consolidated and processed digitally in a central database; - Ensuring all monitoring team members received a proper training; - Ensuring that each VPA produces a coherent and standard monitoring report.
Data manager	The person responsible for: - Collecting all data for monitoring; - Register data in electronic database and keep hardcopies; - Following up with data calculations and annual monitoring set up.
Fields supervisors	The person responsible for: - Organizing monitoring in the field; - Product identification and maintenance of continuous record of the issued serial numbers along with distribution and commissioning; - Customer training and introduction to O&M during installation and commissioning; - Field agents training; - Collect Legal agreements with end-users and transfer to data manager; - Cross check monitoring information collected by Field agents.
Field agents	The people employed locally working on diverse task for the PoA including monitoring tasks. The person responsible for: - Going in the field and collect raw data from households for monitoring; - Make sign sale agreement to end-users

Training was provided to all the monitoring staff before the commencement of monitoring works, to ensure the project participants' ability to implement the described monitoring plan, in order to ensure monitoring rigour and quality as well as minimal refusals or biases.

Special circumstances such as former traditional stove still operating, or dual improved cookstoves owner etc. were carefully integrated to the training and simulated.

Personnel involved in VPA inclusion, VPA/PoA level monitoring and PO level review and approval had either, alone or collectively as a team, the necessary competence including:

- Knowledge of the CDM technical and methodological aspects;
- Skills to apply relevant principles, procedures and techniques for VPA inclusion, verification and review and approval
- As a team leader to:
 - o Plan and make effective use of resources;
 - o Understand the different functions and lead the team to reach conclusion;
 - o Prepare the relevant reports and handle all follow up actions.

All documents, lists and questionnaires produced during monitoring were saved under electronic format with physical copies securely stored as evidences under the direct responsibility of the data manager and the supervision of the monitoring manager and should be kept and archived electronically for two years after the end of the crediting period or the last issuance of VERs, whichever occurs later.

In this specific VPA, the PO coordinated the undertaken activities under the PoA. The sampling plan and monitoring plan are to follow the outlines established in the PoA-DD, section I.7 and subsequent relevant subsections. This included training of staff involved in distribution activities. A detailed Distribution Manual developed by the PO provided the stove promoters with instructions covering the various steps from ICS sales to data collection to after sales service.

1. As part of the inclusion of this SSC-VPA under the PoA, an agreement was signed by the distributing organization representing its associated ICS technicians and the PO. The agreement included specific provisions and declarations that confirm the SSC-VPA project implementers agreed that their activity was being subscribed under the PoA.
2. Suitable training was conducted for stove promoters willing to take part in the SSC-VPA to make them aware of the rules of the Gold Standard and SSC-PoA and their requirements in terms of distribution and data collection.
3. During the distribution programme, each stove promoter assures that necessary data is obtained from the customer that use the ICS. This data includes:
 - Stove unique serial ID number (identifies the stove model)
 - Name of user
 - Location of stove (could be determined by a fixed address if applicable, or by using GPS data)
 - The phone number of the stove user
 - Installation date
 - Category of old stove which the ICS is replacing (see below for note on stove categories).
 - Users also received orientation from the stove promoter on how to clean and maintain the ICS.
4. The stove promoter obtained the customer's approval to assign carbon rights to the PO.
5. The data was then transferred from the stove promoter to the PO, which managed an electronic database, called the "Distribution and Monitoring Database". Prior to being entered into the Database, all records were screened by the PO together with cross-checks on the stove promoter installation records in order to confirm that the installation record is authentic and no double counting occurs. The PO is responsible for maintaining such a database covering all VPAs within the PoA.

Note: The stove promoters are also responsible for recording the category of the "old" stove being replaced. The category of the old stove is defined as the combination of the stove type (conventional or improved), and the type of fuel it used (in this case charcoal) prior to ICS installation. Stove promoters are responsible for excluding from the VPA any ICS which is

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replacing stoves using fossil fuels (such as kerosene and LPG) from emission reduction calculations. Stove promoters may install such ICS as part of their business, but these are not included for emission reduction calculation in the VPA. This is in accordance with the approved methodology AMS.II.G v.10.0 which is applicable only to users which were previously using biomass or non-renewable biomass fuels. ICS sales contracts are checked to ensure that users using non-biomass fuel prior to the installation of the ICS were not included in the Distribution and Monitoring Database and thus excluded from emission reduction calculations.

The PO also developed a Monitoring Manual designed to guide monitoring activities and provided guidance and training to stove promoters that carried out monitoring activities.

1. As outlined above, the PO keeps a record of all stoves sold and the unique information linked to that stove.
2. The unique serial number provided to each stove eliminates any risk of double-counting between VPAs. The templates for the records are identical between stove promoters so that comparisons can be carried out easily and duplication becomes easy to detect. Stove promoters' records are screened by the CME in order to confirm that the installation database is authentic and that no double-counting occurs.
3. The values of the emission reduction parameters required for ex-post measurement - checking if project stoves are operational and in use (SOF), checking if there is any ongoing use of old stoves, and checking the efficiency of project stoves (η_{new}) – were obtained from sampling of the ICS installations as described in Section B.5. below.
4. Sampling was undertaken in line with the Sampling Plan developed by the CME, meeting the requirements of AMS II.G V10.0 and the most recent version of the "General guidelines for sampling and surveys for small scale CDM project activities".
5. The party carrying out the monitoring transferred the monitoring data to the PO who checked it and then entered it into the Distribution and Monitoring Database.

