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Monitoring report

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June 2017, version 1

Proyecto Mirador, LLC

"Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America"

June 13, 2019

Title of the project	PoA: "Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America" VPA: "Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America: First VPA for Distribution of Dos por Tres Cookstoves in Honduras"
Gold Standard project id	PoA: GS1988 VPA: GS2758
Version number of the monitoring report	6
Completion date of the monitoring report	16 May 2019
Date of project design certification	29 June 2010
Start date of crediting period	1 May 2016
Duration of this monitoring period	01/12/2017 to 30/11/2018 (9th Verification Period)
Duration of previous monitoring period	01/12/2016 to 30/11/2017 (8th Verification Period)
Project representative(s)	Esther Adams, Program Manager eadams@proyectomirador.org +1 (415) 925-1887
Host Country	Honduras
Certification pathway (activity certification/impact certification)	Impact Certification
SDG Contributions targeted (as per approved PDD)	1 – No Poverty 2 – Zero Hunger 3 – Good Health and Well-Being 4 – Quality Education 5 – Gender Equality **7 – Affordable and Clean Energy (recommended)** 8 – Decent Work and Economic Growth **13 – Climate Action (mandatory)** 15 – Life on Land
Gold Standard statement/product certification sought (GSVER/ADALYs/RECs etc.)	GSVER
Selected methodology(ies)	Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), Version 2.0
Estimated amount of annual average certified SDG impact (as per approved PDD)	426,606 VERs
Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period	311,998 VERs

SECTION A. Description of project

A.1. Purpose and general description of project

Established in 2004, Proyecto Mirador is a non-profit organization that sells Gold Standard voluntary carbon offsets to finance the construction of improved cookstoves in Central America.

Mirador's project activity was originally certified by the Gold Standard in 2009 under a small-scale Project Design Document (PDD). In 2014 that project became the First Voluntary Project Activity (VPA) under the Gold Standard Programme of Activities (PoA), *Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America*.

The Coordinating/Managing Entity (CME), Proyecto Mirador Foundation, assumes responsibility for all communications with the VVB auditor and the Gold Standard, manages carbon finance certification and sustainability monitoring, receives and allocates all carbon revenues, and ensures VPA operations are properly funded and that proper resources are in place to meet construction targets.

Project implementation, stove construction and supply sourcing are managed locally under VPA supervision through the creation of local microenterprises. Such microenterprises include stove construction organizations, suppliers to provide specific stove construction components, and other vendors. Partnerships are formed with local community leaders to facilitate stove construction in each community.

This Monitoring Report covers the First VPA under Mirador's PoA, under which Proyecto Mirador replaces the traditional, inefficient *fogón* biomass cookstove with the improved Dos por Tres plancha-style chimney cookstove in Honduras. Since 2004 Proyecto Mirador has built more than 170,000 improved Dos por Tres cookstoves directly onsite in Honduran homes, providing economic and health benefits to over half a million people and creating sustainable local employment for 161 Hondurans. By reducing fuelwood consumption by 53%, the Dos por Tres addresses the problem of forest degradation while also improving health and providing a significant savings in time and/or money to the client.

Per FAR #1, as established at CP2 renewal, PP shall carry out baseline surveys as and when institutional stoves are implemented. However, at this time, institutional stoves have not been implemented as a part of the project.

Following is a general description of the project's implementation and management structure.

(a) *Purpose of the specific-case VPA and measures taken for GHG emission reductions:*

> Under the First VPA, Proyecto Mirador replaces the traditional, inefficient *fogón* biomass cookstove with the improved Dos por Tres plancha-style cookstove in Honduras, where degraded forest conditions, indoor air pollution and rural poverty exceed acceptable levels.

Honduras is one of the poorest countries in the Western Hemisphere, with more than 65% of the population living in poverty (2017).[1] In rural areas, 6 out of 10 households live in extreme poverty, on less than US$ 2.50 per day.[2] Honduras also faces the highest level of economic inequality in Latin America, with rampant crime and violence being major contributing factors. Although the homicide rate has declined to 43.6 homicides per 100,000 inhabitants (2017), crime and violence remain rampant.[3] Owing to crime, corruption and other factors, Honduras ranks 125th out of 185 countries globally In terms of ease of doing business, and 179th out of 185 on the successful enforcement of contracts.[4] Despite these obstacles, Mirador has successfully installed more than 170,000 cookstoves, created 22 thriving microenterprises and provided 161 local jobs in areas where reliable employment is difficult to find. All of the components used to build the Dos por Tres, including the plancha (steel cooktop), chimney and ceramic firebox, are manufactured and sourced in Honduras providing a boost to local economies.

81% of rural households in Honduras use fuelwood for cooking[5] and 65 percent of the country's total energy comes from fuelwood. Lower-income households are more dependent on wood because it is less costly than electricity or gas. The traditional *fogón* cookstove is in widespread use across Honduras, especially in rural areas. Chronic exposure to smoke from inefficient biomass cookstoves causes respiratory illness such as asthma, emphysema, acute respiratory lung infections (ARLI) and lung cancer. Such illnesses disproportionately affect women and children, who spend much of their time indoors while cooking and attending to other household responsibilities. In addition, woodcutting for private use contributes significantly to forest degradation, so reducing fuelwood consumption has a positive effect on forest conditions.

Wherever wood use is high, carbon savings from reduced wood use by the Dos por Tres is also high. Thus, carbon finance both helps Mirador to lower the cost of improved cookstove intervention and incentivizes us to serve rural areas where poverty is rampant. The Dos por Tres is the lowest cost plancha-style improved cookstove technology available in Honduras, and our unique "no cash" business model enables even the poorest households to access our program. We pride ourselves in serving the "last mile" and helping families that cannot afford to purchase improved cookstoves, and yet are able to coinvest in a stove with materials they can easily acquire.

Mirador donates to each client the plancha, the chimney and chimney top, the six custom ceramic pieces for the stove mouth or firebox, and the installation and training. These components are sourced and manufactured locally in Santa Barbara Department, Honduras, creating local jobs through 10 material provider businesses. Beneficiaries contribute the remaining components, including cement, rebar, bricks, adobe blocks and

[1] CIA World Factbook – Honduras. http://www.worldbank.org/en/country/honduras/overview

[2] World Bank, Honduras country overview. http://www.worldbank.org/en/country/honduras/overview

[3] ibid.

[4] The World Bank, *Economy Profile: Honduras,* in *Doing Business 2013: Smarter Regulations for Small and Medium-size Enterprises*. http://www.doingbusiness.org/reports/global-reports/doing-business-2013

[5] Government of Honduras, "Encuesta Nacional de Demografia y Salud (National Demographic and Health Survey), 2011-2012." http://pdf.usaid.gov/pdf_docs/pnaec215.pdf (p.19)

wood ash, all of which are commonly available throughout Honduras. This cost-sharing arrangement is part of Mirador's philosophy of *"No Cuesta, No Cuida,"* which asserts that beneficiaries will better care for their donated stove if they invest some of their own resources in its acquisition.

Beneficiaries are clearly informed that the ownership of emission reductions shall reside with the CME. Each client must agree to relinquish any claims to ownership of emission reductions as a precondition to receiving the Dos por Tres. The concept is related at multiple stages during the process, including training materials presented at pre-construction Community Meetings as well as the training brochure presented to each client at the time of installation. (The brochure is provided in the attached "VP9-08 Training Brochure.pdf.")

Beneficiaries are also required to remove the traditional stove that is being replaced. They are made aware of this requirement at the time they sign up to receive the stove. Also, during Mirador's training exercises, Stove Technicians are instructed to require the client to remove the traditional stove. Supervisors return later to ensure the stove has actually been destroyed, making a note on the account to follow up if that has not yet happened.

In order to ensure that only the baseline *fogón* is being replaced, the Ejecutor (construction team leader) sends an Inspector to visit each household prior to installation. At that time the Inspector makes sure that a *fogón* is present and that it is the primary stove used for cooking.

(b) *Description of the technology employed and installed equipment and/or infrastructure, including information requested by the eligibility criteria:*

Under this VPA Proyecto Mirador exclusively installs its own proprietary "Dos por Tres" model improved cookstoves, in replacement of the less efficient traditional *fogón* baseline stove. A new Dos por Tres improves combustion efficiency and reduces fuelwood consumption by 53% as compared to the baseline *fogón*, thus reducing the overall emission of greenhouse gases into the atmosphere due to cooking. Our stove's efficiency has been confirmed with 751, 4-day project scenario Kitchen Performance Tests (KPTs), with the data analysis performed by leading third-party industry experts. Additionally, third-party laboratory tests show that the Dos por Tres reduces Carbon Monoxide emissions and particulate matter by 79%, CO_2 by 43%, and CH_4 by 94% compared to traditional stoves (Aprovecho Research Center, 2009).

The Dos por Tres design is based on the original La Justa model stove, with structural modifications to improve efficiency, maximize safety and facilitate successful adoption. It is built *in situ* (directly installed at each home) and consists of a ceramic firebox for the stove mouth, a steel plancha (cooktop), a chimney, and a sophisticated system of insulated interior walls constructed from adobe blocks or ceramic bricks that channels the heat under the plancha and smoke and particulates out the chimney.

The structural modifications reflected in the Dos por Tres include the following: First, the

grate in the stove mouth has been elevated slightly in order to raise the fuel off the stove floor, thus making the wood burn more thoroughly and efficiently. Second, the dimensions of the plancha have been changed, allowing the plancha to heat up faster and distribute the heat more evenly than before. Third, the plancha has been lowered closer to the level of the wood ash insulation in order to use the firepower of the stove more efficiently. Fourth, the chimney attachment has been modified to eliminate excess air circulation. From the user's point of view the Dos por Tres is functionally similar to the traditional *fogón,* making successful adoption seamless.

(c) *Relevant dates for the specific-case CPA:*

Start Date of the VPA: 1 May, 2009

First Crediting Period: 1 May, 2009 – 30 April, 2016

Second Crediting Period: 1 May, 2016 – 30 April, 2023

9th Verification Period: 1 December, 2017 – 30 November, 2018

Stoves have been installed continuously, *in situ*, throughout the first crediting and second crediting period to date. The project has operated under Gold Standard certification since 1 May, 2009, and the expected operational lifetime of the VPA is expected to be 21 years (7 years x 3 crediting periods) according to PoA provisions.

A.2. Location of project

VPA project boundary is Honduras, which is located within the geographical boundary of the registered PoA. Host party is Honduras, a non-Annex 1 party to the 1992 UN Framework Convention on Climate Change. This VPA covers the construction of the Dos por Tres cookstove exclusively, and only as appropriate, wherever baseline conditions are similar and cluster definition is met. GPS markings are kept for each stove installed and are available to the VVB for verification to ensure all stoves are within VPA project boundary. Project operations are headquartered in the municipality of Santa Bárbara, in Santa Bárbara Department, Honduras (14°56'49.1"N 88°14'23"W), with administrative offices in Greenbrae, California, USA.

Project Area: Honduras

A.3. Reference of applied methodology

Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), Version 2.0

A.4. Crediting period of project

1 May 2016 – April 30, 2023
7 years

SECTION B. Implementation of project

B.1. Description of implemented project

VPA1 is fully implemented and its status is "issued." Since project inception over 170,000 stoves have been installed across 13 Departments (provinces) in Honduras. Based on a reported average of 4.8 people per household, this translates to 816,000 people served.

Proyecto Mirador Foundation, a U.S. based 501(c)3 non-profit corporation, receives carbon funds and donated equity capital and in turn distributes it to Proyecto Mirador LLC, a U.S. based 501(c)3 non-profit that is also registered as a non-profit in Honduras. Proyecto Mirador LLC's U.S. office manages all activities related to carbon finance, certification and Gold Standard compliance, and funds all project operations. Stove building operations are managed from Proyecto Mirador LLC's office in Santa Bárbara, Honduras.

Mirador's co-founder and director, Doña Emilia Mendoza, has primary responsibility for the management team. She is assisted by a Director of Finance, as well as a Director of Operations

who, in turn, manages a team of mid-level managers. These managers include a Manager of Technology, Manager of Human Resources, Manager of Communication and Manager of Supervision and Verification. In addition, the Director of Operations supervises stove construction entrepreneurs through Mirador's outsourced *Programa de Ejecutores.* In this microenterprise program, entrepreneurs (whom we call Ejecutores) are trained and paid by Mirador to lead stove teams that build and install Dos por Tres stoves under Mirador's leadership and verification.

Under the *Programa de Ejecutores,* scaling the project simply involves the addition of more Ejecutores, or encouraging existing Ejecutores to "pyramid up" and hire more stove building teams under their direction. Expansion thus creates additional jobs for Ejecutores and Stove Technicians; middle managers; supervisors and inspectors; material suppliers; IT providers and other support organizations. As of 2018, 7 Ejecutores and an additional 13 provider businesses are operating under Proyecto Mirador's regimes.

