Gold Standard for the Global Goals Monitoring Report

2018, version 1

Title of the project	Efficient Cookstoves in Bahia III
Gold Standard project id	GS6050
Version number of the monitoring report	4
Completion date of the monitoring report	01/06/2020
Date of project design certification	23/05/2019
Start date of crediting period	01/01/2019
Duration of this monitoring period	(01/01/2019) to (31/12/2019)
Duration of previous monitoring period	
Project representative(s)	Renata Valladares
Host Country	Brazil
Certification pathway (activity certification/impact certification)	Impact certification
SDG Contributions targeted (as per approved PDD)	1 – SDG 1 No Poverty 2 – SDG 3 Health and Well-being 3 – SDG 7 Affordable and Clean Energy 4 – SDG 13 Climate Action
Gold Standard statement/product certification sought (GSVER/ADALYs/RECs etc.)	GSVER
Selected methodology(ies)	Gold Standard Simplified Methodology for Efficient Cookstoves v. 01
Estimated amount of annual average certified SDG impact (as per approved PDD)	SDG 1 3,300 families benefitted SDG 3 6,300 people benefitted SDG 7 100% increase in cookstove thermal efficiency SDG 13 7,642 tons CO2e VER annually
Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	SDG 1 1,532 families benefitted SDG 3 5,405 people benefitted SDG 7 130% increase in cookstove thermal efficiency SDG 13 6,083 tons CO2e

SECTION A. Description of project

A.1. Purpose and general description of project

>> (Provide a brief summary of the detailed description given in section B.1 including purpose of the project, brief description of the installed technology and equipment and relevant dates for the project (e.g. construction start/end, commissioning, continued operation periods, etc.)

The Efficient Cookstoves in Bahia III Project is an initiative developed and executed by the Brazilian NGO Instituto Perene that reduces greenhouse gas emissions by substituting common rudimentary cookstoves with a more efficient technology for domestic use.

One thousand, five hundred thirty-two cookstoves have been built under project GS6050, directly benefitting the same number of rural families, with especially positive impacts for women and children.

The project start date is 01/01/2019, which corresponds to the date of the initial payment to the local microenterprise *R&R SERVIÇOS* - Roque Pereira de Souza Construção for coordination and construction services. Please see Annex 12. Proof of start date. Note that the payment was made on 01/01/2019, however as this was a bank holiday, the transfer was finalized on the following day 02/01/2019, as evidenced by the bank record. Service providers issue invoices in the same month as the service and payment, as shown by the copy of the *R&R SERVIÇOS* invoice n. 0103, dated 08/01/2019.

In rural areas of the Bahian Recôncavo region, wood is the main fuel used for combustion for cooking by the low-income population. The typical cookstoves used by the local population are associated with several problems:

- Global warming, due to the emission of unnecessary amounts of greenhouse gases;
- Degradation of the surrounding forest, resulting from the high consumption of wood; and
- Damages to health, mainly for women and children who are the victims of indoor air pollution because they are subjected daily to the smoke and particulates produced by typical rural stoves

With the implementation of ICS, the project has achieved the following goals:

- Reduce emissions of greenhouse gases by 50%
- Improve the quality of indoor air and the safety in homes
- Contribute to the protection of Atlantic Rainforest fragments

Women are responsible for cooking in 85% of rural households and benefit directly from cleaner indoor air and less time and effort in gathering wood, cooking food and cleaning.

The technology employed uses locally available materials and labor. It is constructed using regular and refractory bricks, regular and refractory mortar, a metal griddle with 2 openings, a rocket-elbow combustion chamber, autoclaved aerated concrete for insulation, and a ceramic chimney. This model was designed with the technical assistance of Aprovecho Research Center and the direct participation of local women, community leaders and masons. Recent improvements over previous projects include double the amount of AAC insulation surrounding the combustion chamber and ceramic tile housing.

At the time of stove construction, individual contracts are signed with the end-users transferring the carbon credit rights to Instituto Perene, and a separate contract transfers the carbon credit rights from Instituto Perene to the entity in the name of which credits will be issued. Below is the translation from Portuguese of the Terms of Authorization signed by cookstove users. All 1,532 individual contracts are included in Annex 7.

Terms of Authorization and Transfer

Project Efficient Cookstoves in Bahia GS6050

I, (name), carrier of national identification document no. (number), resident of (community), agree to participate in the Efficient Cookstoves Project. I authorize the technicians from Instituto Perene to install one efficient wood-burning cookstove in my home. In return for this installation, I transfer all rights to the carbon credits resulting from the reduction of greenhouse gases generated by using this stove during 10 years to Instituto Perene.

I declare that firewood is the main fuel used for cooking in my home.

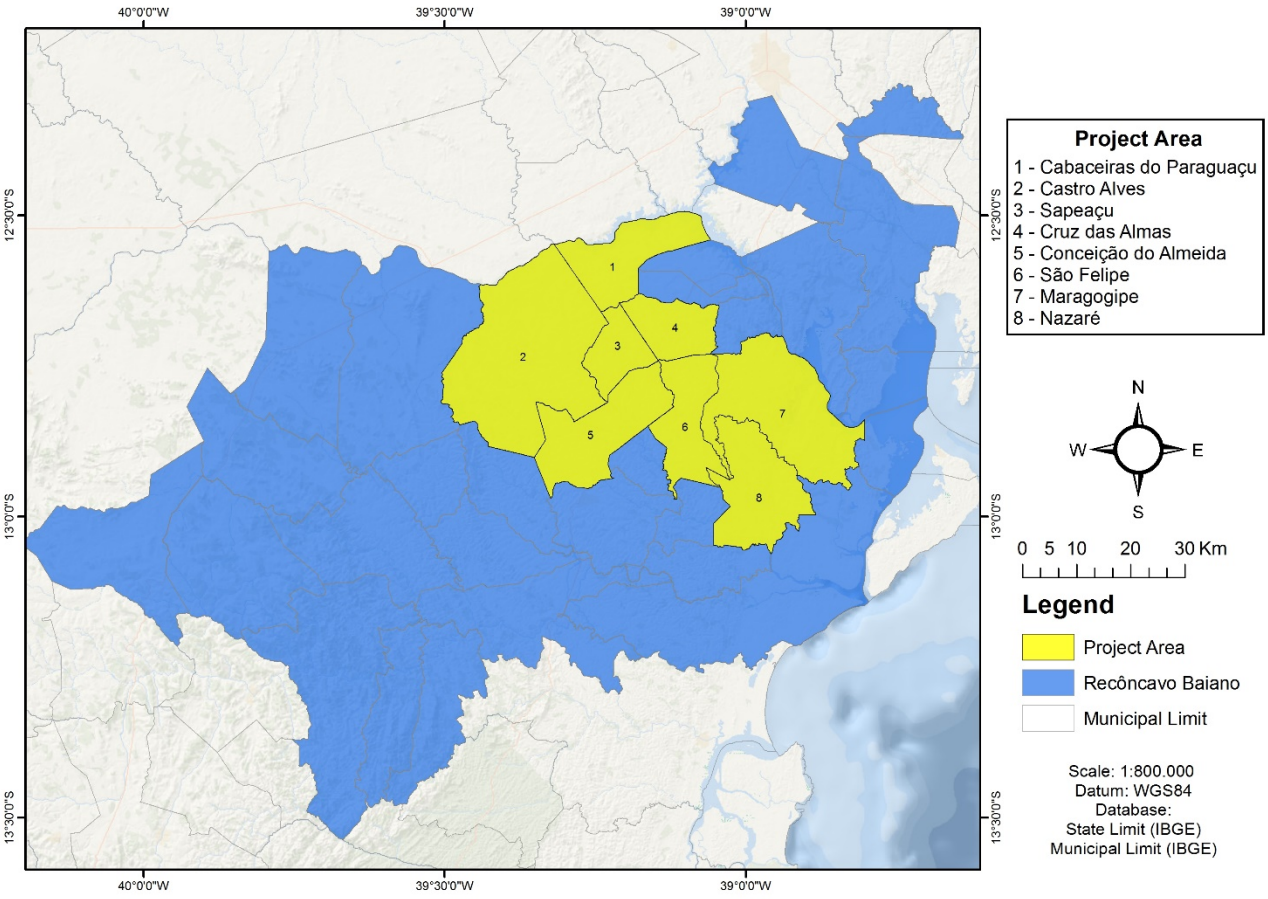
I declare that I have never participated in an improved cookstove project before, nor received an improved cookstove through any other initiative.

