

**Gold standard for the global goals**  
**Monitoring report**



June 2017, version 1

**Proyecto Mirador, LLC**

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

Monitoring Report – 10<sup>th</sup> Verification

26/05/2020

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| <b>Title of the project</b>  | PoA: "Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America"<br>VPA: "Proyecto Mirador Enhanced Distribution of Improved Cookstoves in Latin America: First VPA for Distribution of Dos por Tres Cookstoves in Honduras"                                 |
| <b>Gold Standard project id</b>  | PoA: GS1988<br>VPA: GS2758  |
| <b>Version number of the monitoring report</b>   | 4   |
| <b>Completion date of the monitoring report</b>  | 26/05/2020  |
| <b>Date of project design certification</b>  | 29/06/2010  |
| <b>Start date of crediting period</b>  | 01/5/2016   |
| <b>Duration of this monitoring period</b>  | 01/12/2018 to 30/11/2019 (10 <sup>th</sup> Verification Period)   |
| <b>Duration of previous monitoring period</b>  | 01/12/2017 to 30/11/2018 (9 <sup>th</sup> Verification Period)  |
| <b>Project representative(s)</b>   | Esther Adams, Program Manager<br><a href="mailto:eadams@proyectomirador.org">eadams@proyectomirador.org</a> ; +1 (415) 925-1887   |
| <b>Host Country</b>  | Honduras  |
| <b>Certification pathway (activity certification/impact certification)</b>                                   | Impact Certification  |
| <b>SDG Contributions targeted (as per approved PDD)</b>  | 1 – No Poverty<br>2 – Zero Hunger<br>3 – Good Health and Well-Being<br>4 – Quality Education<br>5 – Gender Equality<br><b>7 – Affordable and Clean Energy (recommended)</b><br>8 – Decent Work and Economic Growth<br><b>13 – Climate Action (mandatory)</b><br>15 – Life on Land |
| <b>Gold Standard statement/product certification sought (GSVER/ADALYs/RECs etc.)</b>                         | GSVER   |
| <b>Selected methodology(ies)</b>   | Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC), Version 2.0  |
| <b>Estimated amount of annual average certified SDG impact (as per approved PDD)</b>                         | 426,606 VERs  |
| <b>Total amount of certified SDG impact (as per approved methodology) achieved in this monitoring period</b> | 1 – No Poverty<br>US\$ 2.15 per week per household saved, and/or 44% reduction in time spent collecting fuelwood  |

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|  | <p>2 – Zero Hunger<br/>59% of wood purchasers report they used the money saved to buy food</p> <p>3 – Good Health and Well-Being<br/>47% reduction in personal exposure to PM2.5</p> <p>4 – Quality Education<br/>676 annual training hours provided</p> <p>5 – Gender Equality<br/>99% satisfaction among stove beneficiaries<br/>99% of stove users report improved cooking times<br/>36% of Mirador’s direct employees are women</p> <p>7 – Affordable and Clean Energy<br/>79% reduction of PM2.5 emissions resulting from cookstove intervention</p> <p>8 – Decent Work and Economic Growth<br/>174 jobs created; 96% job satisfaction rate</p> <p><b>13 – Climate Action</b><br/><b>275,890 VERs</b></p> <p>15 – Life on Land<br/>0.004601 t/household/day reduction in fuelwood consumption per household</p> |
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## 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 190,000 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 about half, 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.

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Honduras is one of the poorest countries in the Western Hemisphere, with nearly 65% of the population living in poverty,<sup>1</sup> and with the highest rate of extreme poverty in Latin America after Haiti, at 17.2%.<sup>2</sup> In rural areas, 6 out of 10 households live in extreme poverty, on less than US\$ 2.50 per day.<sup>3</sup> Honduras also faces the highest level of economic inequality in Latin America, with rampant crime and violence being major contributing factors. Crime and violence are rampant, and the homicide rate is one of the highest in the world at 41 homicides per 100,000 inhabitants.<sup>4</sup> Owing to crime, corruption and other factors, Honduras ranks 125<sup>th</sup> out of 185 countries globally in terms of ease of doing business, and 179<sup>th</sup> out of 185 on the successful enforcement of contracts.<sup>5</sup> Despite these obstacles, Mirador has successfully installed more than 190,000 cookstoves, created 26 thriving microenterprises and provided 167 local jobs to Hondurans 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<sup>6</sup> 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,

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<sup>1</sup> CIA World Factbook – Honduras