The management system covered in the PoA had already been implemented at the time of crediting period renewal (1 May, 2016) and all components are still in place as described in the renewal PoA, including:

- *Roles and responsibilities:* Management hierarchy remains unchanged since PoA renewal.
- *Training and capacity development:* Structured training is ongoing and training practices remain unchanged since PoA renewal. Employee training data is provided in the attached file, "VP9-17 Training Data.xlsx."
- *Technical review for inclusion of VPAs:* Not applicable in the current Monitoring Period.
- *Procedure to avoid double counting:* Stoves are built *in situ* and a unique household account is created in the electronic database at the time of construction. An inspector visits each home before construction can begin and at that time, verifies that improved cookstove technology is not already present and that a traditional *fogón* is the primary cooking unit. While Mirador never builds cookstoves in homes where another ICS is in current use, we do see cases in which another carbon certified stove project has installed an ICS in homes where the Dos por Tres was already present. Mirador conducts extensive surveys to determine the prevalence of such cases and the results are tabulated in Parameter ID 9 - Leakage. Substantiating data collected on Salesforce.com is provided in the attached file, "VP9-16 Double Counting Data.xlsx."
- *Records and documentation control processes:* Documentation is maintained as described in the PoA, with data collection performed from Mirador's Honduras office and Gold Standard documentation and reporting conducted from its U.S. office.
- *Continuous improvements of the PoA management system:* Mirador's senior management meets regularly with office staff, Supervisors and Ejecutores to make sure operations are running efficiently and to facilitate communication between the departments. Mirador's Manager of Human Resources continues to review and improve training, management and communication systems on an ongoing basis. Periodically, Mirador's Honduran management meets with U.S. management in California to review systems and discuss further improvements to Mirador's operations. IT structures are reviewed frequently and revised as needed, including enhancements to SMS workflows and IT infrastructure.

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

N/A

B.2.2. Corrections

New parameters have been added to account for the UN Sustainable Development Goals, per the transition documentation submitted for the project's upgrade to GS4GG. Original parameters remain intact since validation, with only minor formatting changes made to align with GS4GG templates.

B.2.3. Changes to start date of crediting period

N/A

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

N/A

B.2.5. Changes to project design of approved project

N/A

SECTION C. Description of monitoring system applied by the project

Proyecto Mirador's Monitoring System includes extensive training of stove beneficiaries at various stages in the stove construction process, including Community Meetings staged by the Ejecutor before construction; a home visit by an inspector to determine the correct stove location and assess appropriateness of the household prior to construction; direct training at the time of construction; and multiple follow-up visits after construction. Mirador has invested in a sophisticated, highly customized electronic monitoring system built on the Salesforce.com platform to monitor all aspects of our operations and to bring us closer to our clients. We are constantly refining our design, construction and supervision practices to optimize efficiency and guarantee successful stove adoption.

The quality of stove construction by each Technician is monitored through direct supervision by the Ejecutor as well as ongoing monitoring by Mirador's Director of Operations. Mirador's supervisory and electronic monitoring systems enable Mirador management to capture any maintenance issues or problems with stove use at the level of the household, so that the Ejecutor and Technician can take appropriate steps to correct user behavior. Ejecutores and Technicians are incentivized through higher construction allocations based on good construction performance.

All aspects of business are subject to audit by Director of Operations and Director of Proyecto Mirador LLC. The objective of the reviews is to ensure that the stove construction, training of the beneficiaries, and collection of monitoring information are being completed in an accurate and timely manner, as well as to support any ongoing third-party verification as part of the Gold Standard certification.

Since ongoing research and stakeholder consultation are vital components of a successful Gold Standard project, having solid "on-the-ground" resources provides a critical advantage for Mirador. Recommendations from the beneficiaries as to functional improvements or problems are explored and researched, then implemented if appropriate. Furthermore, as Mirador expands into new areas, local government leaders and NGOs are informed and consulted on an ongoing basis. Stakeholder feedback is channeled through the Ejecutores or Supervisors to Mirador management and reviewed regularly. When issues are relevant to construction or maintenance, beneficiaries are contacted or revisited by a Mirador Supervisor as appropriate.

Stakeholder feedback is either submitted directly by beneficiaries or gathered by Mirador's Supervisors and Ejecutores. In either case it is tracked electronically in Mirador's Electronic Feedback Log using Salesforce.com. All comments logged in the physical process book (kept in Mirador's office) are added to the electronic system as well. When relevant, stakeholder feedback is reviewed at weekly staff meetings and Mirador's responses are documented. In many cases stakeholder feedback results in follow-up visits to beneficiaries' homes by a specialized Mirador supervisor to address outstanding issues and repair any defects in construction. Responses and follow up are tracked appropriately. An export of the Electronic Feedback Log is provided to the VVB for review (see VP9-15 Stakeholder Comment Log.xlsx).

The central aspect of our Monitoring Plan is an electronic monitoring database where all household information, as well as usage, maintenance, leakage and sustainability monitoring data, is kept. Data integrity is checked and maintained by the Director of Technology in Honduras on an ongoing basis. Throughout the process by which data is gathered and verified in the field, the office team, under the supervision of the Director of Technology, cross checks and reviews the data with various data de-duplication tools, checking it for quality, eliminating duplicates if found, and making sure that the required data is being captured on all records. The electronic database is automatically backed up. If any data is modified or changed, a record history is tracked.

Sales Record/Installation Record/Stove Database

CME keep its sales record electronically using the Salesforce.com platform. At the time of stove construction, a stove account record is created in the system to track the installation. Basic data for each account includes the following:

- Date of installation
- Location of installation
- Model/type of stove installed
- Model of use prior to installation of improved cookstove
- Name of client
- Government ID number of client
- Unique serial number applied to each stove

The stove account record also provides the basis for all further interaction with the client. When any type of survey is conducted in a given household, the survey is created electronically from within the household record in the stove database and is thus automatically associated with that household. The database accepts survey data through a handheld interface and the desktop interface allows flexible reporting and data management on the administrative side.

Every time a Supervisor performs a follow-up visit to a household post-installation, the Supervisor enters basic data related to stove condition and maintenance and verifies user information. That data is entered using a handheld device and is used by Mirador Supervisors and Ejecutores to schedule additional training or repairs, if needed, and to streamline operations.

Equipment Specifications & Calibration

The specifications for all equipment used by Mirador for purposes of measurements related to emission reduction calculations are as follows:

Equipment	Manufacturer	Type	Accuracy
Humidity Meter	Delmhorst	BD-2100	± 0.2% (in moisture range 6% to 40%)
Digital Scale	MadBite	Digital hanging fish scale	± 1 ounce (to 110 lbs / 50 kg)
GPS marking device	Misc.	Smartphone	± 3 meters (worst case)

Humidity Meter (used for KPT)
Prior to each test the user checks the calibration of the humidity meter using the Calibration Check Key. This key checks the meter calibration according to manufacturer specifications. Meter is in calibration if it displays 12% (±0.2). Any other reading generally indicates low battery, in which case batteries are replaced and the meter is reset according to manufacturer specifications.

Digital Scale (used for KPT)
The digital scale is calibrated by checking that the scale is reset to zero prior to each measurement.

GPS Marking Device (used to mark stove locations)
Stove technicians use handheld devices to mark each stove location. GPS is reset at each location prior to measurement. GPS locations are digitally uploaded and matched to correct stove accounts in the Salesforce.com database using an automated data transfer process involving TaroWorks and Mogli SMS software.

SECTION D. Data and parameters

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

Please refer to Mirador's GS4GG Transition Annex, Sections A.1 and A.2, for explanatory notes on how each Parameter below is specifically tied to the Relevant SDG Indicators noted.

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 1 / EFfuel,CO_2**
Unit	tCO_2/TJ
Description	CO_2 emission factor of the fuel that is reduced
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy (https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf)
Value(s) applied)	112 tCO_2/TJ

Choice of data or measurement methods and procedures	IPCC default value
Purpose of data	Calculation of baseline and project emissions
Additional comments	

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 2 / EFfuel,nonCO_2,CH_4**
Unit	tCO_2/TJ
Description	CH_4 emission factor for the fuel that is reduced
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy (https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf)
Value(s) applied)	0.30
Choice of data or measurement methods and procedures	IPCC default value
Purpose of data	Calculation of baseline and project emissions
Additional comments	

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 3 / EFfuel,nonCO_2,N_2O**
Unit	tCO_2eTJ
Description	N_2O emission factor for wood that is reduced
Source of data	IPCC Default value
Value(s) applied)	0.004
Choice of data or measurement methods and procedures	2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy (https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf)
Purpose of data	Calculation of baseline and project emissions
Additional comments	

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 4 / NCVfuel**
Unit	TJ/ton
Description	The Net Calorific Value (NCV) of the fuel that is substituted or reduced
Source of data	NCV for Red Oak, per Global Alliance for Clean Cookstoves, "WBT 4.2.4 Spreadsheet" (http://cleancookstoves.org/technology-and-fuels/testing/protocols.html) with reference to Cheremisinoff, N. Properties of Wood. Wood for Energy Production. Ann Arbor, MI, Ann Arbor Science: 31-43. 1980
Value(s) applied)	0.0186 TJ/ton
Choice of data or measurement methods and procedures	NCV for Red Oak
Purpose of data	Calculation of baseline and project emissions
Additional comments	

D.2. Data and parameters monitored

Please refer to Mirador's GS4GG Transition Annex, Sections A.1 and A.2, for explanatory notes on how each Parameter below is specifically tied to the Relevant SDG Indicators noted.

Relevant SDG Indicator	15 – Life on Land • 15.2.1 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation
Data/parameter:	**ID 5 / fNRB,b,y**
Unit	%
Description	The non-renewable fraction of the woody biomass harvested in the project collection area in year y in the baseline scenario
Measured/calculated/default	Measured
Source of data	Third-party NRB Analysis by Berkeley Air Monitoring Group (2011). Result adjusted downward to ensure conservativeness and align with recently validated project NRB figures.
Value(s) of monitored parameter	69%
Monitoring equipment	N/A
Measuring/reading/recording frequency	Fixed at the time of revalidation; can be updated at PP's option as allowed in Section III.1, item f, of the TPDDTEC.
Calculation method (if applicable)	Assessed in accordance with the CDM AMS II.G., *Energy efficiency measures in thermal applications of non-renewable biomass*

QA/QC procedures	Assessment shall be conducted by a reputable third-party forestry expert
Purpose of data	Calculation of project emissions
Additional comments	

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 6 / Np,y**
Unit	Number of project technology days
Description	Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y
Measured/calculated/default	Measured
Source of data	Salesforce.com installation database
Value(s) of monitored parameter	3,401,037 days (Based on 21,087 total stoves installed during the 9th Verification Period)
Monitoring equipment	Smartphones; Salesforce.com installation database
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	The value of Np,y is a function of the total stoves in use times days in operation and is updated on a monthly basis in the ER Calculations spreadsheet. The figure reported above represents an average of the monthly values for Np,y reported in the ER Calculations during VP9 (DB57:DM57)
QA/QC procedures	Stoves are built *in situ* and a unique household account is created in the electronic database at the time of construction. Data integrity is checked and maintained by the Director of Technology in Honduras on an ongoing basis. Throughout the process by which data is gathered and verified in the field, the office team, under the supervision of the Director of Technology, cross checks and reviews the data with various data de-duplication tools, checking the data for quality, eliminating duplicates if found, and making sure that the required data is being captured on all records. The electronic database is automatically backed up. If any data is modified or changed, a record history is tracked. The Salesforce.com database holds the following information to identify each household using project technology: - Date of installation - Location of installation - Model/type of stove installed - Model of use prior to installation of ICS - Name of client - Government ID number of client - Unique serial number applied to each stove
Purpose of data	Calculate emission reductions and assess sustainability
Additional comments	A sales record including all stoves built during the 9th Verification Period is exported from Salesforce and provided in the attached "VP9-

	06 Sales Record.xlsx." A monthly summary is provided in the attached "VP9-07 Stoves Installed by Month." 8% of our clients report that there are days in the year when the stove is not in use. Of those 8%, the average number of days per year when the stove is not in use is 12.6 days. When averaged over the entire survey population, there is 0.95 day per year per household when the stove is not in use; thus, adjustments have not been made to the ER Calculations to account for seasonal variation. (Substantiation is provided in the attached "VP-09 Leakage Sustainability Results.")

Relevant SDG Indicator	15 – Life on Land • 15.2.1 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation
Data/parameter	**ID 7 / Pp,b,y**
Unit	Average daily dry wood fuel reduction per person-meal (tonnes/household/day)
Description	Specific fuel savings from an individual technology of project p against an individual technology of baseline b in year y.
Measured/calculated/default	Measured
Source of data	1,020 Kitchen Performance Tests (252 baseline and 768 project scenario) performed between 2010 and 2018 in multiple villages across 37 municipalities in 9 Departments (provinces) in Honduras. (See "VP9-02 KPT Data.xlsx," "Location" and "Geographic Data" worksheets.)
Value(s) of monitored parameter	0.005045 t/household/day
Monitoring equipment	Compact digital hanging scale Zipper polyethylene bag Moisture meter with digital readout
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	Average fuel savings per person-meal, weighted on the basis of number of stoves in operation for each age group
QA/QC procedures	Equipment is calibrated at the start of each study. All KPT studies are managed by a supervisor who is specifically trained to oversee data collection and to spot potential errors in the reported figures. Any concerns are addressed and resolved onsite before data sheets are submitted for data entry. Data is compiled and reviewed by a third-party expert, with all outlier values individually checked and reviewed for accuracy.
Purpose of data	Calculation of emission reductions
Additional comments	Survey data is tabulated in the attached "VP9-02 KPT Data.xlsx" and parameter flows to "VP9-01 ER Calculations.xlsx," "Assumption" worksheet, Cell G20.