Upon prior request, I agree to allow access to the stove installed in my home by Instituto Perene´s technicians so that they may assess the stove conditions and collect data about the generation of carbon credits, including taking photos. I authorize the use of images of the stove and members of this household for monitoring and dissemination purposes. I agree to follow the instructions received for correct use of the stove and to communicate any problems with the stove to Instituto Perene.

A.2. Location of project

>> (Provide host country, state/province, city/town details along with GPS co-ordinates.)

The project boundary is located in the state of Bahia and encompasses the municipalities of Cabaceiras do Paraguaçú, Castro Alves, Conceição do Almeida, Cruz das Almas, Maragogipe, Nazaré, São Felipe and Sapeaçú.



Recôncavo Region of Bahia, Brazil
Municipalities in which cookstoves were built during 2019

	Project Boundary
Latitude	12°46'8.61"S
Longitude	39° 9'59.00"W

A.3. Reference of applied methodology

>> *(Indicate title and version number of the methodology.)*

The Gold Standard Simplified Methodology for Efficient Cookstoves Version: 1.0 (February 2013).

A.4. Crediting period of project

>> (*Provide start date and length of the crediting period as given in approved PDD.)*

Start date of crediting period: January 1, 2019

Length of crediting period: 10 years.

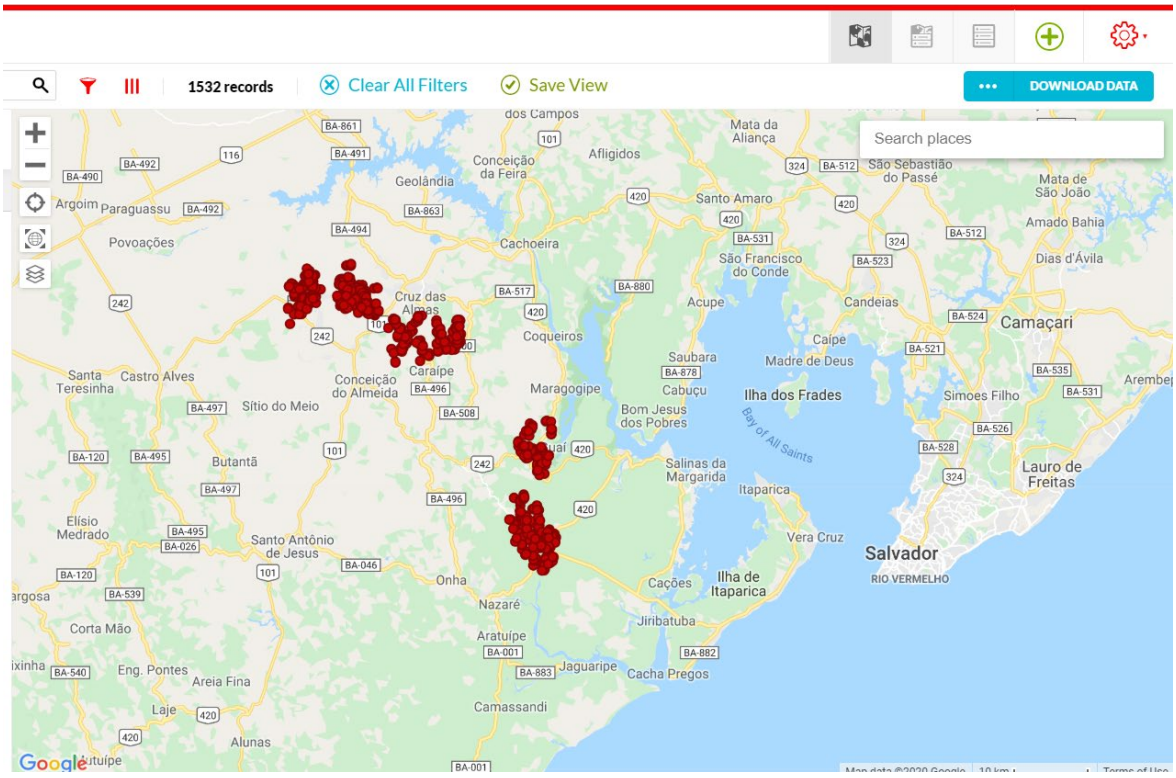
SECTION B. Implementation of project

B.1. Description of implemented project

>> (*Provide information on the implementation status of the project during this monitoring period. Specify any deviations / delays compared to information in approved project.)*

Stove construction began in this Monitoring Period, which extends from January 1, 2019 to December 31, 2019 with a total of 1,532 units built. The table below presents the cookstove construction activity to date.

GS 6050 Stove Construction	
Year	**Stoves Built**
2019	1,532
Total	1,532



Each stove is identified by its unique Stove ID and GPS location.

A total of 6,083tCO2e were reduced by all stoves operating in this MP.

See Annex 1, ER calculations.

Vintage	Ex-ante estimated ER (Tons CO2e/year)	Ex-post ER
2019	7,642	6,083

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

>> (Indicate whether any temporary deviations have been applied during this monitoring period. If applied, provide a description of the deviation(s). Include the reasons for the deviation(s), how it deviates from the monitoring plan, applied methodology(ies) and/or applied approaches, the duration for which the deviation(s) is(are) applicable and justification on the conservativeness of the approach. Also indicate if prior approval from GS-TAC have been sought on the deviation.)

Not applicable.

B.2.2. Corrections

>> (Indicate whether any corrections to project information or parameters fixed at validation have been applied.)

At time of Validation, three Forward Action Requests were defined, as follows:

FAR# 1: The PD shall submit results of WBT in time for 1st verification.

Response: WBT attached, please see Annex 6.

FAR# 2: The PD shall submit a signed copy of the carbon credits transfer contract to the GS registry prior to 1st verification.

Response: Carbon credit transfer contracts attached, please see Annex 7.

FAR # 3: PD shall submit the results of baseline survey/baseline KPT in time for verification and prior to request for issuance.

Response: Baseline survey attached, please see Annex 8.

FAR #4: PD shall upload the proof of start date on the GS registry prior to start of internal verification.

Response: Instituto Perene is presenting the first payment and corresponding invoice with the contractor, see Annex 12. This is in agreement with section 3.4.3 of GS4GG Principles & Requirements which states: *The Project start date shall be the earliest date on which the Project Developer has committed to expenditures related to the implementation of the Project.*

B.2.3. Changes to start date of crediting period

>> (Indicate whether any changes to the start date of the crediting period have been approved by Gold Standard that is relevant for this monitoring period.)

Start date of crediting period has been changed from January 1, 2018 to January 1, 2019 due to timeline of signing carbon credit purchase agreement and disbursement of funds.

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

>> (Indicate whether any permanent changes from the approved monitoring plan, applied methodologies or applied approaches have been approved by GS-TAC that is relevant for this monitoring period.)

The project has permanently adopted the Gold Standard for the Global Goals guidelines and templates. Transition Annex was completed by Perene and transition to GS4GG approved by Gold Standard on January 15, 2019.

A new Water Boiling Test was conducted in response to FAR #1, resulting in the change of thermal efficiency of the project stove from 20 to 23%.

The annual baseline fuelwood consumption has been changed from 4.2 to 4.08 tons per household, in accordance with the Baseline Study prepared by the Pontifical Catholic University of Rio de Janeiro and Instituto Perene, in response to FAR #3.

B.2.5. Changes to project design of approved project

>> (Indicate whether any changes to the design of the project have been approved by GS-TAC that is relevant for this monitoring period.)

The project has permanently adopted the Gold Standard for the Global Goals guidelines and templates. Transition Annex was completed by Perene and transition to GS4GG approved by Gold Standard on January 15, 2019.

The project boundary was expanded to include the municipalities of Cabaceiras do Paraguaçú, Castro Alves, Conceição do Almeida, Maragogipe and São Felipe.

SDG 3 – Health and Well-Being has been included as a monitored and reported impact.

SECTION C. Description of monitoring system applied by the project

This project follows the monitoring plan described by the Gold Standard Simplified Methodology for Efficient Cookstoves v. 01. The monitoring plan set out by this methodology requires maintenance of a Project Database of all stoves installed, including the name and government-issued identification card number (Registro Geral - RG) of the stove owner, location of the stove, and date installed. Perene maintains the database in GIS. Annex 2 contains the database of stoves constructed during Monitoring Period I: 01/01/2019 to 31/12/2019.