D.1. Data and parameters not monitored

Data/Parameter	$B_{old,p}$
Data unit	tonnes/person/year
Description	Annual quantity of woody biomass that would have been used per person in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices
Source of data	George Dimitrov KPT.
Value(s) applied	2.76
Choice of data or measurement methods and procedures	From baseline data as per the registered VPA.
Purpose of data/parameter	Calculation of baseline emissions
Additional comment	-

Data/Parameter	$N_{p,HH}$
Data unit	Number
Description	Average number of persons served per household prior to project implementation
Source of data	George Dimitrov KPT
Value(s) applied	3.74
Choice of data or measurement methods and procedures	From baseline data as per the registered VPA.
Purpose of data/parameter	Calculation of baseline emissions
Additional comment	-

Data/Parameter	$N_{d,HH}$
Data unit	Number
Description	Number of project devices per household
Source of data	PO provided information. 1 stove per household.
Value(s) applied	1
Choice of data or measurement methods and procedures	Number of ICS distributed per household is limited to one under this ICS distribution programme. The distribution data is compiled in a database.
Purpose of data/parameter	Calculation of baseline emissions

Additional comment	The programme only provides one stove per household. So this value is fixed and does not need specific monitoring.
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Data/Parameter	$B_{old,HH}$
Data unit	tonnes/household/year
Description	Annual quantity of woody biomass that would have been used in the household in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project devices
Source of data	This parameter is determined ex ante
Value(s) applied	10.32
Choice of data or measurement methods and procedures	Result of the multiplication of $B_{old,p}$ by $N_{p,HH}$.
Purpose of data/parameter	Calculation of baseline emissions
Additional comment	-

Data/Parameter	$B_{old,i,j}$
Data unit	tonnes/year
Description	Annual quantity of woody biomass that would have been used in the absence of the project activity to generate useful thermal energy equivalent to that provided by the project device type i and batch j
Source of data	$B_{old,HH}$ divided by $N_{d,HH}$
Value(s) applied	10.32
Choice of data or measurement methods and procedures	Calculated
Purpose of data/parameter	Calculation of baseline emissions
Additional comment	$B_{old,i,j}$ equals $B_{old,HH}$ when only one project device per household is distributed.

Data/Parameter	$\eta_{old,i,j}$
Data unit	fraction
Description	Efficiency of pre - project device, which is a three stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney; may be optionally used. Use weighted average values (taking the amount of woody biomass consumed by each device as the weighting factor) if more than one type of device is being replaced

Source of data	Water Boiling Tests conducted by the Biomass Energy Center of Testing (BECT) / GIZ /EnDev Mozambique, which is an accredited by the Clean Cooking Alliance ²
Measurement procedures (if any)	Water Boiling Tests applying the WBT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/testing
Monitoring frequency	Fixed for each individual household when included in the project activity database
Value(s) applied	21.28%
Additional comment	-

Data/Parameter	Life Span
Data unit	Number of years
Description	The operating life time of the project device. The life span should be reported in cases where the PPs are opting to account the efficiency loss as per paragraph 25
Source of data	Manufacturer
Value(s) applied	3
Choice of data or measurement methods and procedures	As the per registered VPA the life span was fixed based on manufacturers specifications.
Purpose of data/parameter	Calculation of project emissions
Additional comment	-

D.2. Data and parameters monitored

AMS-II.G. monitoring

Data/Parameter	$N_{y,i,j}$
Data unit	-
Description	Number of project devices of type i and batch j operating during year y.
Source of data	Monitoring

² <https://www.cleancookingalliance.org/technology-and-fuels/testing/centers.html>

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Measurement procedures (if any)	Measured directly or based on a representative sample. Sampling standard is used for determining the sample size to achieve 90/10 confidence precision. A discount is applied based on the percentage of devices operational as determined by the sample survey e.g. if survey shows that 10% of the devices is non-operating, an adjustment factor of 0.9 is applied to number of project devices commissioned in a particular batch. Separate samples were taken for each batch.																											
Monitoring frequency	At least once every two years (biennial)																											
Value(s) applied	<table><tr><th>ICS model</th><th>2016</th><th>2017</th><th>Total operational ICS 14/02 – 31/12/2017</th></tr><tr><td>Environfit Econochair</td><td>4,050</td><td>0</td><td>4,050</td></tr><tr><td>Envirofit CH2200</td><td>518</td><td>0</td><td>518</td></tr><tr><td>Rocketworks ChaZama</td><td>1,037</td><td>126</td><td>1,163</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>TOTAL</td><td>5,605</td><td>126</td><td>5,731</td></tr></table> See ER calculations spreadsheet (in sheet "stovecount")				ICS model	2016	2017	Total operational ICS 14/02 – 31/12/2017	Environfit Econochair	4,050	0	4,050	Envirofit CH2200	518	0	518	Rocketworks ChaZama	1,037	126	1,163					TOTAL	5,605	126	5,731
ICS model	2016	2017	Total operational ICS 14/02 – 31/12/2017																									
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Rocketworks ChaZama	1,037	126	1,163																									
TOTAL	5,605	126	5,731																									
Additional comment	-																											

Data/Parameter	μ_y
Data unit	Fraction
Description	Adjustment to account for any continued use of pre-project devices during the year y
Source of data	Because equation 6 was applied, it is a fraction based on monitoring results.
Measurement procedures (if any)	Surveys designed to capture the cooking habits and stove usage of households in the region, including quantification of use of baseline devices, by formulating questions and/or collecting evidences to determine the frequency of usage of both the project devices and baseline devices.
Monitoring frequency	At least once every two years (biennial). In this case annual surveys are conducted.
Value(s) applied	0.72
Additional comment	-

Data / Parameter:	$\eta_{\text{new},i,j}$
Data unit:	Fraction
Description:	Efficiency of the device of each type i and batch j implemented as part of the project activity.

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Source of data:	Water Boiling Tests conducted by the Biomass Energy Center of Testing (BECT) / GIZ /EnDev Mozambique, which is an accredited by the Clean Cooking Alliance ³
Measurement procedures (if any):	Water Boiling Tests applying the WBT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/testing
Monitoring frequency:	(i) Recorded at the time of commissioning/distribution (ii) Adjusted for the loss if efficiency as paragraph 25 of the AMS-II.G: methodology.
Value(s) applied	33.09% (Envirofit CH220 ICS); 37.23% (Envirofit Econochar ICS) ; 36.83% (Rocketworks ChaZama ICS)
Any comment:	Follow provisions in paragraph 32 to account for loss in efficiency of the project devices. The values are the same as in the approved PoA, since the this is still the first batch of ICS.

Data/Parameter	$NCV_{biomass}$
Data unit	TJ/tonne
Description	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in project devices.
Source of data	
Measurement procedures (if any)	IPCC default for wood fuel, 0.015 TJ/tonne, based on the gross weight of the wood that is 'air-dried' may be used if fuel used in project device is also woody biomass. If fuel used in the project device is charcoal, 0.029 TJ/tonne may be used.
Monitoring frequency	Yearly
Value(s) applied	0.029
Additional comment	

³ <https://www.cleancookingalliance.org/technology-and-fuels/testing/centers.html>

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Data/Parameter	$f_{RNB,y}$
Data unit	-
Description	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass
Source of data	Default country specific fraction of non-renewable woody biomass (f_{RNB}) values, available on the CDM website. 91% for Mozambique.
Measurement procedures (if any)	-
Monitoring frequency	<i>Ex ante</i>
Value(s) applied	0.91
Additional comment	This value has not changed since the design certification.