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 8 / Up,y**
Unit	% of households
Description	Abandonment (drop-off) rate (the number of stoves that have fallen out of use in a given age group)
Measured/calculated/default	Measured
Source of data	36,945 usage surveys collected in 1,381 villages during the 9th Verification by Mirador supervisors on handheld devices and input directly into the Salesforce.com monitoring database, then exported and tabulated in the attachment "VP9-13 Dropoff Data.xlsx."
Value(s) of monitored parameter	The following monitored *cumulative* abandonment rates are applied for the 9th Verification Period: Year 0_1 4% Year 1_2 9% Year 2_3 12% Year 3_4 18% Year 4_5 20% Year 5_6 22%
Monitoring equipment	Surveys compiled by handheld device and uploaded to Salesforce.com database.
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	Total stoves abandoned out of total households surveyed
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Calculation of emission reductions
Additional comments	Monitored abandonment rates are cumulative, i.e., they reflect the total rate of abandonment for a given age group. Annual rates are extrapolated and applied to ER Calculations. Survey data is exported from Salesforce and tabulated in the attached "VP9-13 Dropoff Data.xlsx."

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 9 / LEp,y**
Unit	%
Description	Assess leakage sources including (1) replacement of efficient household heating sources with less efficient fuel; (2) continued use of baseline stove after installation; (3) double counting
Measured/calculated/default	Measured

Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	15,290 tonnes (4.7%)
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	(1) Leakage due to the replacement of efficient household heating sources was determined to be zero. Out of 826 respondents, zero answered that they use their 2x3 to heat the home outside of regular cooking activity. (2) Leakage due to the continued presence of a baseline stove was determined as follows: • Multiply the % of homes that have a *fogón* (17%) by the net stoves in operation, being the total stoves in the population for which ERs are being claimed, net of abandonment (114,915: see ER Sheet, cell DM53), which returns a value of 19,536 households affected. • Reduce 19,536 according to the percent of total cooktime during which the *fogón* is in use in those households (3%: see Leakage Sustainability Results, "Summary" sheet, Cell G19), resulting in a value of 586. This is the number of cookstove equivalents for which emissions are not reduced. • Multiply 586 (cookstove equivalents) by the annualized average of 2.95 ERs/stove (see ER Sheet, Row 69) = 1,729, the number of tonnes lost due to the presence of the auxiliary stove. ER claims are directly discounted by the absolute figure of 1,729 (see ER Sheet, cell DM72). (3) Double counting was determined as follows: • Count the total number of households surveyed for the presence of another ICS between November 2017-October 2018: 37,414 • Count the total number of households surveyed between November 2017-October 2018 in which another ICS was present in the household: 1,450 • Divide these two figures to determine the ratio of households in which another ICS is present: 4% • Multiply 4% by the net stoves in operation, being the total stoves in the population for which ERs are being claimed, net of abandonment (114,915: see ER Sheet, cell DM53), which returns a value of 4,597 households affected. • Multiply 4,597 households by the annualized average of 2.95 ERs/stove (see ER Sheet, Row 69) = 13,561, the number of tonnes lost due to the presence of the auxiliary stove. ER claims are directly discounted by the absolute figure of 13,561 (see ER Sheet, cell DM73). Considering the sources of leakage identified above, including discounts to prevent double counting, total leakage for the 9th

	Verification Period is 15,290 VERs, which equates to 4.7% of gross ERs (see ER Sheet, cell DM78).
QA/QC procedures	Survey, on an ongoing basis, 1 of every 100 new Dos por Tres stove owners. Questionnaires to be administered by Mirador Supervisors.
Purpose of data	Calculation of leakage
Additional comments	Survey data is exported from Salesforce and tabulated in the attached "VP9-09 Leakage Sustainability Results.xlsx"

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 10 / LEp,y – Leakage due to Transportation**
Unit	%
Description	Assess leakage due to transportation
Measured/calculated/default	Measured
Source of data	Mileage records; transportation and maintenance records maintained and tabulated by the Assistant to the Director of Operations during the course of the 9th Verification, including all vehicle types in use by the project at all levels (large trucks, light trucks and motorcycles).
Value(s) of monitored parameter	0%
Monitoring equipment	Vehicle odometers
Measuring/reading/recording frequency	Mileage records track miles driven on an ongoing basis for each vehicle, and the results are tabulated annually.
Calculation method (if applicable)	A standard online carbon calculator is used to calculate the total CO_2 produced from driving the total distance driven. That figure is compared against the total emissions being claimed during the verification period in order to determine leakage. Transportation records for all Mirador vehicles are tabulated in the attached "VP9-14 Transportation Summary.xlsx" showing Mirador vehicles collectively drove 293,374 km (or 182,294 miles) during the 9th Verification Period. Mileage was recorded for 3 vehicle types (motorcycles, light pickups and delivery trucks) and emissions were assessed accordingly. Altogether the project emitted 125.44 tonnes of CO_2 due to transportation during the 9th Verification Period. That figure equates to 0.04% of the total emissions claimed, so it is disregarded as *de minimis*. (Source: http://www.nativeenergy.com/travel.html).
QA/QC procedures	Vehicle odometer checks at each instance of reporting
Purpose of data	Calculation of project emissions
Additional comments	It should be noted that: (1) such emissions also occur in the baseline scenario, and the consolidation of transit routes in the project scenario increases transportation efficiency relative to the baseline scenario, in which parts are often procured individually; and (2) due to the reduction in fuelwood use, the project is also expected to result in reduced leakage emissions due to the reduced need for transportation of fuel.

Relevant SDG Indicator	7 – Affordable and Clean Energy • 7.3.1 Energy intensity measured in terms of primary energy and GDP
Data/parameter	**ID 11 / % reduction in release of PM2.5**
Unit	%
Description	Measurement of the reduction of PM2.5 emissions resulting from cookstove intervention.
Source of data	McCarty, Nordica & Still, Dean, "Results of Testing the Overlook Foundation Justa Stoves Including the '2 By 3' Stove: Fuel Use and Carbon/CO_{2eq} Savings" (2009)
Value(s) applied	79%
Choice of data or Measurement methods and procedures	The Water Boiling Test (WBT) was used to determine relative PM2.5 emissions in the baseline vs. project stove, as measured by Aprovecho's Research Center's commercially available Portable Emissions Measurement System (PEMS), in which real-time emissions of carbon dioxide (CO2), carbon monoxide (CO) and particulate matter (PMTSP) are recorded.
Purpose of data	Assess sustainability
Additional comment	Due to the cost and complexity of such studies, PP will maintain original monitored figures unless at it is determined that baseline or project conditions have materially changed or testing methodologies require reassessment.

Relevant SDG Indicator	3 – Good Health and Well Being • 3.9.1 Mortality rate attributed to household and ambient air pollution
Data/parameter	**ID 12 / % reduction in personal exposure to PM2.5**
Unit	%
Description	Measurement of the reduction of personal exposure to PM2.5 (as opposed to the overall reduction to PM2.5) resulting from cookstove intervention.
Source of data	Lefebvre, Olivier, "Health Impact of Proyecto Mirador 2x3 Stove" (2018)
Value(s) applied	47%
Choice of data or Measurement methods and procedures	Exposure to PM2.5 was measured in real-life control and intervention households using a the HAPEx Nano light scattering nephelometer. This device provides real time readings on PM2.5 and takes a new measurement every minute. It was worn by study participants in control and intervention groups during a 48-hour period.
Purpose of data	Assess sustainability
Additional comment	Due to the cost and complexity of such studies, PP will maintain original monitored figures unless at it is determined that baseline or project conditions have materially changed or testing methodologies and/or assessment equipment have improved, in which case PP may opt to further assess the parameter.

Relevant SDG Indicator	1 – No Poverty • 1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Data/parameter	**ID 13 / Time saved collecting fuelwood**
Unit	Hours/week
Description	For clients who collect their own wood, PP will monitor how much time they have saved, and how they invest the time saved.
Measured/calculated/default	Calculated
Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	3.78 (a reduction of 40%)
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	Subtract average time spent collecting wood in the project scenario from average time spent collecting wood in baseline scenario.
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	*Cross-reference to GS v2.2 documentation:* *ID 12 – Livelihood of the poor; ID 13 – Human & Institutional Capacity*

Relevant SDG Indicator	1 – No Poverty • 1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
Data/parameter	**ID 14 / Money saved purchasing fuelwood**
Unit	US Dollars
Description	For clients who purchase fuelwood, PP will monitor how much money clients save due to the reduction in fuelwood consumption and track how the saved funds are spent.
Measured/calculated/default	Calculated
Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	US$ 2.23 (54 Honduran Lempiras) per week per HH, a reduction of 54%
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing

Calculation method (if applicable)	Subtract average money spent purchasing wood in the project scenario from average money spent purchasing wood in baseline scenario.
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	*Cross-reference to GS v2.2 documentation:* *ID 12 – Livelihood of the poor; ID 13 – Human & Institutional Capacity*

Relevant SDG Indicator	2 – Zero Hunger • 2.1.1 Prevalence of undernourishment
Data/parameter	**ID 15 / % of people reporting they used money saved purchasing fuelwood to buy food**
Unit	%
Description	For clients who report saving money due to the reduction in fuelwood purchased, PP will monitor how the saved funds are spent.
Measured/calculated/default	Measured
Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	71%
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	N/A
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	See Parameters ID 13 and ID 14 for qualitative data showing savings of time and money. While direct monetary savings is the monitored parameter for SDG 2, it should be noted that time savings (for those who collect their fuelwood) can also translate to higher income, if saved time is dedicated to work that generates income. *Cross-reference to GS v2.2 documentation:* *ID 12 – Livelihood of the poor; ID 13 – Human & Institutional Capacity* *Cross-reference to GS v2.2 documentation:* *ID 12 – Livelihood of the poor; ID 13 – Human & Institutional Capacity*

Relevant SDG Indicator	7 – Affordable and Clean Energy • 7.3.1 Energy intensity measured in terms of primary energy and GDP
Data/parameter	**ID 16 / % of households that report the air inside the home is cleaner**
Unit	%
Description	Households are surveyed to determine if they report the air is cleaner after installation of the Mirador stove.
Measured/calculated/default	Measured
Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	100%
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	N/A
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	*Cross-reference to GS v2.2 documentation:* *ID 11 – Air Quality*

Relevant SDG Indicator	4 – Quality Education • 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
Data/parameter	**ID 17 / Training hours provided per year**
Unit	Hours/year
Description	Demonstrate the transfer of useful and marketable job skills to local direct and indirect employees through training records.
Measured/calculated/default	Measured
Source of data	Human resource training records, provided by Director of Human Resources (see "VP9-17 Training Data.xlsx").
Value(s) of monitored parameter	4116 hours
Monitoring equipment	N/A
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	N/A

QA/QC procedures	Human resources specialist tracks all hours spent by Mirador employees and associates in various types of training and/or certification programs.
Purpose of data	Assess sustainability
Additional comments	*Cross-reference to GS v2.2 documentation:* *ID 16 – Technology Transfer* Trainings conducted during the 9th Verification Period: • 9-13 Apr., 2018: New Supervisor training (2 trainees) • 25-29 June, 2018: New Supervisor training (2 trainees) • 29 Oct.- 2 Nov., 2018: New Supervisor training (2 trainees) • 4 Jan., 2018: New Inspector training (18 trainees) • 15 Jan., 2018: New Technician training (11 trainees) • 16 Feb., 2018: Work codes & ethics training for Ejecutores (7 trainees)* • 2 Apr., 2018: New Technician training (9 trainees) • May, 2018 (various dates): Use of Salesforce, for Ejecutores & Assistants (17 trainees)* • 11 June, 2018: New Technician training (24 trainees) • 8 Sept., 2018: Improvement of construction techniques, for Ejecutores (11 trainees)* • 7 Dec., 2018: Technician training – feedback & review (9 trainees)* *All trainings marked with an asterisk (*) signify continuing education of existing employees.

Relevant SDG Indicator	5 – Gender Equality • 5.5.2 Proportion of women in managerial positions
Data/parameter	**ID 18 / Proportion of employees who are women**
Unit	%
Description	Employment records showing the proportion of women employed, by job type
Measured/calculated/default	Measured
Source of data	Employment records provided by Director of Human Resources (see "VP9-12 Quantitative Employment.xlsx" – "Mujeres" worksheet).
Value(s) of monitored parameter	29% (direct employees) 6% (overall, including all field personnel)
Monitoring equipment	N/A
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	N/A
QA/QC procedures	Human resource specialist maintains ongoing log of direct and indirect employees by employee type
Purpose of data	Assess sustainability

Additional comments	While the gender balance of Mirador's managerial and office positions is rather even, despite sincere efforts it is extremely difficult to find women who are willing to fill stove construction jobs—partly because it is physically very taxing, but especially because it involves long periods of time away from home and family. We are continually striving to find ways to creatively address this issue. *Cross-reference to GS v2.2 documentation:* *ID 15 – Quantitative Employment and Income Generation*

Relevant SDG Indicator	5 – Gender Equality • 5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment
Data/parameter	**ID 19 / Improvement in Cooking Times**
Unit	%
Description	Qualitative surveys to determine if the 2x3 cooks faster, slower or the same
Measured/calculated/default	Measured
Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	99%
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	% of respondents that say the Dos por Tres cooks faster
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	Reduced time spent cooking allows women to have more discretionary time that they can spend as they wish, rather than doing the cooking task assigned to them. Usage monitoring with SUMS devices in 2018 confirmed that the average cooking event performed on the 2x3 was 11% shorter (20 minutes) than the average cooking event performed on the traditional fogón.[6]

Relevant SDG Indicator	5 – Gender Equality • 5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment

[6] Lefebvre, Olivier (Climate Solutions), "Health Impact of Proyecto Mirador 2x3 Stove" (2018)

Data/parameter	**ID 20 / % of users who say there is something they don't like about the stove**
Unit	%
Description	Qualitative surveys to demonstrate the % of users who say there is something they don't like about the stove
Measured/calculated/default	Measured
Source of data	826 Leakage and Sustainability Surveys collected by Mirador supervisors in the 9th verification period in multiple villages across 37 municipalities in 12 Departments (provinces) of Honduras.
Value(s) of monitored parameter	1%
Monitoring equipment	Surveys are taken onsite via handheld device and tracked using Salesforce.com database.
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	N/A
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	Women in Central America spend a large part of their time cooking. Mirador eases their burden by providing a stove that functions to their satisfaction.