A contract with each stove-user transfers the carbon credit rights to Instituto Perene, making the transfer of credits ownership transparent. The cookstove end-users are fully aware of and willing to give up their rights on emission reductions, in exchange for the new stove, training and maintenance. Each project beneficiary signs a 1-page contract, the Authorization and Carbon Credits Rights Transfer.

MONITORING PROCEDURE

Interviewer was Community Agent Supervisor Camila dos Anjos, in the position of Field Technician , accompanied in each community by a local member in order to have help with logistics and facilitate communication with interviewees. Ms. Anjos has been carrying out Surveys since 2015. She was interviewed by the OO for the project in 2017. Ms Anjos has participated in several trainings in order to maintain interviewing skills up to date. Initially Perene recorded interviews on paper. Then as digital software became more available and affordable, the program QuickTapSurvey was used. However, it had limitations in areas of limited internet coverage and after losing data several times, Perene switched to Fulcrum App. Fulcrum App's survey capabilities are fully functional off-line, which is necessary given the region's spotty cellular coverage and absence of wifi in rural homes. Ms Anjos has been operating Fulcrum App since 2017, in addition to having gained experience in other information skills, such as Excel.

In 2017 Ms Anjos was interviewed by the Objective Observer on an auditing visit to project GS1028. Below is an excerpt of the report.

From 2017 OO report

Project employee's house (all the community/monitoring agents and masons were gathered for the interviews in the house of Camila Sliva dos Anjos who is the coordinator of interviews and maintenance. –

Camila Silva dos Anjos, Coordinator of Interviews and maintenance.
Community Agent: She answer that it would be very easy thanks to the experience and training obtaining working at the project. She acquired communication and management skills, and thanks to the project she got a diploma on Excel program. It was obvious that the project gave her confidence and she believes it would be easy to find another job with the experience gained (See Appendix G –Certificate on Microsoft Excel of Camila Silva dos Anjos).
Appendix G from OO Report:


CERTIFICADO

Em vista das aprovações obtidas pelo (a) aluno (a): CAMILA SILVA DOS ANJOS, este estabelecimento lhe expede o seguinte CERTIFICADO de conclusão no curso de: MICROSOFT EXCEL.
No período de 06/07/2017 a 15/08/2017, com uma carga horária de 11horas.

São Felipe, 18 de Agosto de 2017

Silvano A. Santos Barreto
Diretor

IMPERIAL Cursos
CNPJ nº: 04.602.683/0001-08

See Annex 14_for position and record of monthly salary_of Surveyer

Left Photo: Instituto Perene Technical Director Renata Everett Valladares with Monitoring Agent Camila dos Anjos during meeting with Community Agents in 2018.

Below Photo: Monitoring Agent Camila dos Anjos (wearing green Perene uniform) co-leading Focus Group of project GS6050.

Although the methodology allows for telephone surveys, aside from the technical difficulties associated with communication in remote rural areas, Instituto Perene chooses to perform in-person interviews. The in-home visits are an excellent opportunity to accurately assess the degree of adoption of the new stove and satisfaction of the cooks, identify technical and operational issues, and reinforce the training that is given at the time of installation.

Standardization of stove component evaluation had been established in Monitoring period II and continued to be applied. The rubric, shown below, describes each component and condition in words and images, to guide Community Agents during the Monitoring visit inspection.

The Rubric of stove components guides Agent inspection and rating of cookstove condition during in-home Monitoring surveys.

In accordance with the methodology, survey participants were randomly selected from the Project Database.
With Instituto Perene´s integrated geographic information system (GIS), participants are randomly selected.

In order to make finding project HH easier for monitoring and auditing visits, Instituto Perene used the GPS-integrated program ArcGIS. Random selection is generated by the tool *Geostatistical Analyst* within ArcGIS. The tool outputs a .kmz file (Annex 2) with the random selection of households, which can be opened in Google Earth as well as imported to Fulcrum App, the program used for collecting Monitoring Surveys.

According to methodology, surveys were applied and results are grouped by Age Groups. In this Monitoring Period, there are only stoves of Age Group 0-1. In total, 100 interviews were completed.

Age-Group	Year Built	Stoves Built	Sample Size
0-1	2019	1,532	100

The project cookstove adoption rate, as well as user perception of benefits, is very positive.

Cookstove Adoption Rate: % of households that continue using project cookstove			
Monitoring Year	Installation Year	Stove Age, yrs	Usage Rate
2019	2019	0-1	100%

According to the methodology, the analysis of survey results takes into account frequency and type of cookstove use, as well as the condition of the different stove components. Those HH who respond that they cook beans on gas only are eliminated from the carbon-eligible HH, and a proportional number of HH is removed from the ER calculations by application of the adjusted Usage Rate. Households that do not meet all the criteria are eliminated from the response spreadsheet, resulting in a proportional reduction of carbon credits reported in the period, see Annex 4, Survey Responses.

Carbon-Allowed Usage Rate: % of households that meet full emissions reductions conditions			
Monitoring Year	Installation Year	Stove Age, yrs	Usage Rate
2019	2019	0-1	98%

Survey Responses

Surveys responses were entered in a standard questionnaire using the Fulcrum app on a hand-held digital device, and then synchronized via wi-fi to the program's cloud. The table below presents results from Age-Group 0-1. The complete spreadsheet of survey results is presented in Annex 3.

SUMMARY OF MONITORING SURVEY RESULTS Household and Stove Use Characteristics Age-Group 0-1		
SURVEY QUESTIONS		**RESPONSE**
Average HH size	Persons	3.6
Gender of principal cookstove user	Female	92%
	Male	8%
Do you cook with wood?	Yes	100%
	No	0%
Wood purchased or collected?	Purchased	1%
	Collected	86%
	Both	13%
With what fuel do you cook beans?	Wood	93%
	Gas	0%
	Both	7%
Do you use the Project Stove?	Yes	100%
	No	0%

What do you think of the Project Stove?	Excellent	57%
	Good	40%
	Fair	3%
	Bad	0%
Do you still use the old stove (baseline stove)	Yes	5%
	No	95%
Frequency of Project Stove use	Daily	67%
	3-4 times per week	21%
	1-2 times per week	12%
	Seldom	0%
For what food types do you use wood cookstove?	All types of foods	63%
	Select foods	37%
Wood cookstove is used for…	Most frequent answers:	beans, meat
Project Stove location	Inside	71%
	Outside	6%
	Semi-enclosed	23%
Do you use a gas stove?	Yes	98%
	No	2%
Frequency of gas stove use	Daily	97%
	3-4 times per week	1%
For what food types do you use gas stove?	All types of foods	13%
	Select foods	85%
Gas stove is used for…	Most frequent answers:	Rice, Coffee, reheating cooked food
Wood consumption Project stove vs old stove	More	11%
	Less	80%
	Same	9%
Size of fuel pieces Project stove vs old stove	Larger	0%
	Smaller	99%
	Same	1%

Users report significant benefits from the project stove, in relation to the baseline stove, in several aspects of health and well-being, presented below.

SUMMARY OF MONITORING SURVEY RESULTS Cookstove Users Feedback Age-Group 0-1		
SURVEY QUESTIONS *Cookstove users are asked to rate the performance of the Project Stove, compared to the old (baseline) stove, in each category.*		**RESPONSE**
Time to collect fuel	More	0%
	Less	97%
	Same	3%
Smoke produced	More	0%
	Less	97%
	Same	3%
Cooking area condition	Cleaner	98%
	Dirtier	0%
	Same	2%
Cleaning pots and pans became…	Easier	96%
	More difficult	0%
	Same	3%
Drudgery	More	1%
	Less	96%
	Same	3%
Personal Hygiene - hair, skin and clothes	Cleaner	98%
	Dirtier	0%
	Same	2%
Redness of eyes	Improved	94%
	Worsened	0%
	Same	6%
Cough	Improved	88%
	Worsened	0%
	Same	12%
Allergies	Improved	84%
	Worsened	0%
	Same	15%
Injury due to burns	Improved	88%
	Worsened	0%
	Same	12%
Back pain	Improved	51%
	Worsened	0%
	Same	49%
Self-esteem/Pride about home	Improved	98%
	Worsened	0%
	Same	1%

SECTION D. Data and parameters

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/ Parameter	EFb,fuel,CO_2
Data Unit:	tCO_2/t of firewood
Description:	CO_2 emission factor arising from use of firewood in baseline scenario
Source of data:	IPCC default values, table 1.4 of chapter 1 of Vol. 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value(s) applied	1.747 tCO_2/t of firewood
Choice of data or Measurement methods and procedures	IPCC default values
Any comment:	

Relevant SDG Indicator	**SDG 13.** Climate Action
Data/ Parameter	EFfuel,non-CO_2
Data Unit	tCO_2/t of firewood
Description	Non-CO_2 emission factor arising from use of firewood in baseline scenario
Source of data	IPCC default values
Value(s) applied	0.530 tCO_2/t of firewood
Choice of data or Measurement methods and procedures	IPCC default values
Any comment:	Value applied is for Second Commitment period, as defined in the "BG" section of the ER Calculation spreadsheet of the methodology.