Data/Parameter	Date of commissioning of project device i
Data unit	Date
Description	Actual date of commissioning of the project device.
Source of data	Internal records
Measurement procedures (if any)	-
Monitoring frequency	Fixed and recorded at the time of commissioning/distribution
Value(s) applied	-
Additional comment	-

Data/Parameter	Date of commissioning of project batch i
Data unit	Date
Description	Actual date of commissioning of the project batch.
Source of data	Internal records
Measurement procedures (if any)	-
Monitoring frequency	Fixed and recorded at the time of commissioning/distribution
Value(s) applied	-
Additional comment	-

Sustainability Monitoring Plan

The survey which is relevant for the monitoring of some of the sustainability parameters was carried out from 21-25 March 2018, involving 20 people (18 surveyors, 1 supervisor and the Monitoring and Certification Manager). While the dates of the surveys are shortly after the end of the monitoring period, it assures that it covers fully the monitoring period up the end date. The survey is carried out annually.

1. Air quality

No	1	
Indicator	Air quality	
Mitigation measure	Not relevant	
Repeat for each parameter	Verification period	
Chosen parameter	Change in presence of smoke and impacts on health and well- being.	
Current situation of parameter	Households with traditional stoves report high smoke levels and possible incidence of respiratory illness.	
Estimation of baseline situation of parameter	Possible health impact for traditional cookstoves users due to the presence of smoke inside the house.	
Future target for parameter	Percentage of the users report the reduction of smoke levels in house.	
Way of monitoring	How	Surveys on a sample group of stove users asking for the perceived change in presence of smoke and impacts on health and well- being.
	When	Annually
	By who	Monitoring agents of each VPA, in this case the monitoring is coordinated by MozCarbon

The perception of the reduction of the in-house smoke was assessed by the surveys. Four possible answers were proposed: decreased; same amount as pre-project, does not know, and no answer.

Smoke in the kitchen	Count	%
Decreased	229	92.7
Same as pre-project	3	1.2
Does not know	15	6.1
No answer		0.0
Total	• 247	• 100.0

92.7% of families perceived a decreasing of the smoke in the kitchen due to the use of the ICS. This result is a direct indicator of improvement of air quality in houses, given the documented relation between smoke production and air pollution, and its impacts in human health. In this case it is possible to conclude the positive impact of the project implementation in the environmental conditions and health.

2. Quality of employment

No		2
Indicator		Quality of employment
Mitigation measure		Not relevant
Repeat for each parameter		Verification period
Chosen parameter		Description of working conditions: Training of the staff involved with the project activities. The staff are trained for the distribution and to monitor the improved cookstoves. The training is carried out by MozCarbon Initiatives. The project proponent must provide the staff with the Social Security System, which includes health, pensions and labour risks.
Current situation of parameter		Staff working in the VPA 1 has been contracted under contract for services rendered or working cooperatives.
Estimation of baseline situation of parameter		Deficit in skilled labour for the project activity and precarious employment conditions. Workers are not registered or organized.
Future target for parameter		Training of project staff. Percentage of the workers organized in cooperatives or registered as service providers, according to the professional activity.
Way of monitoring	How	Attendee lists for training and capacity building for project staff carry out by the project proponent for each VPA. Documents that prove the affiliation to the Social Security System. Contracts and professional registry documentation copies.
	When	Annually
	By who	Monitoring agents of each VPA in this case the monitoring is coordinated by MozCarbon

100% of the staff was trained by Mozcarbon in stove assembly (8 people), selling (30 people) and monitoring surveys (21 people), summing 59 direct and part-time jobs created by the project. The surveyors were contracted by AVSI, an associate of Mozcarbon in Maputo. This organization paid for the legal registry of the workers status as service providers or workers cooperatives. This allows these workers to have better and easier access to the job market in the case they become dissociated with the project. Mozcarbon pays the social security relative to the totality of its employees.

3. Livelihood of the poor

No	3
Indicator	Livelihood of the poor
Mitigation measure	Not relevant
Repeat for each parameter	Verification period
Chosen parameter	Money spent to buy fuel for cooking.

		Time spent to collect fuel.
Current situation of parameter		Households have a fix cost going toward fuel for cooking. Also, families that collect their wood fuel spend a lot of time per month on this activity and have to travel considerable distances to obtain it.
Estimation of baseline situation of parameter		Currently, households spend more money buying fuel due to higher fuel consumption using the traditional cookstoves. Therefore, savings from purchasing less fuel could be used for income-producing activities, education or other activities.
Future target for parameter		Percentage of decrease of the household monthly cost to buy fuel for cooking.
Way of monitoring	How	This is combined with surveys to clean cookstoves users asking for the perceived change in the cost and time spent cooking. Surveys assess the reduction of the use of non-renewable energy.
	When	Annually
	By who	Monitoring agents of each VPA in this case the monitoring is coordinated by MozCarbon

The survey assessed the users' perception of the reduction of charcoal consumption associated to the ICS usage. The reduction of charcoal consumption is associated with a reduced amount of fuel purchased in the same period of time, which translates into financial savings. Those funds can then be used in other family or personal needs, including education or business investment, generating opportunities to escape poverty.

Quantity of charcoal	Count	%
Decreased	233	94.3
Same as pre-project	1	0.4
Does not know	13	5.3
No answer		0.0
Total	• 247	100.0

94.3% of the interviewed stated a reduction in the fuel consumption. Only a marginal 0.4% declared that the ICS spent the same amount of fuel as the pre-project device. Finally, 5.3% could not find differences in fuel consumption rates between the pre-project and the ICS device.

Note: the additional measure "time spent to collect fuel" as in the VPA is only relevant if wood is used in the baseline and project cookstoves. Since during the monitoring period only charcoal is used, wood collection and this corresponding measure are not relevant.

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However, during the surveys people were also asked if they perceive a reduction of cooking time, which was answered with an average of 7.7 (1 = disagreed, 10 = fully agreed). This also shows a positive impact through time savings as a result of the distributed ISCs.