<sup>2</sup> World Bank, Honduras country overview. <http://www.worldbank.org/en/country/honduras/overview>

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> 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>

<sup>6</sup> Government of Honduras, "Encuesta Nacional de Demografía y Salud (National Demographic and Health Survey), 2011-2012." [http://pdf.usaid.gov/pdf\\_docs/pnaec215.pdf](http://pdf.usaid.gov/pdf_docs/pnaec215.pdf) (p.19)

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Honduras, creating local jobs through 13 material provider businesses. Beneficiaries contribute the remaining components, including cement, rebar, bricks, adobe blocks and 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 for verification (see "VP10-08 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 half, 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 877, 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<sub>2</sub> by 43%, and CH<sub>4</sub> 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.

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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: 01/05/2009

First Crediting Period: 01/05/2009 – 30/04/2016

Second Crediting Period: 01/05/2016 – 30/04/2023

10<sup>th</sup> Verification Period: 01/12/2018 – 30/11/2019

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 01/05/2009, 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**

01/05/2016 – 30/04/2023

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 190,000 stoves have been installed across 16 Departments (provinces) in Honduras. Based on a reported average of 4.8 people per household, this translates to 912,000 people served — roughly 10% of the population of Honduras.

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.



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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 2019, 12 Ejecutores and an additional 13 material 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 (01/05/2016) 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, "VP10-17 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, "VP10-16 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

N/A

### 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

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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 channelled 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 VP10-15 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 each 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

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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.*

|   |  |
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| <b>Relevant SDG Indicator</b>                               | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul>  |
| <b>Data/parameter</b>                                       | <b>ID 1 / E<sub>fuel,CO<sub>2</sub></sub></b>  |
| <b>Unit</b>   | tCO <sub>2</sub> /TJ   |
| <b>Description</b>  | CO <sub>2</sub> emission factor of the fuel that is reduced  |
| <b>Source of data</b>                                       | 2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy ( <a href="https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf</a> ) |
| <b>Value(s) applied)</b>                                    | 112 tCO <sub>2</sub> /TJ   |
| <b>Choice of data or measurement methods and procedures</b> | IPCC default value   |
| <b>Purpose of data</b>                                      | Calculation of baseline and project emissions  |
| <b>Additional comments</b>                                  |  |

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| <b>Relevant SDG Indicator</b>                               | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul>  |
| <b>Data/parameter</b>                                       | <b>ID 2 / E<sub>fuel,nonCO<sub>2</sub>,CH<sub>4</sub></sub></b>  |
| <b>Unit</b>   | tCO <sub>2</sub> /TJ   |
| <b>Description</b>  | CH <sub>4</sub> emission factor for the fuel that is reduced   |
| <b>Source of data</b>                                       | 2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy ( <a href="https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf</a> ) |
| <b>Value(s) applied)</b>                                    | 0.30   |
| <b>Choice of data or measurement methods and procedures</b> | IPCC default value   |
| <b>Purpose of data</b>                                      | Calculation of baseline and project emissions  |
| <b>Additional comments</b>                                  |  |

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| <b>Relevant SDG Indicator</b>                               | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul>   |
| <b>Data/parameter</b>                                       | <b>ID 3 / E<sub>fuel,nonCO<sub>2</sub>,N<sub>2</sub>O</sub></b>   |
| <b>Unit</b>   | tCO <sub>2</sub> eTJ  |
| <b>Description</b>  | N <sub>2</sub> O emission factor for wood that is reduced   |
| <b>Source of data</b>                                       | IPCC Default value  |
| <b>Value(s) applied)</b>                                    | 0.004   |
| <b>Choice of data or measurement methods and procedures</b> | 2006 IPCC Guidelines for National Greenhouse Gas Inventories 2.1, Volume 2: Energy<br><a href="https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf">https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_2_Ch2_Stationary_Combustion.pdf</a> |
| <b>Purpose of data</b>                                      | Calculation of baseline and project emissions   |
| <b>Additional comments</b>                                  |   |