Relevant SDG Indicator	**SDG 13.** Climate Action
Data/ Parameter	fNRB,y
Data Unit	Fractional non-renewability
Description	Non-renewability status of wood fuel during year y

<table>
<tr><td>Source of data</td><td>The NRB fraction used for this project has been determined from the results of the NRB study conducted in 2012 for the Project Efficient Cookstoves in the Bahian Recôncavo Region (GS832), validated in May 2013. In order to be conservative, the lower of the NRB values determined by the NRB studies commissioned by Instituto Perene is used in this PDD.
The table below shows the source used for each variable in the calculation of the non-renewable biomass fraction.

<table>
<tr><th>Parameter</th><th>Source</th></tr>
<tr><td>MAI - Mean Annual Increment (forest growth)</td><td>Siqueira 2007</td></tr>
<tr><td>Fuel Collection Areas</td><td>Falieri 2011</td></tr>
<tr><td>H – Total Annual Harvest (forest loss)</td><td>Falieri 2011</td></tr>
<tr><td>Total Forest Stock</td><td>Metzker et al 2009</td></tr>
</table>

Fuel Collection Areas and Total Annual Harvest values were obtained from the NRB study (Falieri, 2011)</td></tr>
<tr><td>Value(s) applied</td><td>0.81</td></tr>
<tr><td>Choice of data or Measurement methods and procedures</td><td>The fraction of NRB was determined according to the Gold Standard Methodology,
fNRB = (NRB/H)
NRB = H – MAI
Where:
NRB is the non-renewing biomass or excess harvest.
H is the total annual harvest of woody biomass from the fuel collection areas;
MAI is the sum of mean annual increments of the wood species.</td></tr>
<tr><td>Purpose of data</td><td>To determine what fraction of the biomass burned is non-renewable and therefore contributes to emissions reductions.</td></tr>
<tr><td>Any comment:</td><td>The NRB fraction used for this project has been determined from the results of the NRB study conducted in 2012 for the Project Efficient Cookstoves in the Bahian Recôncavo Region (GS832), validated in May 2013. The area of study of both PDDs is the Bahian Recôncavo, in eastern Bahia state, in a radius of 100 km from the city of Salvador. Studies show a territory with similar physical, cultural and historical characteristics. According to Alessandra Oliveira from the Feira de Santana State University in her paper entitled "Territorial Dynamics of the Recôncavo Baiano" this region is one of oldest territorial occupations in Brazil. According to this study, the Recôncavo Baiano was one of the first areas occupied by the Portuguese in Brazil (starting in the 1700s), presenting since the beginning intense and homogeneous spatial</td></tr>
</table>

Relevant SDG Indicator	**SDG 13. Climate** Action
Data/ Parameter	$B_{b,y}$
Data Unit	Tons of firewood per household per year
Description	Firewood consumption for cooking in the baseline
Source of data	**Option b. Survey of Local Use.** From Baseline Study by Pontifical Catholic University of Rio de Janeiro and Instituto Perene, December 2019.
Value(s) applied	4.08
Choice of data or Measurement methods and procedures	Option 4. 2 b "Survey of local use" was applied.

Any comment:	See Baseline Study, Annex 8. Note: As described in PDD GS6050, the methodology applies to woodfuel use and is applicable even though the project participants are primarily woodfuel users, with presence of LPG as a secondary fuel. This issue was discussed in the Validation process and the application of the methodology was approved by Gold Standard/SustainCERT at the time of Validation. From the PDD v 4: In addition to firewood, it is the wide-spread cultural practice to have a gas stove in the home, with intermittent use of LPG cooking fuel. Instituto Perene believes that this methodology is still appropriate because the LPG is a case of "subsumed fuel". This approach was applied in both GS832 and GS1028, the Efficient Cookstoves in the Bahian Recôncavo Region project, validated and verified in 2013. A subsumed fuel is a secondary fuel, in this case LPG, which is continued to be used in the same manner after the baseline stove is substituted by the project stove.

Relevant SDG Indicator	**SDG 7. Affordable and Clean Energy**
Data/ Parameter	η_b
Data Unit	Fraction
Description	Efficiency of the cookstove being used in the baseline scenario
Source of data	The Gold Standard Simplified Methodology for Efficient Cookstoves Version: 1.0
Value(s) applied	0.10
Choice of data or Measurement methods and procedures	According to the methodology (p 5): "A default value of 10% shall be used if the replaced cookstove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation"
Any comment:	Traditional stoves in rural Bahia, Brazil are three-stone fires, assembled with a few bricks or rocks, generally on the ground. These are open-air fires with no chimney or any improved feature.

Relevant SDG Indicator	**SDG 7. Affordable and Clean Energy**
Data/ Parameter	η_p
Data Unit	Fraction
Description	Efficiency of the cookstove being used in the project scenario
Source of data	Water Boiling Test
Value(s) applied	0.23
Choice of data or Measurement methods and procedures	According to the cookstove methodology: "The efficiency of the project cookstove needs to be determined by an independent expert or entity, in the field or laboratory, following the Water Boling Test protocol (available at <http://www.pciaonline.org/node/1048>)."
Any comment:	A new water boiling test was carried in response to FAR # which tested 3 randomly selected project stoves, 3 times each, for a total of 9 test runs.

D.2. Data and parameters monitored

(Copy this table for each piece of data and parameter)

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/ Parameter	$U_{p,y}$
Unit	Percentage

Description	Usage rate in project scenario p during year y, derived for each age group of project cookstove being credited.
Measured/calculated/default	Measured
Source of data	Annual usage survey/Monitoring survey.
Value(s) applied	Usage Rate Monitoring Year: 2019 — Stove Age, yrs: 0-1 — Usage rate: 98%
Monitoring equipment	
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	The Survey follows the sample survey referenced in Annex A the Gold Standard Simplified Methodology for Efficient Cookstoves Version: 1.0. In accordance with the methodology, the survey is conducted following simple random sampling approach and the minimum sample size is determined as per the guidelines below; • Project target population < 300: Minimum sample size 30 • Project target population 300 to 1000: Minimum sample size 10% of group size • Project target population > 1000 Minimum sample size 100
QA/QC Procedures	Surveys are carried out by a trained Perene technician, accompanied by a female Community Agent, in the home of the interviewee. Although door-to-door monitoring visits are far more costly than the telephone interviews allowed by the methodology, physical presence in the home allows direct observation of the stove, fuel and stove use patterns. Surveys responses are entered into a standard questionnaire using the Fulcrum app on a hand-held digital device, and then synchronized via wi-fi to the Cloud.
Purpose of Data	To determine the adoption rate of the project stoves by project participants and to adjust the ER calculations accordingly.
Any comment:	

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/ Parameter	$N_{p,y}$
Unit	Number of stoves
Description	Number of efficient wood-burning cookstoves constructed
Measured/calculated/default	Measured
Source of data	Project database, installation record, signed Terms of Agreement by each stove owner. For each stove constructed, the following information is obtained: 1. photo is taken of each stove built 2. GPS location of HH 3. Beneficiary name, ID number, community and municipality 4. Signed Terms of Agreement
Value(s) applied	**Project Implementation** Year: 2019 — Number of Cookstoves Built: 1,532 Total: 1,532
Monitoring equipment	
Measuring/reading/recording frequency	Monthly
Calculation method (if	

applicable)	
QA/QC Procedures	The building team is trained in the use of the app program Fulcrum, which allows on-site data entry into a standard form on a hand-held digital device. All the information listed above is automatically synchronized via wi-fi to Perene´s Cloud Database. The Terms of Authorization, signed, dated and including the stove owner´s ID number and location are then mailed to Perene headquarters where a QC check by a Perene admin staff takes place, comparing the information on each Term to the information entered in Fulcrum.
Purpose of Data	To determine the number of stoves constructed in the period
Any comment:	