4. Access to affordable and clean energy

No	4	
Indicator	Access to affordable and clean energy	
Mitigation measure	Not relevant	
Repeat for each parameter	Verification period	
Chosen parameter	Number of Beneficiaries using exclusively the project stove.	
Current situation of parameter	Access to improved cookstoves through the efforts of the project proponent of each VPA	
Estimation of baseline situation of parameter	Use of less efficient cookstoves	
Future target for parameter	Percentage of the increase the use of improved cookstoves.	
Way of monitoring	How	Unexpected surveys according to a random sampling. The agents check if the baseline technology is still in use after the introduction of the improved technology or whether a new baseline technology is acquired and put to use by targeted end users during the project crediting period.
	When	Annually
	By who	Monitoring agents of each VPA in this case the monitoring is coordinated by MozCarbon

The project provides access to improved cookstoves through the efforts of the project proponent. During the reporting period, 7,149 households had access to an ISC of which 80.2% are using the ISC: 82% .

5. Quantitative employment and income generation

No		5
Indicator		Quantitative employment and income generation
Mitigation measure		Not relevant
Repeat for each parameter		Verification period
Chosen parameter		Number and types of jobs created.
Current situation of parameter		New staff hired specifically for the implementation of the project activity.
Estimation of baseline situation of parameter		Project proponent of each VPA without staff related to the project activities
Future target for parameter		Number of staff hired to implement the project activities.
Way of monitoring	How	Contracts
	When	Annually

	By who	Monitoring agents of each VPA in this case the monitoring is coordinated by MozCarbon
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21 new jobs were created for the conduction of field surveys in the framework of the monitoring activities of VPA 1. These new jobs generated a positive impact not only in terms of created positions, but also in terms of future opportunities. This, given that the contracting organization, AVSI, paid for the legal registry of the workers status as service providers or workers cooperatives. This allows these workers to have better and easier access to the job market in the case they become dissociated with the project.

Furthermore 8 jobs were creating in stove assembling and 30 sellers were recruited to disseminate the cookstoves across the VPA 1 area.

Likewise, specific training allows to create community capacity to open new opportunities. This is the case of training on sales. The goal of this training is to improve the sales capacities, which is directly linked with the improvement of monthly incomes increase:

Training on sales

In order to improve sales capacity, a training was organized by MozCarbon. 30 sellers were trained. The sales Management from Envirofit (represented by David Small, Managing Director of Envirofit East Africa) conducted the training in sales techniques for improved stoves, with presence of 30 young people and other stove organizations representatives from the Maputo neighbourhoods, many which are part of the current distributing partners portfolio of MozCarbon. The selected people are from MozCarbon (the PO) and other distributing organizations under the umbrella of the project developer. Among others, the participant organizations were: AVSI Foundation, Sogepal, KULIMA, GreenLight, Association Khandlelo, BopShop, ZOE Enterprises, Khandlelo, Sa o Jose de Lhanguene Training Centre and Associac a o Despertar.

The topics covered include: the concept of ICS, the importance of clean cooking, benefits of cookstoves, stove characteristics and technical description, sales techniques, waiver forms filling, customer education and awareness raising.



David Small, Managing Director of Envirofit East Africa, presenting the final remarks on the sales training after all the participants visited households using improved stoves.

6. Technology transfer and technological self-reliance

No	6	
Indicator	Technology transfer and technological self-reliance	
Mitigation measure	Not relevant	
Repeat for each parameter	Verification period	
Chosen parameter	Number of people trained to promote the ICS and for monitoring purposes.	
Current situation of parameter	Training is carried out every time a new project staff join the project team.	
Estimation of baseline situation of parameter	Prior to the project the households had no or limited access to clean cookstoves and had limited or no knowledge of this technology.	
Future target for parameter	Number of people trained during the project implementation.	
Way of monitoring	How	The number of persons attending training sessions are recorded on a continual basis as and when trainings occur. The names of all attendees are recorded and filed for reporting during annual monitoring.
	When	Annually
	By who	Project team, i.e. MozCarbon

Training on Assembly of stoves

Eight young people from the Maputo area were trained on Envirofit Econchar stove assembly to make sure that stove assembly is successful and reliable. The project developer, Mozambique Carbon Initiatives Ltda, ordered f Envirofit Econochar stovesl, which came flat packed to be assembled in Maputo. For this, the assemblers were trained by the Envirofit technical staff from Nairobi, Kenya in a two-day session. On this event, as training, 300 Envirofit Econochar stoves were assembled as part of the training.

The training was performed by Perminus Nyangena, an Envirofit technical staff based in Nairobi.

D.3. Ex post calculation of emission reductions

In this project, for ex-post calculation of VPA emission reductions, the WBT (option 3) provided in the methodology AMS-II.G version 10.0 is applied.

The following table is used for ex-post calculations. The values represent the emission reductions calculations for the monitoring period from 14/02/2017 to 31/12/2017.

	Value	Unit	Source/Reference
N ₂₀₁₆ , Econochar	4050	N/A	Distribution database
N ₂₀₁₆ , CH2200	518		

N _{2016, Rocketworks}	1163		
B _{old,HH}	10.32	tonnes/household/year	This parameter was fixed ex-ante in the VPA.
N _{HH}	5,731	Number	Number of households. Database from the PO. Distributed ICS.
N _{d,HH}	1	Number	This parameter was fixed ex-ante in the VPA. Only one stove per household is provided, which is also further monitored during stove distribution.
Charcoal use per standard adult/day	0.22	kg	From KPT. The KPT was carried out in accordance with national standards (if available) or international standards or guidelines (e.g. the KPT procedures specified by the partnership for clean indoor air (PCIA): http://www.pciaonline.org/node/1049).
Firewood biomass	6	N.A.	Methodology
B _{old,i,j}	10.32	tonnes/year	This parameter was fixed ex-ante in the VPA.
η _{old,i,j}	21.28	%	Water Boiling Test by accredited Test Center
η _{new CH2200}	33.09	%	Water Boiling Test by accredited Test Center
η _{new,Econochar}	37.23	%	Water Boiling Test by accredited Test Center
η _{new RocketWorks}	36.83	%	Water Boiling Test by accredited Test Center
B _{y,savings,i,j}	3.68	tonnes/year	$B_{y,savings,i,j} = B_{old,i,j} \times \left(1 - \frac{\eta_{old,i,j}}{\eta_{new,i,j}}\right)$
f _{NRB,y}	0.91	N/A	CDM web
NCV _{biomass}	0.029	TJ/tonne	IPCC Guidelines
EF _{projected_fossilfuel}	63.7	tCO ₂ /TJ	Default value
EF _{woody biomass}	112	tCO ₂ /TJ	IPCC, 2006
μ _y	0.72	fraction	Calculated from monitoring survey
Baseline Emissions	112,542	tCO ₂ /y	$BE_y = B_{old,HH} * N_{HH} * NCV_{biomass} * EF_{woody biomass}$
Project emissions	87,454	tCO ₂ /y	$PE_y = ER_y - BE_y - LE_y$
Leakage emissions	1,254	tCO ₂ /y	$LE_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel} * N_{y,i} * \mu_y$
Emission reduction	23,834	tCO ₂ /y	$ER_y = B_{y,savings} * f_{NRB,y} * NCV_{biomass} * EF_{projected_fossilfuel} * N_{y,i} * \mu_y$