Relevant SDG Indicator	8 – Decent Work and Economic Growth • 8.8.2 Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status
Data/parameter	**ID 21 / % of Mirador employees and microenterprises who report they are satisfied with their jobs**
Unit	%
Description	Results of qualitative annual survey to employees showing job satisfaction
Measured/calculated/default	Measured
Source of data	Online survey administered by Director of Human Resources. Raw data for the employee survey is provided in the file "VP9-10 Employee Survey Export.xlsx," and the survey template is provided as "VP9-11 Employee Questionnaire.pdf."
Value(s) of monitored parameter	100%
Monitoring equipment	Annual qualitative survey administered electronically or on paper and tabulated electronically.
Measuring/reading/recording frequency	Annual

Calculation method (if applicable)	N/A
QA/QC procedures	Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.
Purpose of data	Assess sustainability
Additional comments	*Cross-reference to GS v2.2 documentation:* *ID 14 – Quality of Employment*

Relevant SDG Indicator	8 – Decent Work and Economic Growth • 8.5.2 Unemployment rate, by sex, age and persons with disabilities
Data/parameter	**ID 22 / Quantitative employment by job type**
Unit	Number of Employees
Description	Employment records showing the number of people employed by the project (direct and indirect)
Measured/calculated/default	Measured
Source of data	Employment records provided by Director of Human Resources (see "VP9-12 Quantitative Employment.xlsx" – "Empleados" worksheet).
Value(s) of monitored parameter	161
Monitoring equipment	N/A
Measuring/reading/recording frequency	Ongoing
Calculation method (if applicable)	N/A
QA/QC procedures	Human resource specialist maintains ongoing log of direct and indirect employees by employee type
Purpose of data	Assess sustainability
Additional comments	*Cross-reference to GS v2.2 documentation:* *ID 15 – Quantitative Employment and Income Generation*

Relevant SDG Indicator	13 – Climate Action • 13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population
Data/parameter	**ID 23 / Tonnes of CO_2 reduced**
Unit	$mtCO_2e$
Description	Number of tonnes of CO_2 reduced in a given monitoring period
Measured/calculated/default	Measured
Source of data	Emission reduction calculations, as detailed and applied in the validated file "VP9-01 ER Calculations.xlsx."
Value(s) of monitored parameter	311,998

Monitoring equipment	N/A
Measuring/reading/recording frequency	Annual
Calculation method (if applicable)	Detailed in ER Calculations spreadsheet
QA/QC procedures	3rd-party VVB verification; Sustain-Cert review
Purpose of data	Assess sustainability; calculation of baseline and project emissions
Additional comments	Further detail provided in Section E of this Monitoring Report

D.3. Implementation of sampling plan

A single sampling plan was applied to VPA1, the only VPA currently registered under this PoA. The sampling plan is noted below.

(a) *Description of implemented single sampling plan:*

CME follows all requirements set forth in the Gold Standard methodology *Technologies and Practices to Displace Decentralized Thermal Energy Consumption, Version 2.0* and the CDM EB 69, Annex 4, *Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities.* The objective of the sampling effort is to monitor the value of each parameter (PoA Section B.7.1). Monitoring for all VPAs has been ongoing since VPA implementation. CME carries out all survey procedures so as to ensure monitoring is representative of typical technology and fuel use practices among the target group.

Target population is the total population served under the PoA, defined as household or institutional users of inefficient biomass stoves. For sampling the project population, the sampling frame is the sales/project database. For sampling baseline households, the sampling frame is Mirador's collection of solicitations from villages that wish to receive the Dos por Tres, with each solicitation containing the names, government ID numbers and phone numbers (as available) of all interested *fogón* users in each village who wish to have their stoves replaced. Project KPTs and surveys were conducted throughout the 9th Verification Period.

(b) *Collected data*

<u>Leakage and Sustainability Survey</u>

During the 9th Verification Period 826 Leakage and Sustainability surveys were administered across 13 Departments to every *n*th household that received a household visit from a Mirador supervisor. At the time households were selected for regular follow-up visits following installation, office staff marked every *n*th household to receive the survey in addition to the follow-up visit and regular Maintenance Survey. As such, the Supervisor has no control over which household is surveyed, the surveys are taken throughout the year by different personnel, and a full geographic and demographic spectra of project beneficiaries are represented. Thus, the sample group is representative of the entire target population.

For older stoves, households were selected at random from villages that are close to routes used to access villages in the regular follow-up visit schedule for stoves in their first 1.5 years of operation. Since stoves are built and surveyed in diverse areas throughout the project area on an ongoing basis, the sample base is wide enough to provide a fully representative sampling for older stoves. 35% of the surveys (289 in total) were taken in households with stoves older than 1.5 years.

Usage Survey
Applicable Parameters: ID 8

Sample group was determined as follows:
Using the electronic monitoring database, a supervisory team manager generates a complete list of villages containing stoves within a given age group. In order to streamline workflow and minimize cost while providing a broad representation of each age group, each list is compared against the locations where all Supervisors are programmed to perform follow-up visits on new installations. Keeping geographic diversity as a primary objective, each Supervisor is assigned several villages along or near his or her planned routes in which to perform surveys on older stoves. At any given moment Mirador's team of Supervisors is divided amongst several Departments; likewise, each Supervisor visits and performs follow-up surveys in several departments over the course of a year. Thus the entire project area is adequately represented by this approach.

Once the villages are selected, a complete list of beneficiaries is generated showing all households included each installation; then households are chosen at random from the list. Sample sizes follow the Gold Standard approved baseline and monitoring methodology, *Technologies and Practices to Displace Decentralized Thermal Energy Consumption, v.2* (hereinafter referred to as TPDDTEC), which requires that at least 30 surveys be taken of stoves in each age group to determine drop-off, with a minimum total sample size of 100. In every case the minimum sample of size of 30 houses per age group was exceeded and the total sample size far exceeds 100. (The large first- and second-year sample sizes reflect that an abandonment survey is conducted in every household that receives a regular supervisory visit from Mirador.)

Actual drop-off survey sample sizes for the 9th Verification Period are as follows:

Stove Age Group	# of Drop-off surveys	# of villages included	Minimum size achieved?
0_1 Years	20,655	700	Yes
1_2 Years	11,406	469	Yes
2_3 Years	788	40	Yes
3_4 Years	219	28	Yes
4_5 Years	142	15	Yes
5_6 Years	100	10	Yes

The "Rule Update: Requirements and Guidelines for carrying out usage surveys for projects implementing improved cooking devices" was accounted for as follows:

The weighted average usage rate across the total stove population for which ERs are claimed is 87% (see "VP9-18 Usage Weighted Average"). As this figure is below 90%, PP shall monitor in compliance with Level B – Good Practice. Accordingly, the requirements for both Level A and Level B are observed, as detailed below.

A. Mandatory Monitoring Requirements

Step 1. Defining stove use and non-use

Stove is considered out of use if the visual or verbal check reveals any of the following:

- The beneficiary states they have stopped using the stove
- The stove mouth, chimney or plancha have been removed or modified
- The chimney has deteriorated beyond the point of efficiency
- The stove is otherwise no longer reasonably intact as built
- The stove appears to be out of use (i.e., the stove is cold at the time survey is taken, and clothes/dishes/other household items are sitting on top of it, etc.)
- The beneficiary has moved out of the house
- Traditional cookstove or project cookstove other than the Dos por Tres is in primary use (note that minimal use of other stove types for isolated cooking tasks is factored into ER calculations as leakage)
- Ash is not present, indicating the stove has not been used

Step 2. Household Usage Survey

- Kitchen Observation – Mirador surveyors visit each household and interview the beneficiary in person.
- Interview with the primary cook – At each household visit, the primary cook is interviewed if present, verbal responses are corroborated by visual check and hand-on assessment of the cookstove, and stove stacking is accounted for when applicable.
- Photos of the cooking area – At each household visit, Mirador supervisors take a photo of the cook next to the Dos por Tres. Photos are stored in our Salesforce.com monitoring database and correlated to each household record such that the photos (~22,000 to date) can be downloaded in whole or in part, with household data attached, at any time.
- GPS Coordinates – GPS location is noted and automatically entered into our Salesforce.com monitoring database at the time of each household visit.

Step 3. Verification Checks

- Rule update requires that the project developer telephone a randomly selected 5-10% of the surveyed households to verify that homes were visited by surveyors and the recorded responses are correct. While this may make sense for a smaller sample size, Mirador collected 36,945 usage surveys in the 9th VP, indicating we would be required to call between 1,847 to 3,695 households, which is an impractical number. Understanding that the spirit of this rule is to ensure our supervisors are performing their duties with accuracy, we have several safeguards in place to ensure this is the case.

- Mirador's IT Manager and Director of Supervisors track every supervisor by GPS tracking software that shows where each supervisor is at a given time, as well as maintains a permanent record of which households were visited and how long the supervisor spent in each home. This information is reviewed daily and supervisors are contacted if anything looks amiss.
- When a home is closed, and thus a survey cannot be collected, it is marked as closed. When a home is open, a survey is collected. The GPS tracking software makes it is easy to tell if a supervisor has not spent enough time in an open household to perform a complete survey, thus protecting against false data collection.
- Supervisors collect a GPS mark at each household which is tied to the survey record in Salesforce.com. Each survey record is in turn correlated with the main household record for each stove.
- Supervisors perform repeat visits to each village, and typically a household is surveyed 3 times post-construction. If there are inconsistencies between data from one visit to the next, it is likely to be caught by a supervisor.
- The sheer number of detailed, on-site usage surveys we conduct (36,945 in the 9th VP) indicates a much higher level of attention to detail than most projects are able to replicate. Talking with beneficiaries on the phone cannot provide the same assurance that the stove is in use, regardless of how beneficiaries respond.

B. Good Practice Monitoring Requirements

Field team training and supervision:

- Mirador supervisors undergo a 2-3 day intensive training workshop, plus a full month of training before they are allowed to collect surveys without another supervisor or manager present.
- Mirador maintains consistency by ensuring all supervisors are trained directly by the Director of Supervisors, using consistent training materials; and all supervisors are trained in use of the Salesforce.com monitoring system and use the same survey form.
- In Salesforce.com, the survey form itself ensures supervisors are not left to guess whether a stove is in use. Detailed questions are included and based on those answers, the system (based on predetermined rules) makes the decision as to whether or not the stove is in use. This is recorded automatically in a calculated field that is used for reporting abandonment to the Gold Standard.
- Mirador's Director of Supervisors and IT Manager work together to continually monitor and review field staff and provide re-training on data collection practices as necessary.

End-user Training and follow up visits:

- When it comes to beneficiary training, Mirador is a leader in the cookstove arena. As stated earlier in the Monitoring Report, "Proyecto Mirador's

Monitoring System includes extensive training of stove beneficiaries at various stages in the stove construction process, including Community Meetings staged by the Ejecutor before construction; a home visit by an inspector to determine the correct stove location and assess appropriateness of the household prior to construction; direct training at the time of construction; and multiple follow-up visits after construction. Mirador has invested in a sophisticated, highly customized electronic monitoring system built on the Salesforce.com platform to monitor all aspects of our operations and to bring us closer to our clients. We are constantly refining our design, construction and supervision practices to optimize efficiency and guarantee successful stove adoption."

Awareness campaign:

- Beneficiaries are informed of the benefits of proper use and maintenance at each pre-construction Community Meeting, then individually trained at construction, and again individually trained (and the maintenance process fully reviewed) at each subsequent supervisory visit.
- Each beneficiary receives a *Cinco* maintenance tool to perform the 5 steps needed to keep their stove in good order and functioning efficiently.
- Additionally, a Use and Maintenance brochure is left behind with each beneficiary, reminding them of the maintenance steps and use of the Cinco.
- All training and follow up visits are recorded permanently in our Salesforce.com database.