Relevant SDG Indicator	**SDG 7. Energy Efficiency**
Data/ Parameter	DF_n
Unit	Fraction
Description	Discount factor to account for efficiency loss of project cookstoves
Measured/calculated/default	Default
Source of data	Default discount factor stated by The Gold Standard Simplified Methodology for Efficient Cookstoves Version: 1.0, ER Calculation spreadsheet
Value(s) applied	1% efficiency loss per year
Monitoring equipment	
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	
QA/QC Procedures	N/A as this is a default value provided by GS
Purpose of Data	To determine the efficiency loss over time of the project cookstoves and to reduce the ER accordingly
Any comment:	

Relevant SDG Indicator	**SDG 13. Climate Action**
Data/ Parameter	$DF_{b,stove,y}$
Unit	Fraction
Description	Discount factor to account for the baseline stove use in project scenario p during the year y
Measured/calculated/default	Measured and calculated
Source of data	Annual Monitoring Surveys
Value(s) applied	5%
Monitoring equipment	
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	Discount factor is determined as fraction of stove users using both the baseline and project stoves, as determined by the Monitoring Surveys. A weighted average of the baseline use for all sample groups, per monitoring year, is calculated and entered into the ER Excel calculation spreadsheet. In the case of Vintage 2019, as there is only one Age-group, the calculation of discount factor is simply the number of HH reporting baseline stove use divided by the number of HH reporting project stove use. 5/100 * 100% = 5%
QA/QC Procedures	Baseline stove use is determined through a direct question on the Monitoring Survey as well as observation by the Community Agent and Perene technician during the HH visit. Mechanisms to discourage baseline use include: dismantling of the baseline stove during construction, building the new stove on top of the old stove location, frequent monitoring visits to observe stove use

	pattern.
Purpose of Data	To determine the percentage of project participants who continue to use the baseline stove after the new stove has been installed and to adjust ER accordingly.
Any comment:	Experience in the over 8,000 households benefitted by Perene cookstove projects has shown that baseline stove use is extremely rare once the efficient cookstove has been installed. Although several steps are taken to discourage baseline stove use, reality shows that stove users avoid returning to baseline stove use mainly out of a strong preference for the new stove, which use less wood, generate much less smoke and are much more comfortable to cook on as they are elevated, whereas traditional stoves are on the ground and cooks have to bend over to add fuel, stir food, place and remove pots.

Relevant SDG Indicator	**SDG 1. No Poverty**
Data/ Parameter	HH
Data Unit	Number of households
Description	Number of households benefitting by owning an improved cookstove for each year of operation of the project. Numbers are not cumulative.
Source of data	Project database, installation record, signed Terms of Agreement by each stove owner, Monitoring surveys.
Value(s) applied	

Year Built (Age-Group)	Rate	Stoves Built	HH benefitting
2019 (0-1)	100%	1,532	1,532
		TOTAL HH	1,532

Choice of data or Measurement methods and procedures	For each HH benefitted, the following information is obtained: 1. photo is taken of each stove built 2. GPS location of HH 3. Beneficiary name, ID number, community and municipality 4. Signed Terms of Agreement In the case of SDG 1, HH benefitted is calculated by multiplying the number of stoves built of each age-group by the usage rate for that age-group. The usage rate is the same as the parameter $U_{p,y}$ described above and determined from the monitoring surveys.
Monitoring Frequency	Annually
QA/QC Procedures	The building team is trained in the use of the app program Fulcrum, which allows on-site data entry into a standard form on a hand-held digital device. All the information listed above is automatically synchronized via wi-fi to Perene´s Cloud Database. The Terms of Authorization, signed, dated and including the stove owner´s ID number and location are then mailed to Perene headquarters where a QC check by a Perene admin staff takes place, comparing the information on each Term to the information entered in Fulcrum. Monitoring surveys are carried out annually to determine adoption rate and user satisfaction, on a randomly selected sample according to the methodology´s sample size requirements.
Purpose of Data	To determine the number of families and individuals benefitting from a reduction in poverty by means of access to improved basic energy services and appropriate new technology.
Any comment:	

Relevant Indicator	**SDG 3. Health and Well-Being** 3.9.1 Mortality rate attributed to household and ambient air pollution
Data/ Parameter	Percentage of HH reporting improvement in household air quality and reduction in health and hygiene problems.
Data Unit	%
Description	Percentage of users reporting improvement in household air quality and reduction in health and

	hygiene problems associated with cooking-related smoke.
Source of data	Monitoring Survey
Value(s) applied	98%
Choice of data or Measurement methods and procedures	Sample size is determined by the methodology and survey participants are randomly selected from the Project Database.
Monitoring Frequency	Annually
QA/QC Procedures	Monitoring surveys are carried out annually to determine adoption rate and baseline use rate, on a randomly selected sample according to the methodology´s sample size requirements.
Purpose of Data	Percentage of users who reported improved household air quality and reduced health and hygiene problems associated with cooking-related smoke.
Any comment:	

Relevant Indicator	**SDG 3. Health and Well-Being** 3.9.1 Mortality rate attributed to household and ambient air pollution
Data/ Parameter	Household size
Data Unit	Number of persons
Description	Average number of people living in each household in the project region.
Source of data	Monitoring Survey
Value(s) applied	3.6
Choice of data or Measurement methods and procedures	Sample size is determined by the methodology and survey participants are randomly selected from the Project Database.
Monitoring Frequency	Annually
QA/QC Procedures	Monitoring surveys are carried out annually to determine adoption rate and baseline use rate, on a randomly selected sample according to the methodology´s sample size requirements. The survey includes the fields: Number of adults in the household (older than 14 yrs) Number of children in the household (14 yrs old or younger) The response is self-reported by the interviewee and filled in by the interviewer on a hand-held digital device operating the Fulcrum App survey program.
Purpose of Data	To determine the number of people benefitting from improved household air quality and reduced health and hygiene problems associated with cooking-related smoke.
Any comment:	

In addition to the parameters regarding SDGs, the project also monitored the Safeguarding Principles presented in the PDD considered to have a "Potential" level of risk.

Principle 3-Community Health, Safety and Working Conditions

Personal protective equipment was provided to all masons and mason´s assistants and team received professional, on-site safety training. Annex 9 contains the summary of purchases of PPE (hardhat, gloves, eyewear and earplugs), sample invoices and photos of construction team duly equipped. A civil engineer wascontracted for a period to initiate construction, train team in safe and efficient construction and set up procedures for inventory and logistics. Annex 10 contains a copy of monthly payroll as evidence.

Principle 6-Economic Impacts: Labor

Government-issued identification document of Perene team members will be included in Monitoring report to document that no child labor is being employed. See Annex 11.