D.4. Summary of calculation of emission reductions

	Baseline emissions (t CO ₂ e)	Project emissions (t CO ₂ e)	Leakage (t CO ₂ e)	Emission reductions (t CO ₂ e)
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14 Feb 2017 – 31 Dec 2017	112,542	87,454	1,254	23,834
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D.5. Implementation of sampling plan

The sampling plan was established according to the GS requirements. Following, the implementation of this sampling plan was described.

Sample size

A statistically valid sample of households has been selected to conduct the surveys and determine number of project devices in operation and the adjustment factor to account for any continued use of pre-project devices. Since inspection is conducted annually, a 90 per cent confidence interval and a 10 per cent margin of error have to be achieved for the sampled parameters. The “Standard for sampling and surveys for CDM project activities and programmes of activities” has been applied and the following precisions have been achieved:

Table 1: Relative precision for ICS usage⁴

Input	Value
Actual sample size	247
Sample proportion	0.8016
Standard error of the proportion	0.0249
Precision associated with a proportion	0.0410
Relative precision	5.1%
Relative precision less than 10%	YES, complies

Table 2: Relative precision for continued use of pre-project stove⁵

Input	Value
Actual sample size	247
Sample mean	0.7200
Sample standard deviation	0.3500
Standard error of the mean	0.0218
t-value	1.6511
Absolute precision	0.0360
Relative precision	5.0%
Relative precision less than 10%	YES, complies

Surveys

The surveyors were contracted by AVSI, an associate of Mozcarbon in Maputo. This organization paid for the legal registry of the workers status as service providers or workers cooperatives. This allows these workers to have better and easier access to the job market in the case they become dissociated with the project.

⁴ See “Meth_guid48Calculator_surveys_stoveuse_yes_no.xlsx”, sheet “SRS – Proportion”

⁵ See “Meth_guid48Calculator_surveys_stoveuse_%.xlsx”, sheet “SRS – Mean”

Mozcarbon trained the field technicians for the assembly, selling and distribution of the stoves and for the field surveys.

The field surveys were conducted randomly, observing the respective proportions for each ICS model, using the questionnaire in Annex 1, in Portuguese.

The resulting information was organised in a digital database, from where it was processed statistically.

SECTION E. Calculation of GHG emissions or net GHG removals by sinks

The results of the calculations of the ER for this monitoring period are presented in the following table:

Annual estimation of Emission Reductions (in tonnes CO ₂ e)	
Year	ER
14 Feb 2017 – 31 Dec 2017	23,834
Average	23,834
Total	23,834

The calculations are provided in the Excel "190928_ER Estimation -George Dimitrov-ex-post_final.xlsx".

SECTION F. Stakeholder inputs and legal disputes

F.1. List all inputs/grievances which have been received for the project during the monitoring period together with their respective answers/actions

The grievance mechanism has been fully functional during the monitoring period, as outlined in the following table:

	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)	Justification
Continuous Input / Grievance Expression Process Book	Complaints and suggestions book at Sales office, Avenida Nelson Mandela, Maputo, Mozambique Complaints and suggestions book at main office Avenida Filipe Samuel Magaia No.1675	Complaints Book is one of the most known grievance mechanisms in institutions in Mozambique. People can register their comments or suggestions/questions using the book available in the field and main office of MozCarbon. Staff will process the information and take actions where needed.
Telephone access	Main Office contacts: +258 21422188 Hortencia Tivane (Sales and Marketing Manager +258 848927159 Sales/Field office: Narciso sozinho +258 847974200	Telephone is a quick way for reaching Project operator. Phone contacts are also stamped in the waiver/receipt forms so that the, e.g. stove users can quickly call project personnel if there is a

	Obasanjo Dunhe +258 842496730 Job Matsinhe: +258 842469813	problem/comment regarding the project.
Internet/email access	consulta.fogoes@gmail.com info@mozcarbon.co.mz	Email is also available. All emails received by the project will be processed and actions will be taken to follow up with the stakeholders
Nominated Independent Mediator (optional)	N/A	N/A

During this monitoring period, no complaints were received by the grievance mechanism.

The calls received were only related to the maintenance programme. Further, some people have sent their CVs and invitations to events related to the project participant's expertise.

F.2. List all inputs/grievances from previous monitoring period where follow up action is to be verified in this monitoring period

This is the first monitoring period, so no follow up actions from previous monitoring period are required.

F.3. Provide details of any legal contest or dispute that has arisen with the project during the monitoring period

No legal contest or dispute has arisen with the project during the monitoring period