Project Field Test

Applicable Parameters: ID 7

As per the provisions of the TPDDTEC, Section 7, *Performance Field Tests and Calculation of Emission Reductions,* The baseline and project performance field tests (BFT and PFT) measure real, observed technology performance in the field. Consumption is measured with a representative sample of end users under the defined baseline scenario (in the absence of project technology) and project scenario using the Kitchen Performance Test (KPT). Simple random sampling is employed; testing is transparent, easily replicable and conservative; and the impact of day-to-day variation in cooking practices is accounted for as we calculate emission reductions on absolute fuelwood savings as observed in the KPT over a complete four-day cycle. File attachments "VP9-03 KPT Data Sheet SPANISH.pdf" and "VP9-04 KPT Data Sheet ENGLISH.pdf" show the actual data sheets used during the four-day KPT and "VP9-05 KPT Guidelines.pdf" articulates the process that was observed.

At the time of PoA renewal, Mirador already had a large base of existing KPT data for stove ages ranging from 1 month to 5.5 years in age. Rather than jettison the existing research, Mirador has continued to aggregate new KPTs to the existing data for each age group. Geographic diversity is carefully considered so that the data for each age group becomes more diverse over time.

As per the VPA-DD, once the requisite sample size of 100 is reached for each age group,

a yearly plan similar to the following will be observed thereafter, with the data from each subsequent KPT added to existing data to strengthen the sample in both size and geographic diversity. The following table mirrors the sample size and geographic distribution specified in the VPA-DD:

Stove Age Group	0_1	1_2	2_3	3_4	4_5	5_6	Total
Number of Surveys	10	10	10	10	10	10	50 Surveys
Number of Villages	2	2	2	2	2	2	10 Villages
Surveys per Village	5	5	5	5	5	5	

The following table shows how many new KPTs were performed in the 9th Verification Period for each age group, as well as the total number of KPTs that have been performed for each age group, for all test years overall. The new KPTs were performed in 12 villages across 6 departments. In the stove age groups for which emission reductions are being claimed, the KPT data now includes a total of 751 project scenario KPTs in 12 departments.

Stove Age Group	# of KPTs in 9th VP	# of KPTs overall	Statistical confidence satisfied?
0_1 Years	17	105	Yes
1_2 Years	17	95	Yes
2_3 Years	18	130	Yes
3_4 Years	20	158	Yes
4_5 Years	18	134	Yes
5_6 Years	20	123	Yes

(c) *Analysis of the collected data*

Leakage

The TPDDTEC provides 5 potential sources for leakage, most of which do not apply to a project that builds permanent, unmovable stoves *in situ*, in replacement of traditional stoves that are also built *in situ*. For the 9th Verification Period, Mirador reports a leakage factor of 3%.

Following is analysis of each source and its applicability in Mirador's case.

(i) The displaced baseline technologies are reused outside the project boundary in place of lower emitting technology or in a manner suggesting more usage than would have occurred in the absence of the project.

Baseline stoves are built *in situ*, cannot be relocated, and therefore cannot be reused in another location. Mirador requires as a precondition of installation that the client agree to destroy the old *fogón*, and Mirador monitors the presence or absence of a *fogón* on every follow-up visit.

During the 9th Verification Period 736 households were assessed for the presence

of an auxiliary *fogón*. A traditional *fogón* was still present in 122 of households surveyed (17%). Among those households, the *fogón* was in use an average of 1.78 hours/week, whereas the Dos por Tres was in use 7.48 hours per day, 7 days a week (total 52.36 hours per week). Thus the *fogón* was responsible for just 3% of total cooking time in 17% of households. Leakage was determined as stated in Parameter ID 9.

(ii) Non-project users who previously used lower emitting energy sources use the non-renewable biomass or fossil fuels saved under the project activity.

Traditional biomass cookstove use is by far the most common baseline scenario in villages where Mirador builds cookstoves. Given the high percentage of forest cover in Honduras (41.54% of total land area), fuelwood is generally available for harvest or purchase. People who use more efficient fuel types are not doing so for lack of availability of biomass. The non-renewable biomass saved under the project activity contributes to healthier forests by detracting from forest degradation but does not incur a risk that users of efficient stoves will convert to biomass.

(iii) The project significantly impacts the NRB fraction within an area where other CDM or VER project activities account for the NRB fraction in their baseline scenario.

Although fuelwood reduction does have a mitigating effect on forest degradation, Mirador's construction activities are not at a level that would impact NRB significantly enough to affect other projects. Based on our highest build rate to date (~24,000 stoves/year), we estimate 1000 hectares of forest are protected annually as a result of Mirador's project activity, as compared to a total of 4,648,000 hectares of forest cover in Honduras.[7]

(iv) The project population compensates for loss of space heating effect of inefficient technology by adopting some other form of heating or by retaining some use of inefficient technology.

Mirador's Leakage & Sustainability Survey includes questions to determine whether or not the beneficiaries use/used their project/baseline stoves to heat their homes, and whether or not there is/was an auxiliary heater present in the project/baseline scenario.

During the 9th Verification Period 826 households were randomly assessed to determine whether the Dos por Tres is used to heat their home (aside from the heat generated by regular cooking activity), and if so, whether it replaced a more efficient heater that was present prior to installation of the 2x3. Of the 826 respondents, zero answered that they use their 2x3 to heat the home outside of regular cooking activity.

[7] Mongabay Environmental News, "Honduras." http://rainforests.mongabay.com/deforestation/archive/Honduras.htm

(v) By virtue of promotion and marketing of a new technology with high efficiency, the project stimulates substitution within households who commonly used a technology with relatively lower emissions, in cases where such a trend is not eligible as an evolving baseline.

Households are only eligible to use the 2x3 if they are using a traditional *fogón* as their baseline stove. The 2x3 is built *in situ* and Mirador sends an Inspector to every household in advance of stove construction to assess its suitability to receive a 2x3; thus, we are able to verify in every case that the Dos por Tres is replacing a traditional *fogón* and that the *fogón* is the primary stove used for cooking.

Leakage Due to Transportation

Leakage due to transportation is determined by assessing whether significant emissions from transportation suggest more impact than if the project did not exist. To that end, an annual report is compiled to assess changes in mileage from year to year. A standard online carbon calculator is used to calculate the total CO_2 produced from driving the total of number of miles reported. That figure is then compared against the total emissions being claimed during the verification period in order to determine leakage. It should be noted that in the baseline scenario a similar or greater amount of transportation would be required to provide labor and distribute materials for construction of the traditional *fogón*.

Usage

In 2016 Mirador implemented a new system whereby an Inspector visits every household in advance of stove construction in order to review the space, assess compliance with the requirements for installation, and determine optimum positioning of the stove to maximize air flow and thermal efficiency. By avoiding construction problems that have historically caused some users to abandon their stoves within the first year, Mirador was able to accomplish a dramatic improvement in the adoption rate for first-year stoves. Drop-off survey data is provided in the attached file "VP9-13 Dropoff Data.xlsx." Cumulative abandonment rates (as provided in Parameter ID6) are applied in the document "VP9-01 ER Calculations.xlsx" and are in turn used to determine project technology-days.

Project Field Test

Fuelwood consumption data from 751, 4-day project KPTs is compiled and summarized in the document "VP9-02 KPT Data.xlsx." These project KPTs, which were collected from 2010 to the present, include 110 new KPTs from the 9th Verification Period covering 6 stove age groups in 6 Departments. The following outputs are applied to the ER Calculations for each age group:

- Household size
- Person-meals per day
- Dry wood use per person-meal

Per TPDDTEC methodology, when the sample sizes are large enough to satisfy the "90/30 rule," i.e., the endpoints of the 90% confidence interval lie within +/- 30%

of the estimated mean, overall emission reductions can be calculated on the basis of the estimated mean annual emission reduction per unit of the mean fuel annual savings per unit. Accordingly, since all age groups meet the 90/30 test, use mean figures are applied to the ER Calculations to determine fuelwood savings.

Data analysis is conducted by Robert Bailis, PhD, of the Stockholm Environmental Institute.

(d) *Demonstration of whether the required confidence/precision has been met:*

Leakage and Sustainability Surveys

The validated PoA requires a minimum sample size of 300. During the 9th Verification Period 826 surveys have been collected.

Usage Surveys

The validated PoA requires that a minimum sample size of 30 must be met for each age group, with a minimum total sample size of 100. For each age group surveyed, the sample size met or exceeded 100. The total sample size for all age groups exceeded 30,000.

Project Field Test

Aggregated data satisfies the 90/30 rule for all age groups, i.e., the endpoints of the 90% confidence interval in each case lie within ± 30% of the estimated mean. The statistical analysis is provided in the file "VP9-09 KPT Data.xlsx" (see worksheet "90-30 tests").

(e) *Demonstration of whether the samples were randomly selected and are representative of the population:*

Leakage and Sustainability Surveys

During the 9th Verification Period 826 surveys were collected across 13 Departments (provinces) and are thus representative of the entire project area. For newer stoves (<1.5 years), a survey was administered to every *n*th household that received a post-construction visit in order to guarantee a random sample. Older stoves (>1.5 years) also received surveys chosen at random by office staff, in advance of the visits, using villages that were close to routes used in the current follow-up visit schedule for newer stoves.

Usage Surveys

For stoves in their first two years of age, usage surveys were conducted at the time of every post-construction visit, so sample sizes are outstandingly large and cover the vast majority of applicable households. For subsequent years, usage rates were monitored among a random sample of households in each village that was included. Villages were chosen at random based on the availability of samples close to current supervision routes (to simplify logistics), with each age group including a broad geographic distribution (ranging between 10 and 700 separate villages per age group).

Project Field Test

Households from 12 separate villages in 6 Departments were included in the new data and project households were selected at random from each community. Raw data has been added to existing data from previous years and the analysis is provided in the file "VP9-09 KPT Data.xlsx."

SECTION E. Calculation of SDG outcomes

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

SDG #1 – No Poverty

Absolute values are collected for time and money spent collecting fuelwood in the baseline scenario, as reported by stove beneficiaries.

SDG #2 – Zero Hunger

Only the people who have reported saving money on fuelwood (see SDG #1) are surveyed to find out if they used that money to buy food. Thus, a baseline value calculation is inapplicable and direct calculation is used for this SDG outcome (as described in E.3 below).

SDG #3 – Good Health and Well-Being

In both the baseline and the project scenario, exposure to PM2.5 was measured using a light scattering nephelometer (HAPEx Nano). This device provides real time readings on PM2.5 and takes a new measurement every minute. It was worn by the study participant during a 48h period. This class of device required a field calibration performed with gravimetric samplers. A sub sample of the study participants wore the gravimetric sampler collocated with the HAPEx. The gravimetric sampler was comprised of a constant flow pump (AP Buck Libra Elite) and a size selective inlet SKC PME Impactor which selected only particulates smaller than 2.5 μm in diameter (PM2.5). The filters were weighed before and after the sampling.

SDG #4 – Quality Education

In the absence of project activity Mirador's stove training would not be provided. Thus, baseline value is understood to be zero.

SDG #5 – Gender Equality

- For Parameter ID 18 (Proportion of employees who are women), in the absence of project activity these jobs would not exist. Thus, baseline value is understood to be zero.
- For Parameter ID 19 (Improvement in cooking times), qualitative values are collected for time spent cooking in the baseline scenario, as reported by stove beneficiaries.
- For Parameter ID 20 (% of users who say there is something they don't like about the stove), only Dos por Tres stove users are surveyed. Thus, a baseline value calculation is inapplicable and direct calculation is used for this SDG outcome (as described in E.3 below).

SDG 7 – Affordable and Clean Energy

The Water Boiling Test (WBT) was used to determine relative PM2.5 emissions in both the baseline and project stove, as measured by Aprovecho's Research Center's commercially available Portable Emissions Measurement System (PEMS), in which real-time emissions of (PM) are recorded. Specific consumption is reported as a measure of the fuel used to boil (or simmer) one liter of water. Fuel use and emissions made to complete the WBT are reported as the average specific consumption (emissions) of cold and hot start plus simmer, multiplied by 5 Liters. The amount of particulate matter (PM) was measured as emitted to complete the WBT. All of the measured percentage reductions are significant at 95% confidence.

SDG 8 – Decent Work and Economic Growth

- For Parameter ID 21 (% of Mirador employees and microenterprises who report they are satisfied with their jobs), only Mirador project employees are surveyed. Thus, baseline value calculation is inapplicable.
- For Parameter ID 22 (Quantitative employment), in the absence of project activity these jobs would not exist. Thus, baseline value is understood to be zero.

SDG #13 – Climate Action

Baseline values are defined as per the 2010 Fuelwood Consumption Study. Field results are adjusted to account for moisture variation and adult equivalent persons. Any lab testing involves tending to replicate stove use as would be done by cooks.

The KT focused exclusively on typical baseline *fogón* stoves and involved taking physical measurements of daily wood consumption with the required return visits over a four-day period.

During the KT it was found that households have a degree of typical fuel and stove-type mixing; however, during the KT only the primary fuel—woody biomass—was measured by measuring the amount of wood not used, from a previously measured pile. The effect of fuel mixing reduces the savings made in primary fuel between the baseline and project scenarios. The quantity of secondary fuel is treated as zero. Wood consumption in the baseline study was calculated on a "dry wood basis" to account for variations in fuelwood moisture between households. Based on the above, the option to measure fuel consumption of the primary fuel only was selected for the calculation of the emission reductions.