D.3. Implementation of sampling plan

The Gold Standard Simplified Methodology for Efficient Cookstoves, version 1.0 sets out the following guidelines as to minimum sample size:

Group size < 300: Minimum sample size 30
Group size 300 to 1000: Minimum sample size 10% of group size
Group size > 1000 Minimum sample size 100

Sampling Sizes		
Year Installed	**No. stoves built**	**Minimum Sample Size**
2019	1,532	100
Total	**1,532**	**100**

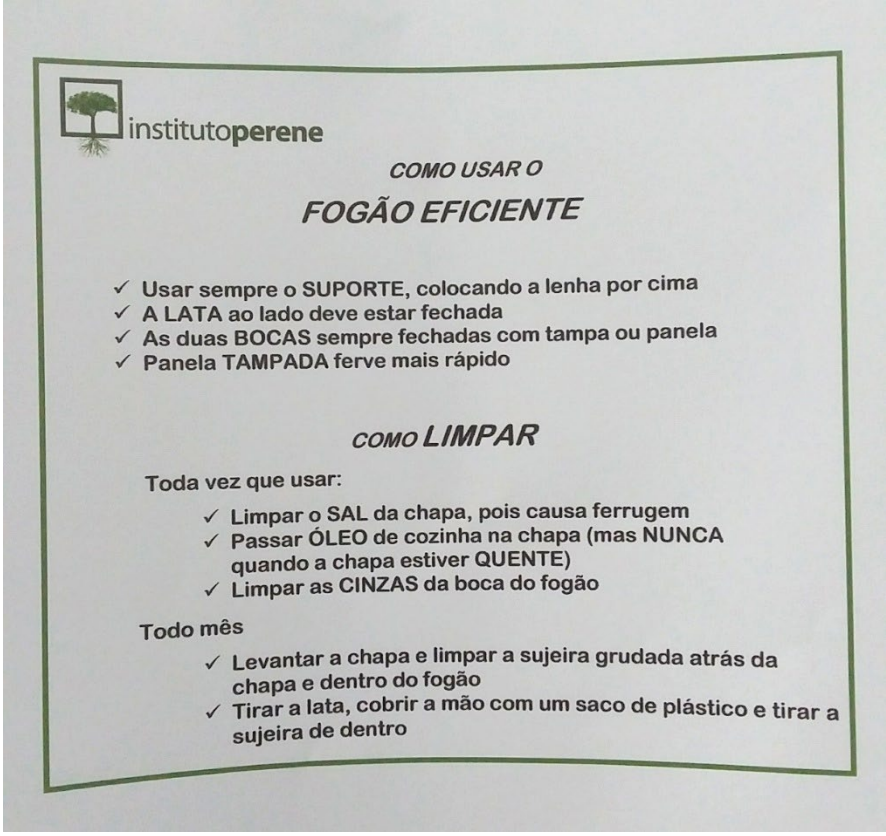
One hundred interviews were conducted in participating households. All surveys were conducted by means of house visits – no telephone interviews were conducted (Obs.: fixed telephone lines are rare in the project area, and although cell phones are not uncommon, reception is weak and unreliable. Furthermore, it is very difficult to convey questions and receive accurate answers by telephone in the local culture). Surveys were conducted by a Perene Institute team member, accompanied by a Community Agent. Surveys are based on the sample provided in the methodology and were translated into Portuguese and slightly adapted using more informal language. Monitoring surveys were carried out between October and November 2019.

Verification I - Monitoring Activities Periods		
Vintage	Monitoring Period	Survey period
2019	I	October– December, 2019

Due to suggestions from cookstove users, the training that Community Agents pass on now includes the practice of protecting the stove top with a small amount of cooking oil, which prevents corrosion and maintains the stove top in good condition.

Community Agents carrying out training in proper stove use and maintenance

Initial instructions are given by masons at the time of construction, together with the sheet below:



In addition, Community Agents performed follow-up visits to HH in all the communities. See Annex_ Sample records of HH visits. The most effective way to teach users how to use and clean the stove is showing the person in his or her own home. By visiting HH in person, the cookstove users learn how to operate their cookstove in their own kitchen. As of MP2 visits will also include instructions of how to make simple repairs to combustion chamber, in order to maintain this part in good working condition.



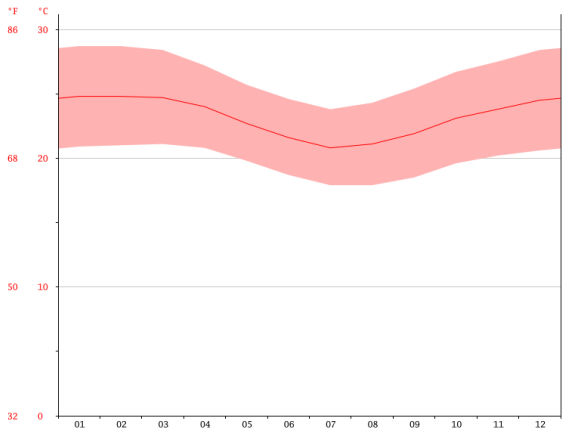
Community Agent Manuela Santana Almeida, who is also a municipal health agent, teaching women how to use and clean their new stoves. See Annex 15 for sample records and 2019 payments to Ms. Almeida.

The GS Simplified Methodology for Efficient Cookstoves, V1, on page 11, requires accounting for seasonal variation in monitoring surveys. Monitoring surveys are generally carried out over the year, but in any case,

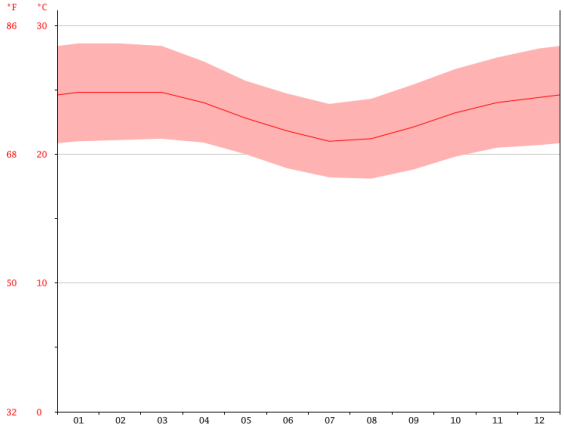
there is little seasonal variation in the region's weather patterns that could affect stove use. Temperature and precipitation are fairly constant throughout the year, as the following graphs and table show.

Temperature Graphs

Municipality of Dom Macedo Costa



Municipality of Conceição do Almeida



DADOS CLIMATOLÓGICOS PARA SAPEAÇU

	Janeiro	Fevereiro	Março	Abril	Maio	Junho	Julho	Agosto	Setembro	Outubro	Novembro	Dezembro
Temperatura média (°C)	24.6	24.7	24.5	23.8	22.6	21.4	20.6	20.9	21.7	22.9	23.7	24.3
Temperatura mínima (°C)	20.7	20.8	20.9	20.6	19.7	18.5	17.7	17.7	18.3	19.4	20.1	20.4
Temperatura máxima (°C)	28.5	28.6	28.2	27.1	25.5	24.4	23.6	24.1	25.2	26.5	27.4	28.2
Temperatura média (°F)	76.3	76.5	76.1	74.8	72.7	70.5	69.1	69.6	71.1	73.2	74.7	75.7
Temperatura mínima (°F)	69.3	69.4	69.6	69.1	67.5	65.3	63.9	63.9	64.9	66.9	68.2	68.7
Temperatura máxima (°F)	83.3	83.5	82.8	80.8	77.9	75.9	74.5	75.4	77.4	79.7	81.3	82.8
Chuva (mm)	77	76	94	117	117	113	113	77	61	62	82	77

A diferença entre a precipitação do mês mais seco e do mês mais chuvoso é de 56 mm. As temperaturas médias variam 4.1 °C ao longo do ano.

The difference in precipitation between the driest month and the wettest month in Sapeaçú municipality, for example, is only 56mm, and average temperatures vary 4.1 C throughout the year.

Source: Climate-Data.org
https://pt.climate-data.org/america-do-sul/brasil/bahia/sapeacu-43357/
https://pt.climate-data.org/america-do-sul/brasil/bahia/dom-macedo-costa-312778/
https://pt.climate-data.org/america-do-sul/brasil/bahia/conceicao-do-almeida-43368/

The Climate-Data.org description of the nearby capital of Bahia, Salvador is as follows:

> *Presents a tropical climate. Significant precipitation throughout the year. Even the dryest month has significant precipitation. The climate is classified as Af according to Köppen and Geiger. Salvador has an average temperature of 25.2 °C and annual precipitation of 1781 mm.*
> *https://pt.climate-data.org/america-do-sul/brasil/bahia/salvador-854/*

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> *https://pt.climate-data.org/america-do-sul/brasil/bahia/salvador-854/*

SECTION E. Calculation of SDG outcomes

E.1. Calculation of baseline value or estimation of baseline situation of each SDG outcome

>> (*Provide details of equations and approaches used to calculate/estimate baseline values.)*

SDG 13. Climate Action

Baseline is calculated by applying GS Simplified Methodology for Efficient Cookstoves Version: 1.0, p. 5, equation (2):

4.1 Determination of quantity of biomass saved (P_y):

Quantity of firewood that is saved ($P_{,y}$) is estimated as follows:

$$P_y = B_{b,y} * (1-\eta_b/\eta_{p,y}) \quad \text{.....(2)}$$

Where:

$B_{b,y}$	Quantity of firewood consumed in baseline scenario during year y (tonnes per household per year)
$\eta_{p,y}$	Efficiency of project cookstove in year y (fraction)
η_b	Efficiency of the baseline cookstove being replaced (fraction). A default value of 10% shall be used if the replaced cookstove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation

SDG 7. Affordable and Clean Energy

The baseline stove is the traditional, rudimentary stove used throughout rural Bahia, which consists of fire built on the ground with loose rocks or local bricks serving as support for the pot. These cooking fires are not equipped with a chimney, fuel shelf, combustion chamber, insulation or any other improvements. For the baseline energy efficiency, the value used is the default contained in the GS Simplified Methodology for Efficient Cookstoves Version: 1.0, p. 5, which states:

> *A default value of 10% shall be used if the replaced cookstove is a three stone fire, or a conventional device without a grate or a chimney i.e. with no improved combustion air supply or flue gas ventilation.*

SDG 1. No Poverty

As detailed in the PDD, Section B.5, there are no other improved cookstove initiatives in the project region. Due to the investment and technology barriers described in the PDD, common practice in the region is the use of rudimentary, open-air fires. Therefore, the baseline value for this SDG parameter is zero.