Annex

Código do Agregado: Household ID _____		INQUÉRITO DE MONITORIA DO PROJECTO FOGÕES MELHORADOS VPA1 (MOZCARBON) MONITORING SURVEY VPA 1 (MOZCARBON) Efficient And Clean Cooking For Mozambican Low Income Households Project –Vpa1			
I. INFORMAÇÃO GERAL / GENERAL INFORMATION:					
1. Nome do Inquiridor/ Surveyor Name/ ID: • Data/Date: _____ Coordenadas GPS/GPS coordinates: Lat: _____° _____' _____" Long: _____° _____' _____"		2. Dados de localização Endereço/Address: _____ Bairro/ Neighborhood: _____ Rua/Av. Road/Avenue: _____ Quarteirão/ Block: _____ Casa nr/ House nr.: _____			
3. Localização da casa/ House location: ☐ 1– Cidade/ Town ☐ 2– Área urbana / Urban area ☐ 3– Área Peri-Urbana /Peri Urban Area ☐ 4- Vila / Village ☐ 5- Área Rural/ Rural area (Aldeia, interior do distrito/posto administrativo/localidade)		4. Quantas pessoas vivem na casa (TOTAL) _____ Número de crianças de 14 anos ou menos _____ Número de pessoas do sexo feminino com 15 anos ou mais _____ Número de pessoas do sexo masculino com 15-59 anos _____ Número de pessoas do sexo masculino com 60 anos ou mais _____			
5. Nome completo do entrevistado(a) / Complete name of interviewed: _____ 5.1. Idade do entrevistado/Respondents age _____		• 5.2. Sexo/ Sex: Masculino/Male ☐ Feminino/female ☐ 5.3. O entrevistado é a principal pessoa que cozinha na casa?/Are you the main cook? Sim _____ Nao _____			
6. Nome completo do chefe do agregado /Complete name of Household head: _____		7. Sexo/ Sex: Masculino/Male ☐ Feminino/female ☐ 8. Idade do chefe do agregado/Age of HH Head _____			
II. INFORMAÇÃO SOBRE COMBUSTÍVEIS					
		9. Que combustíveis a sua família usa para cozinhar? [faça o <i>scoring</i> em função da ordem do uso] / What fuels does your household use for cooking? [rank in order of use]	10. Com que frequência compra a unidade de combustível? 1. Diariamente 2. Semanalmente 3. Quinzenalmente 4. Mensalmente 5. Outro, especifique/ How often do you buy a unit of fuel? 1. Daily 2. Weekly 3. Fortnightly 4. Monthly 5. Other, Specify	11. De cada vez que adquire a unidade do combustível, quanto gastas?/How much money do you spend each time to buy a fuel unit?	12. Porquê usas este tipo de combustível? 0. Não sei 1. Barato 2. Normal 3. Caro / Why do you use this kind type of fuel? 0. Don't know 1. Cheap 2. Normal 3. Expensive

1	Lenha de baixa densidade (eucalipto, pinheiro, bambu, etc)/Low density wood				
2	Lenha de média e alta densidade (Seca, das matas)/medium to high density wood				
3	Carvão / Charcoal				
4	Gás/LPG				
5	Eletricidade/Electricity				
6	Petróleo de iluminação/ kerosene				
7	Outros /Others				
8					
9					

14. Compra o carvão em sacos ou em molhos? Do you buy charcoal in bags or small units?

☐ 1 - Saco /bag

☐ 2 – Molho/small units

14.1. Quanto custa o saco de carvão/How much a bag of charcoal (Local currency)?

☐ 100-200

☐ 200-300

☐ 300- 400

☐ 400-500

☐ 500-600

☐ 600-800

☐ 800-1000

☐ 1000-1200

☐ >1200

a) Quanto custa um molho de carvão / How much the small unit of charcoal? _____

b) Qual é o preço do molho de carvão que compra com maior frequência / What is the price of small unit of charcoal you oftenly buy? _____

15. Como avalia o preço de compra de carvão/lenha?/How do you evaluate the retail price of Charcoal/ Firewood?

☐ 1 - Muito Baixo / Very low

☐ 2 - Baixo / Low

☐ 3 – Normal / Normal

☐ 4 – Elevado / High

☐ 5 – Muito elevado / Very high

16. Quanto tempo leva para consumir o saco de carvão? /How long it takes to consume charcoal bag?

☐ 15 dias /15days

☐ 30 dias/30days

☐ 40 dias /40 days

☐ 45 dias/ 45 days

☐ 50 dias/50days

☐ 60 dias/ 60 days

☐ > de 60 dias/> 60 days

17. Quanto gasta mensalmente para a compra de carvão/lenha? /How much do you spend monthly to buy charcoal/firewood?

18.Há facilidade de aquisição de carvão/Is there ease of charcoal acquisition?

☐ 1 – Sim / Yes

☐ 2 – Não / No

III. INFORMAÇÃO SOBRE O FOGÃO / STOVES INFORMATION

Código dos fogões/ stove code	1	Fogão melhorado a carvão / Charcoal ICS	3	Fogão tradicional a carvão / Charcoal traditional Stove	5	Fogão a Gás de cozinha / Gas Cooking Stove	7	Fogão eléctrico / Electric Stove
	2	Fogão melhorado a lenha / Firewood ICS	4	Fogão de 3 pedras/3 stone fire	6	Fogão a petróleo / Kerosene stove	8	Outro / Other
19.	Principal tipo de fogão [Use códigos / Use codes]							
20	Principal modelo de fogão / Main stove model							
21. Tipos de fogões secundário(s)/Types of secondary stoves			1º	2º		3º		
22	Localização do fogão principal/ Location of main stove		1 = Dentro / inside 2 = Fora / Outside		22A. Ainda usa o fogão melhorado? SIM _____ NÃO _____ 22B. Qual é o numero de serie _____ 22C. Nome da pessoa que comprou _____ 22D. Telefone da pessoa que comprou _____			