A secondary baseline study was conducted in 2013 among 117 households to enhance the geographic spread of the baseline and test the validity of the 2010 results. Rob Bailis, PhD, of the Yale School of Forestry and Environmental Studies, performed the analysis and concluded the following:

The results show that baseline daily consumption was 10.6 kg of dry-wood per household (1.1 kg per person-meal) in 2010 and 10.9 kg of dry-wood per household (1.0 kg per person-meal) in 2013. These differences are insignificant and we can conclude that there has been no variation in baseline fuel consumption in this time period. The results of the 2013 baseline study thus corroborated those of the 2010 study.

SDG 15 – Life on Land

- For ID 5 – fNRB,b,y, baseline assessment focused on the fuel supply of Honduras, determine the fraction of non-renewable biomass in the supply area, as described in the

Gold Standard Methodology "Technologies and Practices to Displace Decentralized Thermal Energy Consumption" (11/04/2011), Annex 1, Section A1.3, "NRB Assessment similar to approach of CDM methodology AMS-II.G. fNRB was calculated using the equation fNRB = NRB / (NRB + DRB).

- For ID 7 / Pp,b,y, baseline and project household fuel consumption is measured in the same way, per Kitchen Performance Test (KPT) protocols. Fuel consumption is measured by weighing fuelwood over a 4-day period and moisture content is noted at each weighing. Also noted are the number of people by age group and gender who are eating meals in the household. Final data is expressed as per-capita daily fuel consumption.

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

SDG #1 – No Poverty

Absolute values are collected for time and money spent collecting fuelwood in the project scenario, as reported by stove beneficiaries.

SDG #2 – Zero Hunger

Only the people who have reported saving money on fuelwood (see SDG #1) are surveyed to find out if they used that money to buy food. Thus, a project value calculation is inapplicable and direct calculation is used for this SDG outcome (as described in E.3 below).

SDG #3 – Good Health and Well-Being

Please refer to the baseline description in Section E.1 above – baseline and project scenario values were measured in the same way.

SDG #4 – Quality Education

Human Resources director keeps an ongoing log of all Mirador training activities, including the hours spent on training. Total training hours are tabulated annually.

SDG #5 – Gender Equality

- For Parameter ID 18 (Proportion of employees who are women), Director of Human Resources keeps an ongoing log showing the number of Mirador employees (direct and indirect) by job type, as well as by gender. The number of employees who are women (direct and indirect) is specifically tracked and reported as an absolute figure.
- For Parameter ID 19 (Improvement in cooking times), qualitative values are collected for time spent cooking in the project scenario, as reported by stove beneficiaries.
- For Parameter ID 20 (% of users who say there is something they don't like about the stove), Dos por Tres users are asked directly if there is anything they don't like about the stove and "yes/no" values are tabulated. Thus, a project value calculation is inapplicable and direct calculation is used for this SDG outcome (as described in E.3 below).

SDG #7 – Affordable and Clean Energy

Please refer to the baseline description in Section E.1 above – baseline and project scenario values were measured in the same way.

SDG 8 – Decent Work and Economic Growth

- For Parameter ID 21 (% of Mirador employees and microenterprises who report they are satisfied with their jobs), Mirador employees are surveyed to determine if they are satisfied with their jobs and "yes/no" values are tabulated.
- For Parameter ID 22 (Quantitative employment), Director of Human Resources keeps an ongoing log showing the number of Mirador employees (direct and indirect) by job type. The number of employees is specifically tracked and reported as an absolute figure.

SDG #13 – Climate Action

As per the provisions of the TPDDTEC v2, Section 7, *Performance Field Tests and Calculation of Emission Reductions,* project performance field tests (PFT) measure real, observed technology performance in the field. Consumption is measured with a representative sample of end users under the defined project scenario using the Kitchen Performance Test (KPT). Simple random sampling is employed; testing is transparent, easily replicable and conservative; and the impact of day-to-day variation in cooking practices is accounted for as we calculate emission reductions on absolute fuelwood savings as observed in the KPT over a complete four-day cycle.

In order to maximize accuracy and minimize volatility, emission reductions are calculated on the basis of mean fuelwood consumption per person-meal.

SDG #15 – Life on Land

- For ID 5 – fNRB,b,y, project calculation is not applicable as fNRB is by definition a baseline value.
- For ID 7 / Pp,b,y, please refer to the baseline description in Section E.1 above – baseline and project scenario values were measured in the same way.

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

SDG #1 – No Poverty

Parameters ID 13, 14

Average baseline and project values are calculated, then project values are subtracted from baseline values to determine the average reduction in time.

SDG #2 – Zero Hunger

Parameter ID 15

Only the people who have reported saving money on fuelwood (see SDG #1) are surveyed to find out if they used that money to buy food. The number of people reporting they bought food is divided into the total number of people who saved money to determine the % of people who spent their saved money on food.

SDG #3 – Good Health and Well-Being

Parameter ID 12

To get results expressed in µg/m3, the raw readings from the HAPEx needed to be corrected by a field calibration parameter called the Particle Coefficient (PC). The PC is established by co-locating a gravimetric sampler (the reference method) and the light scattering device (HAPEx) to see how the two measurements relate. The overall correlation between the gravimetric and the light scattering measurements was measured as 85%. The corresponding equation (y=2.7577x+14.174) was used to convert HAPEx raw readings into µg/m3. Baseline and project values, expressed in µg/m3, were compared directly to determine the % reduction in personal exposure to PM2.5. The exposure to PM2.5 is reduced from 221 µg/m3 to 117 µg/m3 (47% reduction).[8]

SDG #4 – Quality Education

Parameter ID 17

Since the baseline value is understood as zero, the total training hours reported during the verification period is reported as a net benefit.

SDG #5 – Gender Equality

Parameters ID 18, 19, 20

- For Parameter ID 18 (Proportion of employees who are women), the number of direct Mirador employees who are women is divided by the total number of direct Mirador employees to determine the % who are women. Similarly, the total of Mirador employees (direct + indirect) who are women is divided by the total number of Mirador employees overall (direct + indirect) to determine the % of employees overall who are women.
- For Parameter ID 19 (Improvement in cooking times), average baseline and project values are calculated, then project values are subtracted from baseline values to determine the average reduction in time.
- For Parameter ID 20 (% of users who say there is something they don't like about the stove), the number of "yes" values is divided by the total number of survey responses to determine the % of users who do not like something about the stove.

[8] LeFebvre, Olivier, "Health Impact of Proyecto Mirador 2x3 Stove" (2018)

SDG #7 – Affordable and Clean Energy

Parameters ID 11, 16

Total emissions to complete the WBT in the baseline vs. project scenario were directly compared to determine the % reduction of PM overall. All of the measured percentage reductions are significant at 95% confidence.

SDG #8 – Decent Work and Economic Growth

Parameters ID 21, 22

- For Parameter ID 21 (% of Mirador employees and microenterprises who report they are satisfied with their jobs), the number of "yes" values is divided by the total number of survey responses to determine the % of Mirador employees who are satisfied with their jobs.
- For Parameter ID 22 (Quantitative employment), the absolute value of employees (direct and indirect) is reported.

SDG #13 – Climate Action

Parameters ID 1, 2, 3, 4, 6, 8, 9, 10, 23

Emission reductions are calculated by comparing daily fuel consumption per person-meal, adjusted for variations in moisture content, in the project scenario vs. baseline scenario. Calculations are based on absolute fuelwood consumption. The quantity of secondary fuel is treated as zero and emission reductions are calculated on the basis of reduction of only the primary fuel.

In both baseline and project scenarios, households show a degree of typical fuel and stove-type mixing; however, during the KPT only the primary fuel—woody biomass—is measured by weighing the amount of wood left unused from a previously measured pile. The effect of fuel mixing reduces the savings made in primary fuel between the baseline and project scenarios. The quantity of secondary fuel is treated as zero. Wood consumption in the baseline study was calculated on a "dry wood basis" to account for variations in fuelwood moisture between households. Based on the above, the option to measure fuel consumption of the primary fuel only was selected for the calculation of the emission reductions.

Mirador monitors for seasonal variation on an ongoing basis and has found that 8% of our clients report that there are days in the year when the stove is not in use. Of those 8%, the average number of days per year when the stove is not in use is 12.6 days. When averaged over the entire survey population, there is 0.95 day per year per household when the stove is not in use. This figure is regarded as *de minimis* and adjustments have not been made to the ER Calculations. However, Mirador will continue to monitor and if applicable, project days will be adjusted accordingly.

Baseline and project field test data are analysed in combination to estimate the average annual emission reductions or average fuel savings per household. The TPDDTEC dictates that "Whenever the baseline fuel and project fuel are the same (e.g. deployment of improved cook stove for the reduction of non-renewable biomass use), the statistical analysis can be conducted with respect to fuel savings per unit." In order to maximize accuracy and minimize volatility, emission reductions are calculated on the basis of mean fuelwood consumption per person-meal.

Since project beneficiaries are using the same fuel in baseline and project scenarios, and are not substituting an alternative fuel, the project is subject to Equation 1 of the TPDDTEC Methodology. Equation 1 states as follows (p. 15):

> *When the baseline fuel and the project fuel are the same and the baseline emission factor and project emission are considered the same, the overall GHG reductions achieved by the project activity in year y are calculated as follows:*
>
> $ERy = \mathbf{\Sigma}b,p\ (Np,y * Up,y * Pp,b,y * NCVb,fuel * (fNRB,b,y * EFfuel,CO_2 + EFfuel,nonCO_2)) - \mathbf{\Sigma}\ LEp,y$ **(1)**

Emission reduction calculations are applied according to the above equation and provided in the attached file, "VP9-01 ER Calculation.xlsx."

A total of 311,998 tonnes of emission reductions are claimed in the 9th Verification Period (net of leakage), based on a gross number of 327,288 before leakage was applied.

The breakdown of *gross* emission reductions (before leakage) by vintage and CP is as follows:

CP2, Vintage 2017: 26,932 (8.2% of total gross emissions)
CP2, Vintage 2018: 300,356 (91.8% of total gross emissions)

Net emissions (after leakage) by vintage are calculated by applying the same proportion to the figure 311,998 (ER Sheet, Cell DM74):

CP2, Vintage 2017: 25,674
CP2, Vintage 2018: 286,324
Net total emissions: 311,998

SDG #15 – Life on Land

Parameters ID 5, 7

- For ID 5 – fNRB,b,y, as fNRB is by definition a baseline value, project vs. baseline calculation is not applicable. Baseline fNRB value is reported.
- For ID 7 – Pp,b,y, per Kitchen Performance Test protocols, average, moisture-adjusted per-capita daily fuel consumption in the baseline scenario is compared directly with average moisture-adjusted per-capita daily fuel consumption in the project scenario to estimate an overall mean reduction in fuelwood consumption as a result of switching from a traditional *fogón* to the Dos por Tres. The result is expressed in tonnes per day and applied directly to the emission reduction calculations.

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

Specific-case CPA reference number	Baseline emissions or baseline net GHG removals by sinks (tCO_2e)	Project emissions or actual net GHG removals by sinks (tCO_2e)	Leakage (tCO_2e)	GHG emission reductions or net GHG removals by sinks (tCO_2e) achieved in the monitoring period		
				Up to 31/12/2012	From 01/01/2013	Total amount
VPA1	*	*	3%	N/A	311,998	311,998
Total	*	*	3%	N/A	311,998	311,998

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

Comparison of GHG emission reductions or net GHG removals by sinks with estimates in the included CPA-DD(s)

Specific-case CPA reference number	Value estimated in ex ante calculation in the included CPA-DD(s)	Actual values achieved by the specific-case CPA(s) during this monitoring period
VPA1	406,231	311,998
Total	406,231	311,998

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

Based on the validated ER spreadsheet, 406,231 tonnes were estimated for the 9th Verification Period at the time of validation. 311,998 tonnes were actually reduced during the 9th Verification Period (see attached "VP9-01 ER Calculations," "ER Sheet" worksheet, cell DM74).

The difference is attributed to several factors, including:

- The political situation in Honduras worsened due to the contested November 2017 presidential election, causing several periods in December, January and February during which access was blocked and travel was too dangerous in many parts of the country.
- A reduction in stove build quotas from 2015-2017 in response to devaluation in the carbon market has resulted in a reduction in residual VERs for stoves built in those years.
- Unusual rains in Fall 2018 affected access to many of the rural areas; many roads remain in poor condition and there have been delays in the transport of materials.

This 9th Verification Period (1 December 2017 – 30 November 2018) falls entirely within the 2nd Crediting Period of the PoA, under which VPA1 operates.

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

During the 9th Verification Period, stakeholder feedback was either submitted directly by beneficiaries or gathered by Mirador's Supervisors and Ejecutores. In either case it was tracked electronically in Mirador's Electronic Feedback Log using Salesforce.com. All comments logged in the physical process book (kept in Mirador's office) were added to the electronic system as well. When relevant, stakeholder feedback was reviewed at weekly staff meetings and Mirador's responses were documented. In many cases stakeholder feedback resulted in follow-up visits to beneficiaries' homes by a specialized Mirador supervisor to address outstanding issues and repair any defects in construction. Responses and follow up were tracked appropriately. An export of the Electronic Feedback Log is provided to the VVB for review (see VP9-15 Stakeholder Comment Log.xlsx) and anonymously restated below.

English translations are provided below the original Spanish.