E.2. Calculation of project value or estimation of project situation of each SDG outcome

>> (*Provide details of equations and approaches used to calculate/estimate project values.)*

SDG 13. Climate Action

Impact on Climate Action is calculated by applying GS Simplified Methodology for Efficient Cookstoves Version: 1.0, p. 5, equation (1):

$$ER_y = \sum N_{P,y} * P_y * U_{P,y} * (f_{NRB,y} * EF_{b,fuel,CO2} + EF_{b,fuel,non\_CO2}) * (1 - DF_{b,Stove,y})$$

Where:

$N_{P,y}$	Number of project cookstoves of each age group operational in the year y
P_y	Quantity of firewood that is saved in the year y (tonnes per household in year y)
$U_{P,y}$	Usage rate for project cookstoves in year y, based on adoption rate and drop off rate revealed by usage surveys (fraction)
$f_{NRB,b,y}$	Fraction of biomass, used in year y for baseline scenario, which can be established as non-renewable. .
$EF_{b,fuel,CO2}$	CO2 emission factor of firewood that is substituted or reduced.
$EF_{b,fuel,non\_CO2}$	NonOCO2 emission factor of firewood that is substituted or reduced.
$DF_{b,Stove,y}$	Usage of baseline cookstove during the year y (fraction) in project scenario
x	y – 1
y	Year of the crediting period

The ER spreadsheet included in the methodology applies this formula and calculates the annual ER values (Annex 1).

SDG 7. Affordable and Clean Energy

The project efficiency is determined per GS Simplified Methodology for Efficient Cookstoves Version: 1.0, p. 7

> *The efficiency of the project cookstove needs to be determined by an independent expert or entity, in the field or laboratory, following the Water Boling Test protocol (available at <http://www.pciaonline.org/node/1048>). To determine the project cookstove efficiency, three sample runs shall be carried out on at least three randomly selected project cookstoves. The average of the nine results shall be taken as the efficiency for the project cookstove (n_p).*

In response to FAR #1, a new WBT was conducted. The WBT submitted at time of Validation consisted of 3 runs on 1 stove in the laboratory, while the second WBT, submitted in response to FAR # 1 consisted of 3 runs on 3 randomly-selected stoves in the field to total the 9 test runs required by the methodology. The WBT is included as Annexes 6, 6_1, 6_2, 6_3, 6_4. Water Boiling Tests (WBT) is designed as a simplified

simulations of standard cooking procedures, measuring the fuel consumed and time required under "high power": and "low power" phases. Please see Clean Cooking Alliance WBT protocol for further information: https://www.cleancookingalliance.org/binary-data/DOCUMENT/file/000/000/399-1.pdf

SDG 1. No Poverty

Impact assessment on SDG 1 follows the Gold Standard Simplified Methodology for Efficient Cookstoves Version: 1.0 sampling size and monitoring methodology to determine the number of households and total persons benefitting from access to basic services and appropriate new technology, on an annual basis.

E.3. Calculation of net benefits as difference of baseline and project values or direct calculation for each SDG outcome

Item	Baseline estimate	Project estimate	Net benefit
1. No Poverty	0 families using improved cookstove technology	1,532 families benefitted	1,532 families benefitted
3. Health and Well-being	0 people benefiting	5,405 people benefitting	5,405 people benefitting
7. Affordable and Clean Energy	10% thermal efficiency	23% thermal efficiency*	130% increase in thermal efficiency
13. Climate Action	See ER Calculations spreadsheet Annex 1	See ER Calculations spreadsheet Annex 1	2019 Vintage: 6,083 tons CO2e

*Thermal efficiency for project stove is taken from ER Calculation spreadsheet IP, cell C48, which calculates the value for thermal efficiency for the year 2019 based on the default annual efficiency loss provided in the Gold Standard methodology.

E.4. Summary of ex-post values of each SDG outcome for the current monitoring period

SDG	Ex-post Values
1. No Poverty	1,532 families benefitting from improved cooking technology
3. Health and Well-being	5,405 people benefitting from improvements in health and well-being
7. Affordable and Clean Energy	23% thermal efficiency
13. Climate Action	6,083 tons CO2e

E.5. Comparison of actual value of outcomes with estimates in approved PDD

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period
SDG 1	3,300 families benefitted cumulatively	1,532 families benefitted
SDG 3	6,300 people benefitted	5,405 people benefitted
SDG 7	100% increase in cookstove thermal efficiency (from 10% to 20%)	130% increase in cookstove thermal efficiency (from 10% to 23%)
SDG 13	7,642 tons CO2e VER annually	6,083 tons CO2e

The 7,642 tons CO2e is the AVERAGE annual estimate presented in the PDD.

The PDD considers 1,500 stoves constructed in the first year of verification. The ex-ante estimate for the first year of project implementation, as presented in the PDD is 5,396 tons CO2e (see Table in Section A.6 of the PDD).

A like for like comparison i.e. ERs calculated based on all values in PDD keeping the stoves number as 1532 i.e. the actual implemented stoves is shown in the table below. Regarding ERs, holding all other variables equal and adjusting for the 2.13% increase in stoves built in Year 1 would result in an ER ex-ante estimate for Year 1 of 5396*1.0213 = 5,511 tons CO2e.

Comparison ex-ante and actual considering actual number of stoves built in MP 1			
Item	**Values estimated in ex ante calculation of approved PDD, considering n=1,532**	**Actual values achieved during this monitoring period**	**Comments**
SDG 1	1,532 families benefitted	1,532 families benefitted	
SDG 3	4,596 people benefitted	5,405 people benefitted	PDD estimated 3 persons/household Monitoring Surveys resulted in 3.5 persons/household, hence the difference of + 17.6%
SDG 7	100% increase in cookstove thermal efficiency (from 10% to 20%)	130% increase in cookstove thermal efficiency (from 10% to 23%)	New WBT conducted, thermal efficiency of 23%.
SDG 13	From original ex-ante PDD, YEAR 1: 5,396 tons CO2e considering 1,500 stoves built. Considering the actual stoves built of 1,532 (increase of 2.13% for actual vs PDD), the ex-ante ER would be: 5,396*1.0213 = **5,511 tons CO2e**	6,083 tons CO2e	Please refer to Table in Section A.6 of the PDD, which presents each year ex-ante ER. The difference of +10.4% holding all PDD factors equal and adjusting for actual stoves built is due to the change in the variables listed in E.6 and below: -annual baseline wood consumption: 4.2 tons/HH reduced to 4.08 tons/HH -project stove efficiency: 20.1% increased to 23% -usage rates: 97% increased to 98%

E.6. Remarks on difference from estimated value in approved PDD

The number of 3,300 families benefitted stated in the PDD considers all the stoves that will be constructed during the project. In year 1, over half the stoves were built, benefitting 1,532 families. The value of several inputs to the ER equation varied between the calculations made at time of Validation and Verification. These include:

-annual baseline wood consumption: 4.2 tons/HH reduced to 4.08 tons/HH
-project stove efficiency: 20.1% increased to 23%
-n. stoves installed: 1500 increased to 1532
-usage rates: 97% increased to 98%

The final result of inputting these values into the ER equation results in the ER total of 6,083 tons CO2e.