	22E. Usa o fogão melhorado/Do you use the ICS? 1. ☐ Frequentemente 2. ☐ As vezes 3. ☐ Todos os dias 4. ☐ Não uso	22F. Na semana passada, quantos dias usou o fogão melhorado? _____	22G. Quantas vezes cozinha por dia? / How many times do you cook per day? ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ >5
23. Condição de uso do fogão melhorado/stove usage: 1. ☐ – familiar / household 2. ☐ – Comercial / Commercial 3. ☐ – Misto / Mixed 23. Quantos fogões melhorados comprou? How many improved stoves did you purchase? 1. Número de série _____ 2. Número de série _____ 3. Número de série _____		22. Localização do fogão melhorado/ Improved stove location: 1. ☐ Dentro da casa com janelas / Inside house with windows 2. ☐ Dentro da casa sem janelas / Inside house without windows 3. ☐ – No quintal sem proteção / In the backyard without walls/protection 4. ☐ – Cozinha com janela / In the kitchen with windows 5. ☐ – Cozinha sem janela / In the kitchen without windows 6. ☐ – Alpendre / Front porch	
24. A quanto tempo tem o seu fogão tradicional/For how long do you have your traditional stove? 1. ☐ Menos de 3 meses/less than 3 months 2. ☐ 3 a 6 months 3. ☐ 6 meses-1 ano / 6 months – 1 year 4. ☐ 1 a 2 years 5. ☐ - mais de 2 anos / more than two years		25. Vantagens de uso do seu fogão tradicional / Advantages to use your traditional stove 1. ☐ Rápida ignição/quick ignition 2. ☐ Acelera a cozedura dos alimentos/Speed cooking food 3. ☐ Simples de uso/Simple to use 4. ☐ É acessível/Affordable 5. ☐ Outro / Other _____	
26A. Há quanto tempo tem o seu fogão melhorado? /For how long do you have your ICS? 1. ☐ Menos de 3 meses / less than 3 months 2. ☐ 3-6 months 3. ☐ 6 meses-1ano / 6 months – 1 year 4. ☐ 1-2 years 5. ☐ Mais de 2 anos / more than two years		26B. Vantagens de uso do seu fogão melhorado / Advantages to use your traditional stove 1. ☐ Emite menos fumaça / less smoke; 2. ☐ Reduz o consumo de combustível, consequentemente o dinheiro gasto na compra deste / reduce fuel consumption and consequently saves money used to purchase fuel; 3. ☐ Reduz o tempo para cozinhar / Reduce cooking time; 4. ☐ Pode reduzir problemas ambientais/Reduce environmental problems; 5. ☐ Outro / Others _____	
26C. De 1 a 10 classifique as opiniões abaixo (1 discorda totalmente; 10 concorda totalmente) Vantagens de uso do seu fogão melhorado / Advantages to use your traditional stove 1. ☐ Emite menos fumaça/less smoke; _____ 2. ☐ Reduz o consumo de combustível/reduce fuel _____ 3. ☐ Reduz o tempo para cozinhar/Reduce cooking time; _____ 4. ☐ Pode reduzir problemas ambientais/Reduce environmental problems; _____ 5. ☐ Ajuda a poupar dinheiro/save money _____ 6. ☐ É mais seguro contra acidentes/Safe _____ 7. ☐ Vou continuar a usar o fogão melhorado _____			
IV. INFORMAÇÃO SOBRE O PROCESSO DE COZINHA / INFORMATION ABOUT COOKING PROCESS			
27. Quem é o principal responsável por cozinhar na família?/ Who is responsible for cooking in the household? ☐ 1 – Mulher / Woman ☐ 2 – homem / Man ☐ 3 – Criança(s) / Children			
28. Quantas refeições quentes são preparadas na família por dia _____ 28A. Quantas refeições prepara por dia usando o fogão melhorado? _____ 28B. Quantas refeições prepara por semana usando o fogão tradicional a carvão _____ 28C. Quantas refeições prepara com fogão a gás por semana ? _____ 28D. Quantas refeições prepara com fogão elétrico por semana ? _____			

29. Quanto tempo gastas por dia na sua família a cozinhar (horas) / How much time is spent per day in your HH for cooking?	
31. Quais das refeições cozinhadas em sua casa consomem mais combustível?/Which of the meals prepared in your home consumes more fuel? ☐ 1 – Feijão ☐ 2 – Xima / “maize flour pasta” ☐ 3 – Arroz / Rice ☐ 4 – Caril de amendoim (legumes, peixe, carne) / Peanut curry (Vegetables, fish, meat) ☐ 5 - Caril de óleo(legumes, peixe, carne) / Oil curry (Vegetables, fish, meat) ☐ 6 – Carne/Peixe grelhado Grilled meat/fish ☐ 7 – Outro, especifique / Other specify 	32. Que tipo de combustível ou fogão usas para confeccionar as refeições que gastam mais combustível?/What kind of fuel ou stove do you use to prepare the meals with less fuel consumption? ☐ 1 – Lenha / Firewood ☐ 2 – Carvão / Charcoal (tradicional) ☐ 2.1 – Carvão / Charcoal (Melhorado) ☐ 3 – Gás (LPG) / Gas (LPG) ☐ 4 – Etanol / Ethanol ☐ 5 – Electricidade / Electricity ☐ 6 – Petróleo de iluminação / Kerosene ☐ 7 - Chaleira eléctrica / Electric kettle ☐ 8 Outro, especifique / Other, Specify
33. Quais das refeições cozinhadas em sua casa consomem menos combustível? ☐ 1 – Feijão ☐ 2 – Xima/maize flour pasta ☐ 3 – Arroz / Rice ☐ 4 – Caril de amendoim (legumes, peixe, carne) / Peanut curry (Vegetables, fish, meat) ☐ 5 – Caril de óleo(legumes, peixe, carne) /Oil curry (Vegetables, fish, meat) ☐ 6 – Carne/Peixe grelhado Grilled meat/fish ☐ 7 – Outro, especifique / Other specify 	34. Que tipo de combustível ou fogão usas para confeccionar as refeições que gastam mais combustível?/What kind of fuel ou stove do you use to prepare the meals with high fuel consumption? ☐ 1 – Lenha / Firewood ☐ 2 – Carvão / Charcoal ☐ 2.1 – Carvão / Charcoal (Melhorado) ☐ 3 – Gás (LPG) / Gas (LPG)x ☐ 4 – Etanol / Ethanol ☐ 5 – Electricidade / Electricity ☐ 6 – Petróleo de iluminação / Kerosene ☐ 7 - Chaleira eléctrica / Electric kettle ☐ 8 Outro, especifique / Other, Specify
V. INFORMAÇÃO SOBRE A SAZONALIDADE / INFORMATION ON SEASONALITY	
35. Onde cozinhas no período seco (Inverno) / Where do you cook in dry season (winter)? ☐ 1 Completamente fora / Completely outside ☐ 2 Espaço parcialmente coberto / partially covered space ☐ 3 Completamente dentro / Completely inside	
36. Onde cozinhas no período húmido (Verão)?/Where do you cook in wet season (summer)? ☐ 1 Completamente fora / Completely outside ☐ 2 Espaço parcialmente coberto / partially covered space ☐ 3 Completamente dentro / Completely inside	
37. Onde cozinhas quando chove?/ where do you cook when it rains? ☐ 1 Completamente fora / Completely outside ☐ 2 Espaço parcialmente coberto / partially covered space ☐ 3 Completamente dentro / Completely inside	
38. Onde cozinhas diariamente/where do you cook daily? ☐ 1 Completamente fora/Completely outside ☐ 2 Espaço parcialmente coberto/ partially covered space ☐ 3 Completamente dentro/Completely inside	
VI. INFORMAÇÃO SOBRE FOGÕES E SAÚDE/INFORMATION ON STOVES AND HEALTH	