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
12/12/17	Estoy satisfecha con el Proyecto *I am satisfied with the project*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude* to the supervisor	Gracias por su comentario *Thanked for their comments*	1
1/3/18	El técnico no le explico bien como se hace el mantenimiento de la Estufa *The technician didn't explain very well how to do the stove maintenance*	Explicar como se hace el mantenimiento *Explain how to do the maintenance*	Volver a dar la charla a los clientes por la supervisora *Return to give the lecture to the client by the supervisor*	La supervisora dio la charla *The supervisor gave the lecture*	1
1/24/18	Estoy muy contenta con la estufa *I'm very content with the stove*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanked for their comments*	1
1/26/18	Agradecimiento *Gratitude*	Agradecida porque ya no nos hollinamos como antes *Grateful because now we don't have soot like before*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanked for their comments*	1
2/1/18	Estoy agradecida porque	Ninguna	Agradecimiento por	Nos alegra que	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	me funciona bien *I'm grateful because it functions for me well*	*None*	el supervisor *Gratitude to the supervisor*	su estufa funciona bien *It makes us happy that your stove functions well*	
2/2/18	Me siento muy agradecida porque nos han ayudado mucho *I feel very grateful because you have helped us a lot*	No aplica *Does not apply*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Que bueno que le podemos ayudar *How great that we are able to help you*	1
2/9/18	La plancha estaba embombada cuando me la entregaron *The cooktop was swollen when it was delivered to me*	Tener cuidado *Be careful*	El proveedor explico lo sucedido *The provider explained what happened*	Informar al proveedor *Inform the provider*	1
2/10/18	No hay otra cosa mejor que la 2x3 *There is nothing better than the 2x3*	Ninguna *None*	Agradecer la opinion *Thank them for the opinion*	Gracias por su opinión *Thanks for your opinion*	1
2/12/18	Cocina a la perfección siempre que este bien limpia *It cooks to perfection as long as it is clean enough*	Ninguna *None*	Gracias por su comentario *Thanks for your comment*	Nos alegra ayudar a mejorar su salud. *We're happy to help improve your health.*	1
2/13/18	Estoy satisfecha por el ahorro de leña y cocino todos los alimentos *I am satisfied with the wood savings and I cook all my foods*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
2/13/18	Estoy satisfecha con este proyecto *I am satisfied with this project*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que su estufa le sea útil *It makes us happy that your stove is useful to you*	1
2/16/18	Hay problemas con la boca de la estufa *There are problems with the stove mouth*	Reparar la estufa *Repair the stove*	Se reparo el codo rocket *Repaired the fire box (rocket combustion chamber)*	Reparar la estufa *Repair the stove*	1
2/19/18	La estufa es muy buena *The stove is very tood*	No hay *None*	Agradecimiento por el supervisor *Gratitude to the*	Gracias por su comentario *Thanks for your*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
			supervisor	*comment*	
2/19/18	Yo estoy satisfecha con mi estufa *I am satisfied with my stove*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
2/19/18	Me siento contenta con la estufa porque es excelente *I feel content with the stove because it's excellent*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que su estufa funcioina *We're happy that your stove functions*	1
2/23/18	Me siento feliz con mi estufa 2x3 *I am happy with my stove*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias *Thanks*	1
2/28/18	Mi estufa salio muy buena *My stove turned out very well*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
2/28/18	Estoy agradecida con el proyecto por la estufa que calienta bien *I am grateful for the project because the stove heats up well*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
3/2/18	Mi estufa me ha salido muy buena *My stove turned out very well for me*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
3/5/18	La estufa funciona muy bien pero el técnico no me explico como usarla *The stove functions very well but the technician did not explain how to use it*	Ninguna *None*	El ejecutor dialoga con el técnico *Ejecutor to have a dialog with the technician*	Informar al ejecutor *Inform the ejecutor*	1
3/14/18	La supervisora ha revisado varias veces la estufa pero siempre da problemas *The supervisor has reviewed the stove various times but there are always problems*	Repararla *Repair it*	Se reparo la estufa corrigiendo algunos problemas de construcción *Repair the stove correcting any construction problems*	Enviar a Jose Edy Rodriguez a reparar la estufa *Send Jose Edy Rodriguez [senior supervisor] to repair the stove*	1
3/15/18	MI estufa es muy buena *My stove is very good*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
3/17/18	La Estufa 2x3 es la mejor	Ninguna	Agradecimiento por	Gracias por	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	que puede haber, estoy feliz. *The 2x3 stove is the best there can be, I am happy*	*None*	el supervisor *Gratitude to the supervisor*	opinar *Thanks for your opinion*	
3/21/18	Me entregaron los materiales sin protector. Cuando me lo entregaron me cobraron *They delivered the materials without a protector. When they gave it to me they charged me.*	Ninguna *None*		No se debe cobrar por los materiales *No charge for the materials*	0
3/22/18	La estufa nos vino a beneficiar porque no hay humo en la casa y ahorra leña *The stove came to our benefit because there is no smoke in the house and it saves wood*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
3/24/18	La chimenea se moja cuando llueve *The chimney gets wet when it rains*	Reparar la chimenea *Repair the chimney*	Se creo caso para el ejecutor *Created a case for the ejecutor*	Supervisor debe repararla *Supervisor should repair it*	1
4/3/18	Me siento muy feliz con mi estufa 2x3 , ahorro leña y cero humo en mi cocina. *I feel very happy with my 2x3 stove. It saves wood and zero smoke in my kitchen*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra su comentario *Your comment makes us happy*	1
4/4/18	Gracias por el esfuerzo que hicieron para que nosotras tengamos una estufa *Thank you for the effort that you made so that we could have a stove*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Su opinión es valiosa para nosotros *Your opinion is valuable to us*	1
4/7/18	Estoy mu y contenta con este proyecto ya que se me facilita todo. *I am very content with this project since everything is easy for me*	NInguno *None*	Gloria Marina Salinas	No aplica N/A	1
4/7/18	No me funcionaba bien *It did not work well*	Destruyo la estufa *Destroyed the*		Reportar *Report*	0