The PDD considers 1,500 stoves constructed in the first year of verification. The ex-ante estimate for the first year of project implementation, as presented in the PDD is 5,396 tons CO2e (see Table in Section A.6 of the PDD).

A like for like comparison i.e. ERs calculated based on all values in PDD keeping the stoves number as 1532 i.e. the actual implemented stoves is shown in the table in section E.5 above. Regarding ERs, holding all other variables equal and adjusting for the 2.13% increase in stoves built in Year 1 would result in an ER ex-ante estimate for Year 1 of 5396*1.0213 = 5,511 tons CO2e

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

Grievance, Comments and Suggestions Book

See Annex 5 for the original comments in Grievance book. Below is the summary of comments received from all communication channels in MP 1.

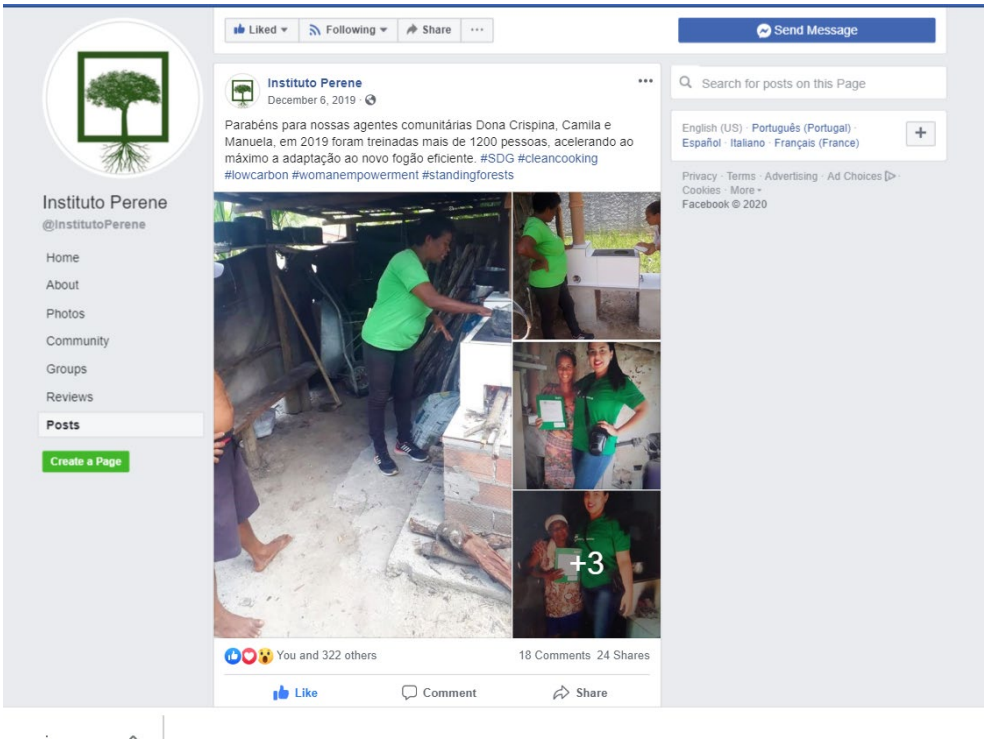
GS6050 - Monitoring Period I 2019	
User Feedback	**Perene Response**
The stove is wonderful, I am very happy to have it. The team was very attentive, congratulations.	Instituto Perene´s team values our relationship with the local communities above all. Being respectful and attentive, as well as leaving a clean work space is a priority during construction.
I am liking the stove a lot, it's a blessing. Everyone who comes to visit me is amazed by it.	With the addition of the external tiling, the appearance of the stove has improved. This change is a result of feedback from stakeholders in previous projects (GS832 and GS1028).

The stove should have an oven.	This is a common request. It is explained to the participants that the project does not have the financial resources to include an oven in the stove model.
This stove is not dirtying my walls.	The improvement in cleanliness and well-being in the home is an important contribution to the project´s SDG 3 impact.
Sometimes it is slow to light, but once the fire catches it cooks very fast.	Community Agents have included training in lighting the stove as part of their instructions, as there is more limited space to light the fire in the combustion chamber, compared to the old stove.
It is using more wood than my old stove.	Once in a while a participant makes this complaint. When discussed, the participant explained that with the old stove, she could leave logs burning all day without have to tend the fire. Instead with the new stove, cooking requires frequent feeding of the fire.
I have to tend the stove more often.	Same as above. With time, participants adjust their routines around the faster cooking times. In compensation, as Community Agents discuss with stove users, time is saved in fuel collecting and cleaning.
The stove saves fuel.	This comment is made very frequently.
I suggest the combustion chamber be further back so that the back burner heats better.	Since the combustion chamber is fixed in place and cannot be moved, the participant was shown how to lift the stove top and turn it around so that the larger burner can be at the back, making the heating power of both burners more even.
Very good. May we keep on improving the lives of the people.	This is the spirit of the project and Instituto Perene is grateful to work with such wonderful families, who often have such a positive outlook in the face of many difficulties.
I hang my clothes on the clothesline and it does not even seem like I have a wood stove anymore because there is no smell.	One of the most frequent complaints about the baseline stove is that the smell of smoke impregnates hair, skin and clothes. By reducing the amount of smoke around the household, keeping clothes clean becomes an easier task.
I have glaucoma and lost vision in one eye. With this stove my vision is not harmed so much.	Although the amount of smoke produced by the project stove is greatly reduced, compared to the old stove, participants are informed to follow the instructions of the healthcare providers. Under some situations, the use of any type of biomass stove is not advised.
The stove fire is very strong.	The AAC insulation and the Rocket-stove design of the combustion chamber result in very efficient heat transfer.
I wish the project could reach the city because my family visits me and wants the stove as well.	Participants are informed that the project focuses on rural communities.

I can use any type of pot or pan now because there is no difficulty in cleaning them.	Decrease in drudgery is an important contribution to the SDG 3 impact of the project.
My old stove blackened my refrigerator, but this stove doesn´t make smoke.	Decrease in drudgery is an important contribution to the SDG 3 impact of the project.
The fuelwood falls out of the opening.	In this case, the fuel shelf was being used incorrectly and the Community Agent demonstrated correct use.
My old stove stained my walls but with this one you cannot even see the smoke.	Decrease in household air pollution is an important contribution to the SDG 3 impact of the project.
I like it, its cooks quickly and saves gas. I cook with it every day.	The stove meets with approval by the local population and its fuel efficiency is one of the main benefits perceived by stove users.
This Project is very good. The stove is very good. There is no smoke, it cooks quickly, saves fuel and does not hurt our eyes. We even make cake on it.	The project stove brings several improvements and conveniences around the household.
The stove came at a good time. I used to cook out in the weather and it was very bad. With the project stove I can cook at any time because it doesn't make smoke and heats very quickly.	The project stove brings several improvements and conveniences around the household.
The project is very good. This stove does not create smoke. Before my eyes used to sting, but not anymore. It does not use a lot of fuel and saves gas.	The stove meets with approval by the local population and its fuel efficiency is one of the main benefits perceived by stove users.
The people of the team are wonderful, very kind, praise God.	Instituto Perene is very proud of the dedication and skills of its construction and monitoring team members.
I like it because the pots don't become dirty as with my old stove.	Decrease in household air pollution is an important contribution to the SDG 3 impact of the project.
With this project stove my eyes don't sting and I don't have the smell of smoke on me.	Decrease in household air pollution is an important contribution to the SDG 3 impact of the project.
The stove is very good for the community, fast, practical and efficient.	The project stove brings several improvements and conveniences around the household and communities.
The stove is practical and efficient.	The project stove brings several improvements and conveniences around the household.
The stove is economical and low cost.	As participants only provide the cement and bricks for the stove base, the cost of the stove to the community is low (approx. USD15)

My suggestion is to add an oven to the stove, that way it would be much better.	This is a common request. It is explained to the participants that the project does not have the financial resources to include an oven in the stove model.
Visitors who see my stove want one as well.	The community name of those interested in participating in the project is sent to Perene´s directors to take into account when new communities are being included.

Social media is a growing channel for feedback from participants and the general public about the project. Please visit Instituto Perene on Facebook to see photos and comments.



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

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

Not applicable. No legal contests or disputes arose regarding the project during this monitoring period.