39. Desde que começou a usar o fogão melhorado a quantidade de fumo na cozinha: 1. ☐ Aumentou 2. ☐ Diminuiu 3. ☐ Manteve-se 4. ☐ Não sei	40. Desde que começou a usar fogões melhorados, tosse e outras doenças respiratórias: 1. ☐ Aumentou 2. ☐ Diminuiu 3. ☐ Manteve-se 4. ☐ Não sei	41. Desde que começou a usar fogões melhorados, comichão e alergias nos olhos: 1. ☐ Aumentou 2. ☐ Diminuiu 3. ☐ Manteve-se 4. ☐ Não sei	42. Desde que começou a usar o fogão melhorado a quantidade de carvão consumido: 1. ☐ Aumentou 2. ☐ Diminuiu 3. ☐ Manteve-se 4. ☐ Não sei
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VII. ASPECTOS SOCIOECONÔMICOS		
43. Quantas pessoas tem emprego formal na família? _____ Quantas pessoas tem emprego informal na família? _____	44. Quantas pessoas na família tem rendimento proveniente de:/HH Sources of income 1. Salário em dinheiro ou em espécie _____ 2. Casual (biscate) _____ 3. Trabalhador familiar sem remuneração _____ 4. Conta própria _____	45. Ocupação do chefe da família/Occupation HH Head 1. Técnico universitário _____ 7. Técnicos não universitário _____ 2. Administrativo _____ 8. Operário não agrícola _____ 3. Artesão independente _____ 9. Pequeno comerciante _____ 4. Pessoal de serviço _____ 10. Empregado (a) doméstico (a) _____ 5. Camponês _____ 11. Operário (a) agrícola _____ 6. Outras ocupações _____
46A. Nível de escolaridade do chefe do agregado/HH Head Education 1. Alfabetização _____ 2. EP1 (5ª classe) _____ 3. EP2 (7ª classe) _____ 4. ESG 1 (10ª classe) _____ 5. ESG 2 (12ª classe) _____ 6. Superior _____ 7. Nenhum _____	46B. Quantas pessoas a família tem com os seguintes níveis/ completos/Education 1. Alfabetização _____ 2. EP1 (5ª classe) _____ 3. EP2 (7ª classe) _____ 4. ESG 1 (10ª classe) _____ 5. ESG 2 (12ª classe) _____ 6. Superior _____ 7. Nenhum _____	47. Somando todos os ganhos mensais da família, qual é a receita familiar por mês?/Monthly Household income Salários _____ Negócios/comércio _____ Renda de casa/machamba/barraca/carro, etc _____ Produção agrícola _____ Donativos _____ Total _____

Obrigado por responder as questões apresentadas.

Gostaria de comentar mais alguma coisa sobre o projecto de fogões melhorados?

Annex 2

Summary of training activities

Date(s)	Topics covered	Number of participants	Participant list (Y/N)	Pictures (Y/N)	Reference Docs
16/07 – 20/07/2013	Stove testing protocols: WBT, KPT, CCT, Study design	2	Yes	Yes	Certificates, Workshop Agenda, etc
22/08 – 27/08/2014	Presentation personal security and equipment, assembly techniques and storage	10	No	Yes	(1) Report_Stove_Assembly_RW
04/11 – 05/11/2015	The concept of ICS, why ICS, stove characteristics and technical description, sales techniques, waiver forms filling, customer education and awareness raising	30 for sales and 8 for assembly	Yes	Yes	(1) Gmail - Treinamento Envirofit, (2) Presentation_training_Envirofit, Venue_Rental_Envirofit Training
19/11/2016	Advantages of ICS, stove usage, price, stove maintenance, payment procedures.	1 secretary of Magoanine neighborhoods, 3 members of Maputo municipality, 24 promoters of stoves, 1 logistic officer, 50 community members.	No	Yes	(1) Relatorio de Apresentacao do projecto Fogoes Melhorados ao Repsonsaveis do Bairro (2) Relatorio do evento de promocao dos Fogoes Melhorados Magoanine (3) Fotografias
22/04 -23/04/2017	(1) Self esteem, Dialogue, respect, civic participation (2) Sales, knowing customers, sales techniques and record keeping, filling waiver forms.	14	Yes	Yes	(1) Training_promoters_human_sales, Payment_Celso
19/11/2017	The concept of ICS, why ICS, stove characteristics and technical description, sales techniques, waiver forms	40	Yes	Yes	(1) List Training Sales and Marketing

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	filling, customer education and awareness raising				
08/02/2018	The concept of ICS, why ICS, stove characteristics and technical description, sales techniques, waiver forms filling, customer education and awareness raising	63	Yes	Yes	(1) List Training Sales and Marketing
24/07/2018	Promoters presentation, stove presentation and advantages, stove use and maintenance, waiver forms and GPS collection, price and payments.	1 George Dimitrov neighborhood secretary, 70 quarters (group of aprox. 100 households) chiefs, 1 Database manager, 12 stove Promoters.	No	Yes	(1) Relatorio de Apresentacao do projecto Fogoes Melhorados ao Repsonsaveis do Bairro (2) Relatorio do evento de promocao dos Fogoes Melhorados Magoanine (3) Fotografias

Guia de Pagamento de Contribuição - GPC



Número da Guia 18727000		Data limite de Pagamento 31/03/2017	
Valor Total da Guia 14.793,79 MT		Número do Contribuinte 111606300	
Valor por Extenso Quatorze mil setecentos e noventa e três meticais e setenta e nove centavos			
Contribuinte MOZAMBIQUE CARBON INITIATIVES,LDA			
Tipo de Contribuição Declaração de pessoa coletiva - Normal			
Referência 01/2017	Data de Emissão 07/03/2017 10:30	Controlo do INSS 726ABC2D1W6X082Y28Z2A688B85CD70286W2X67	
Valor da Contribuição 14.503,72 MT	Multa 0,00 MT	Juros de Mora 290,07 MT	Dedução 0,00 MT
Local de Pagamento BANCO MAIS, STANDARD BANK, MOZA, BANCO ÚNICO, BCI, UBA, MILLENNIUM BIM, CAPITAL BANK, FNB, ECOBANK e SOCGEN			
Instruções Sr Caixa: Antes de quitar a Guia, conferir o valor da mesma com o visualizado no Sistema.			
Autenticação Bancária			