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
		stove			
4/9/18	Se abrieron dos clientes con la misma estufa *Two customers opened with the same stove*	No hacer tantas visitas *Not to make so many visits*	Eliminar la cuenta duplicada. *Eliminate the duplicate account*	Explicar la razón de las visitas *Explain the reason for the visits*	1
4/11/18	Estoy satisfecho con el proyecto *I am satisfied with the project*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
4/13/18	Estoy encantada con la estufa *I am delighted with the stove*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que le guste la estufa 2x3 *We are glad you like the 2x3 stove*	1
4/16/18	Cuando prendi el 2x3 se levanto la manija *When I turned on the 2x3 it raised the handle*	Ninguna *None*	Comunicar el problema al proveedor *Communicate the problem to the provider*	Gracias por informar *Thanks for informing us*	1
4/16/18	Desde el primer dia la lámina de la plancha de hundio *Since the first day the surface of the plancha was sinking*	Revisar *Review*	El supervisor explico los cuidados de la plancha *The supervisor explained the care of the plancha*	Revisión por el supervisar *Review by the supervisor*	1
4/16/18	Estoy muy agradecida con el Proyecto *I am very grateful for the project*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
4/24/18	En la reconstrucción de la casa destruyeron la estufa. *In the reconstruction of the house they destroyed a stove*	Piden reconstrucción *They request reconstruction*		Debe esperar que se vuelva a construir en la comunidad *Must wait until we return to build in the community*	0
4/28/18	Estoy feliz porque son muy especiales para quien las sabe usar. *I am happy because they are very special for those who know how to use them*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
5/10/18	Estoy agradecida con el proyecto *I am grateful for the*	Ninguna *None* *None*	Agradecimiento por el supervisor *Gratitude to the*	Gracias por su comentario *Thanks for your*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	project		*supervisor*	*comments*	
5/12/18	Para mi ha sido un buen proyecto la estufa 2x3 ahorro mas leña y mi familia ya no padece de enfermedades respiratorias *For me it's been a good project; the 2x3 stove saves more wood and my family no longer suffers from respiratory diseases*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Sus opiniones son valiosas para nosotros *Your opinions are very valuable to us*	1
5/16/18	Es una de las mayores bendiciones en mi cocina. Excelente ayuda It is one of the greatest blessings in my kitchen. Excellent help.	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que la estufa 2x3 sea buena *We are happy that the 2x3 is good*	1
5/18/18	Me gusta mi 2x3 porque me ahorro tiempo y leña *I like my 2x3 because it saves time and wood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
5/18/18	Estoy muy agradecida con el Proyecto *I am very grateful for the project*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias a usted por su opinión *Thanks for your opinion*	1
5/19/18	Me siento bien con la estufa porque calienta bien y cocino todo. *I feel good with the stove because it heats up well and cooks everything*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Que bueno que calienta bien *How good that it heats up well*	1
5/23/18	Estoy contenta con mi estufa 2x3 es economica de leña, rapida para cocinar , buena para la salud no hace humo *I am content with my 2x3 stove, it is economical of firewood, good for health does not smoke [and] does not smoke*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
5/25/18	Esta buena porque calienta bien, ahorro leña y no hay humo *It's good because it heats up well, saves wood and there is no smoke*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
5/29/18	No tengo ninguna queja	N/A	Agradecimiento por	Nos alegra su	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	sobre mi estufa porque me funciona de maravilla *I don't have any complaint about my stove because it functions marvelously*		el supervisor *Gratitude to the supervisor*	opinión *Your opinion makes us happy*	
5/30/18	Excelente Proyecto, muy util y economiza leña *Excellent project, very useful and it economizes wood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
5/31/18	Es una estufa excelente para la salud de la familia *It is an excellent stove for the family's health*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
6/1/18	Me siento alegre porque mi estufa calienta rapido y todo lo hago rapido *I feel happy because my stove heats up rapidly and I make everything rapidly*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
6/8/18	Desde que me hicieron la estufa todo calienta bien no tengo humo en la cocina. *Since they made the stove for me everything heats up well and I don't have smoke in my kitchen*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra su comentario *We are happy with your comment*	1
6/12/18	La estufa funciona de una manera excelente evitando la propagación del humo por la cocina *The stove functions in an excellent manner avoiding the spread of smoke through the kitchen*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
6/15/18	Estoy muy agradecida con el Proyecto Mirador,porque me ha beneficiado con una Estufa 2x3 que funciona muy bien. *I am very grateful to Proyecto Mirador, because it has benefitted me with a 2x3 stove that*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	functions very well.				
6/18/18	Gracias por la estufa, ahorra mucha leña y calienta bien. *Thanks for the stove, it saves a lot of wood and heats up well.*	No aplica *N/A*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
6/18/18	Para mi la estufa funciona excelente, no me da problemas y compro menos leña *For me the stove functions excellently, does not give me problems and I buy less wood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
6/20/18	La estufa 2x3 es excelente calienta lo suficiente y ahorro leña *The 2x3 stove is excellent – it heats up sufficiently and I save wood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
6/21/18	Gracias por reparar la estufa *Thank you for repairing the stove*	Revisar la estufa *Review the stove*	Se hizo mantenimiento y limpieza a la estufa *The stove was maintained and cleaned*	Enviar el supervisor *Send the supervisor*	1
6/21/18	Feliz con mi estufa porque me funciona muy bien *Happy with my stove because it functions very well*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
6/25/18	La estufa me calienta bien y alli cocino todo *The stove heats up well and I cook everything there*	No aplica *N/A*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Su comentario es muy útil para nosotros *Your comment is very helpful for us*	1
6/25/18	La estufa me estaba dando problemas y llenando de humo la casa *The stove was giving me problems and filling the house with smoke*	Revisar la estufa *Review the stove*	Se realizo mantenimiento y se resolvió el problema *Maintenance was performed and the problem was solved*	Revisión de la estufa por la supervisora *Revision of the stove by the supervisor*	1
6/25/18	La estufa no funcionaba bien y tenia problemas con la chimenea	Reparar la estufa *Repair the*	Se agrego un tubo *Added a tube*	Enviar la supervisora *Send the*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	The stove wasn't functioning well and had problems with the chimney	*stove*		*supervisor*	
6/25/18	La estufa estaba mala no me calentaba *The stove was bad, it wasn't heating up*	Repararla *Repair it*	Se agrando el agujero del escape *The exhaust chamber was enlarged*	Se envió la supervisora *Sent the supervisor*	1
6/25/18	La estufa devuelve el humo *The stove returns the smoke*	Revisarla *Review it*	La supervisora le realizo mantenimiento *The supervisor performed maintenance*	La supervisora debe revisarla *The supervisor should review it*	1
6/25/18	Mi estufa funciona muy bien y me hace feliz *My stove functions very well and makes me happy*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias *Thanks*	1
6/25/18	Buena estufa porque ahorra leña *Good stove because it saves wood*	Ninguna *None*	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/5/18	Mi estufa no funcionaba bien *My stove wasn't functioning well*	Revisar la estufa *Review the stove*	Se hizo mantenimiento y limpieza de la Estufa *Did maintenance and cleaning of the stove*	Enviar el Supervisor *Send the supervisor*	1
7/5/18	Mi estufa no calentaba *My stove wasn't heating up*	Revisar *Review*	Se hizo mantenimiento *Did maintenance*	Enviar el supervisor *Send the supervisor*	1
7/5/18	La estufa calienta, no hay humo en mi casa y se cocina rápido. *The stove heats up, there is no smoke in my house and it cooks rapidly*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/9/18	Paso la supervisora del proyecto , no me encontró en casa, dejo su numero y después volvio e hizo la revisión y todo bien *The supervisor of the project passed, she did not find me at home, she left her number and then she came back and did*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por confiar en nosotros *Thanks for trusting us*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	the review and everything was fine				
7/10/18	Estoy agradecida con el Proyecto Mirador *I'm grateful for Proyecto Mirador*	No aplica	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
7/11/18	La Estufa 2x3 es muy buena y se hace todo rápido The 2x3 stove is very good and it does everything rapidly	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
7/13/18	Me robaron el cinco y usaba un pedazo de hierro *My Cinco [maintenance tool] was stolen and I used a piece of iron*	Un cinco nuevo *A new Cinco*	Se le entrego un cinco nuevo *He was given a new Cinco*	Enviar la supervision *Send the supervisor*	1
7/13/18	Le dije a la supervisora que la estufa no calentaba *I told the supervisor that the stove wasn't heating up*	Me la revisen *I checked it*	Se quito un pedazo de ladrillo y se hizo mantenimiento *A piece of brick was removed and maintenance was done*	Enviar la supervision *Send the supervisor*	1
7/13/18	Las estufas son muy buenas pero me gustaría que a los muchachos que trabajan les paguen por meta, para que hagan el trabajo bien y no de prisa y asi harian una estufa de calidad para los beneficiarios *The stoves are very good but I would like the working boys to be paid by goal, to do the job well and not in a hurry and thus they would make a quality stove for the beneficiaries*	N/A	Comentar con los ejecutores *Discuss with the Ejecutores*	Gracias por su sugerencia la vamos a tomar en cuenta *Thanks for your suggestion, we will take it into account*	1
7/13/18	Gracias al Proyecto, Me gusta la estufa, estoy agradecida. *Thanks to the Project, I like the stove, I am grateful*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que le guste la estufa *We're gld you like the stove*	1
7/13/18	Me encanta la estufa,	N/A	Agradecimiento por	Gracias por su	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	estoy agradecida gracias al Proyecto *I love the stove, I am grateful thanks to the project*		el supervisor *Gratitude to the supervisor*	comentario *Thanks for your comment*	
7/16/18	Yo estoy muy satisfecha con la estufa 2x3 porque se ahorra leña y dinero y no se ahuma, son muy buenas *I am very satisfied with the 2x3 stove because it saves wood and it does not smoke, they are very good*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/16/18	Estoy agradecida porque la estufa me calienta bien y cocino todo y mi casa pasamos limpios.	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
7/17/18	Agradecida con el Proyecto Mirador por el ahorro de leña y nos ayuda a conservar el medio ambiente y la salud. *I am grateful because the stove heats up well and I cook everything and my house is clean.*	N/A	Agradecimiento por el comentario *Gratitude for the comment*	Muchas gracias por su opinión *Thanks for your opinion*	1
7/18/18	La estufa calienta bien y se ahorra leña y no tengo humo *The stove heats up well and saves firewood and I have no smoke*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/18/18	La estufa 2x3 calienta bien y se cocina rapido *The 2x3 stove heats up well and cooks fast*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que su estufa sea útil *We're glad the stove is useful*	1
7/18/18	Me gusta porque es mas fácil de encender *I like it because it's easier to light*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/19/18	Hice muchos mantenimientos en la zona de la Paz y el problema es con la ceniza *I did a lot of maintenance*	Explicar el mantenimiento de la ceniza para que no se endure *Explain the*	Mejorar la charla *Improve the lecture*	Comunicar al ejecutor *Communicate to the Ejecutor*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	in the zone of La Paz and the problem is with the ash	*maintenance of the ash so that it does not harden*			
7/20/18	Totalmente muy excelente, muy contenta con mi estufa, Mil gracias . *Totally very excellent, very happy with my stove, Thank you very much.*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Su comentario es muy útil para nosotros *Your comment is very useful for us*	1
7/20/18	Vino el inspector le explique que el trabajo lo había dejado completamente mal y no tuve respuesta. *The inspector came and explained that the work had been left completely wrong and I had no answer.*	Reparar la estufa *Repair the stove*	mantenimiento de la estufa *Maintenance of the stove*	El supervisor reviso la estufa *The supervisor reviewed the stove*	1
7/20/18	Me rinde la leña no hay humo y no se me "entilan" los trastes *The firewood gives me no smoke and the worries do not enter*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Que bueno que no hay humo en su casa *Great that there is no smoke in your house*	1
7/20/18	Estoy muy contenta con la estufa hoy mi casa esta mas limpia. Les agradezco mucho. Gracias y Bendiciones *I am very happy with the stove today my house is cleaner. I thank you very much. Thanks and blessings*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/21/18	Mejor ambiente y mejor salud, ahorro de leña *Better environment and better health, savings of wood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/22/18	Evito el humo en la cocina y cuido el medio ambiente *I avoid smoke in the kitchen and take care of the environment*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
7/24/18	Muy agradecida con el Proyecto por hacerme la estufa *Very grateful to the Project for making the stove*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/25/18	Estoy agradecida porque la estufa me calienta bien. Puedo cocinar y ahorrar leña. *I'm grateful because the stove heats well. I can cook and save firewood.*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/25/18	La estufa me funciona muy bien no tengo ninguna queja *The stove works very well, I have no complaints*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Que bueno que no hay quejas *Good that there are no complaints*	1
7/26/18	Estoy feliz porque me he curado del humo que tragaba con el fogón tradicional *I am happy because I have cured the smoke I was breathing in with the traditional stove*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra ayudar a mejorar su salud *We are happy to help improve your health*	1
7/27/18	No hace humo, la pared no se refoga y son ahorrativas de leña *It does not smoke, the wall does not fog up and they are conservative of firewood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Que bueno que su cocina es mas limpia *Glad that your kitchen is cleaner*	1
7/28/18	Lo que me gusta es que no gasto mucha leña *What I like is that it doesn't use a lot of firewood*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
7/31/18	Para mi ha sido un excelente proyecto, claro si se la da el mantenimiento funciona. *For me it has been an excellent project, of course if it is given the maintenance.*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Agradecemos su opinión *We appreciate your opinion*	1
8/1/18	Para mi es excelente la estufa, funciona bien y	N/A	Agradecimiento por el supervisor	Gracias por opinar	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	no gasta mucha leña *For me the stove is excellent, it works well and does not waste a lot of firewood*		*Gratitude to the supervisor*	*Thanks for your opinion*	
8/2/18	Para mi la estufa es muy buena, me funciona y me gusta. *For me the stove is very good, it works for me and I like it.*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
8/24/18	Agradecida por esta estufa del Proyecto Mirador *Grateful for this stove from Proyecto Mirador*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
8/24/18	Son muy excelentes con el fogón de antes me daba problemas todo se me ahumaba y hoy no, estoy feliz con la 2x3. Gracias Proyecto Mirador. *They are very excellent with the stove: before I had problems, everything was smoked, and today, no, I am happy with the 2x3. Thanks Proyecto Mirador.*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por comentar *Thanks for commenting*	1
8/25/18	Reporte la estufa porque no me calentaba *I reported the stove because it did not heat up*	Que me la reparen la estufa *To repair the stove*	Se agrego un tubo *Added a tube*	Enviar el supervisor *Send the supervisor*	1
8/27/18	El muchacho que hizo la estufa andaba bien rapido y me dejo la estufa desnivelada, no calienta bien *The boy who made the stove was going very fast and left the stove uneven, it does not heat well*	Reparar *Repair*	Se espera respuesta al caso de parte del ejecutor *Awaiting a response to the case on the part of the Ejecutor*	Crear un caso para que responda el ejecutor *Create a case so that the Ejecutor can respond*	1
8/28/18	NO me calentaba la estufa *The stove wasn't heating up*	Revisar la estufa *Review the stove*	Se le hizo mantenimiento y quedo buena *Performed the*	Enviar el supervisor *Send the supervisor*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
			maintenance and it is good		
8/28/18	No calentaba bien *Wasn't heating up well*	Revisar *Review*	Se agrego un tubo y se dio mantenimiento *Added a tube and did maintenance*	Enviar el supervisor *Send the supervisor*	1
9/4/18	NO recibí el manual cuando la estufa me fallo no halle a quien llamar . Yo la repare a mi manera y ahora funciona bien. *I did not receive the manual; when the stove failed me I did not find who to call. I repaired it my way and now it works well.*	ninguna *None*	No se soluciono, la cliente destruyo la estufa *Not resolved; the client destroyed the stove*	Supervisar *Supervise*	0
9/8/18	Estoy agradecido por el Proyecto de Estufas 2x3 *I'm grateful for the 2x3 stove project*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su opinión *Thanks for your opinion*	1
9/10/18	Calienta mucho y estoy agradecida y muy contenta *Heats up a lot and I'm grateful and very happy*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra que su estufa 2x3 calienta bien *We're happy that your 2x3 stove heats up well*	1
9/10/18	Es muy buen proyecto que vino a favorecernos *It is a very good project that came to do us a favour*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
9/13/18	Gracias a Dios y al Proyecto Mirador por este regalo *Thank God and Proyecto Mirador for this gift*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
9/18/18	En ves de una lata seria bueno que hicieran el molde del mismo material que la plancha porque la lata se pica rápido y hay que estar cambiándola a cada rato *Instead of a can, it would be good if they made the mold of the same material as the iron*	N/A	N/A	N/A	0

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	because the can gets hot very fast and you have to change it every time.				
9/18/18	Me siento muy bien porque la estufa calienta y no tengo problemas *I feel very good because the stove heats up and I don't have problems*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
9/19/18	La estufa no calentaba *The stove wasn't heating up*	Revisar la estufa *Review the stove*	Mantenimiento *Maintenance*	Revisión por el supervisor *Revision by the supervisor*	1
9/20/18	Se reviso la estufa *Checked the stove*	Revisarla *Check it*	Se agrando el agujero del escape. Pero se mantiene en observación porque no tenia leña seca *The hole in the exhaust is enlarging. But it is kept under observation because it did not have dry firewood*	Revisar la estufa *Check the stove*	1
9/29/18	Muy buena la estufa porque calienta rápido, ahorra leña y rápido se hacen los alimentos *The stove is very good because it heats fast, saves firewood and quickly makes food*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por opinar *Thanks for your opinion*	1
10/1/18	Agradecida por este proyecto, es muy útil, económico y saludable *Grateful for this project, it is very useful, economical and healthy*	N/A	Agradecimiento *Gratitude*	Gracias por opinar *Thanks for your opinion*	1
10/1/18	Soy feliz porque ahorro leña y calienta rápido *I am happy because I save firewood and heat fast*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra su felicidad *Glad you are happy*	1
10/1/18	Agradecido con el Proyecto Mirador por la ayuda que ha dado a nuestras vidas *Grateful to Proyecto Mirador for the help it*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Su comentario es valioso para nosotros *Your comment is valuable to us*	1

Date	Comment	Request	Form of Resolution	Mirador Response	Resolved 1=yes, 2=no
	has given to our lives				
10/1/18	Es un buen proyecto que vino a nuestra comunidad y mas a nuestra casa *It is a good project that came to our community and especially to our house*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Gracias por su comentario *Thanks for your comment*	1
10/2/18	Me siento muy agradecida con mi estufa. *I feel very grateful for my stove.*	N/A	Agradecimiento por el supervisor *Gratitude to the supervisor*	Nos alegra ayudarle *We are happy to help you*	1

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

N/A

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

N/A

LIST OF ANNEXES

Monitoring Report - 9th Verification Period

Annex	*File Name*	Description
01	VP9-01 ER Calculations.xlsx	Carbon credits calculated based on net stoves in operation during crediting period
02	VP9-02 KPT Data.xlsx	Aging Stove KTs - contains all KPT data to date (baseline & project)
03	VP9-03 KPT Data Sheet SPANISH.pdf	Fuelwood Consumption Study/Aging Stove KT - data collection sheet in Spanish
04	VP9-04 KPT Data Sheet ENGLISH.pdf	Fuelwood Consumption Study/Aging Stove KT - data collection sheet in English
05	VP9-05 KPT Guidelines.pdf	KPT Guidelines provided by Robert Bailis, PhD
06	VP9-06 Sales Record.xlsx	Stove installation database
07	VP9-07 Stoves Installed by Month.pdf	Monthly summary of stove installation database
08	VP9-08 Training Brochure.pdf	Brochure given to beneficiaries when trained in stove use and maintenance
09	VP9-09 Leakage Sustainability Results.xlsx	Results & summary for monitoring surveys
10	VP9-10 Employee Survey Export.xlsx	Summary of employee questionnaires
11	VP9-11 Employee Questionnaire.pdf	Sample employee questionnaire
12	VP9-12 Quantitative Employment.xlsx	Report on number of employees and salaries by employee type
13	VP9-13 Dropoff Data.xlsx	Data to substantiate monitored dropoff figures.
14	VP9-14 Transportation Summary.xls	Report on mileage for all vehicles used
15	VP9-15 Stakeholder Comment Log.xls	Stakeholder Feedback Log - Continuous Input & Grievance Mechanism
16	VP9-16 Other ICS Report.xls	Survey data for households where other ICS is present
17	VP9-17 Training Data.xlsx	Report on training hours for all types of training