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| <b>Relevant SDG Indicator</b>                               | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul>  |
| <b>Data/parameter</b>                                       | <b>ID 4 / NCV<sub>fuel</sub></b>   |
| <b>Unit</b>   | TJ/ton   |
| <b>Description</b>  | The Net Calorific Value (NCV) of the fuel that is substituted or reduced   |
| <b>Source of data</b>                                       | NCV for Red Oak, per Global Alliance for Clean Cookstoves, “WBT 4.2.4 Spreadsheet” ( <a href="http://cleancookstoves.org/technology-and-fuels/testing/protocols.html">http://cleancookstoves.org/technology-and-fuels/testing/protocols.html</a> ) with reference to Cheremisinoff, N. Properties of Wood. Wood for Energy Production. Ann Arbor, MI, Ann Arbor Science: 31-43. 1980 |
| <b>Value(s) applied)</b>                                    | 0.0186 TJ/ton  |
| <b>Choice of data or measurement methods and procedures</b> | NCV for Red Oak  |
| <b>Purpose of data</b>                                      | Calculation of baseline and project emissions  |
| <b>Additional comments</b>                                  |  |

## 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.*

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| <b>Relevant SDG Indicator</b>                | 15 – Life on Land <ul style="list-style-type: none"> <li>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</li> </ul> |
| <b>Data/parameter:</b>                       | <b>ID 5 / fNRB,b,y</b>  |
| <b>Unit</b>                                  | %   |
| <b>Description</b>                           | The non-renewable fraction of the woody biomass harvested in the project collection area in year y in the baseline scenario   |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | Third-party NRB Analysis by Berkeley Air Monitoring Group (2011). Result adjusted downward to ensure conservativeness and align with recently validated project NRB figures.  |
| <b>Value(s) of monitored parameter</b>       | 69%   |
| <b>Monitoring equipment</b>                  | N/A   |
| <b>Measuring/reading/recording frequency</b> | Fixed at the time of revalidation; can be updated at PP's option as allowed in Section III.1, item f, of the TPDDTEC.   |
| <b>Calculation method (if applicable)</b>    | Assessed in accordance with the CDM AMS II.G., <i>Energy efficiency measures in thermal applications of non-renewable biomass</i>   |
| <b>QA/QC procedures</b>                      | Assessment shall be conducted by a reputable third-party forestry expert  |
| <b>Purpose of data</b>                       | Calculation of project emissions  |
| <b>Additional comments</b>                   |   |

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| <b>Relevant SDG Indicator</b>                | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul> |
| <b>Data/parameter</b>                        | <b>ID 6 / Np,y</b>  |
| <b>Unit</b>                                  | Number of project technology days   |
| <b>Description</b>                           | Cumulative number of project technology-days included in the project database for project scenario p against baseline scenario b in year y  |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | Salesforce.com installation database  |
| <b>Value(s) of monitored parameter</b>       | 37,825,519 days<br>(Based on 18,961 total stoves installed during the 10 <sup>th</sup> Verification Period)   |
| <b>Monitoring equipment</b>                  | Smartphones; Salesforce.com installation database   |
| <b>Measuring/reading/recording frequency</b> | Ongoing   |

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| <b>Calculation method (if applicable)</b> | The value of $N_{p,y}$ 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 $N_{p,y}$ reported in the ER Calculations during VP10 (DN57:DY57)   |
| <b>QA/QC procedures</b>                   | <p>Stoves are built <i>in situ</i> 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.</p> <p>The Salesforce.com database holds the following information to identify each household using project technology:</p> <ul style="list-style-type: none"> <li>- Date of installation</li> <li>- Location of installation</li> <li>- Model/type of stove installed</li> <li>- Model of use prior to installation of ICS</li> <li>- Name of client</li> <li>- Government ID number of client</li> <li>- Unique serial number applied to each stove</li> </ul> |
| <b>Purpose of data</b>                    | Calculate emission reductions and assess sustainability   |
| <b>Additional comments</b>                | <p>A sales record including all stoves built during the 10th Verification Period is exported from Salesforce and provided in the attached "VP10-06 Sales Record.xlsx." A monthly summary is provided in the attached "VP10-07 Stoves Installed by Month."</p> <p>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.")</p>   |

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| <b>Relevant SDG Indicator</b> | <p>15 – Life on Land</p> <ul style="list-style-type: none"> <li>• 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</li> </ul> |
| <b>Data/parameter</b>         | <b>ID 7 / <math>P_{p,b,y}</math></b>   |
| <b>Unit</b>                   | Average daily dry wood fuel reduction per person-meal (tonnes/household/day)   |
| <b>Description</b>            | Specific fuel savings from an individual technology of project p against an individual technology of baseline b in year y.   |



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| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | 1,165 Kitchen Performance Tests (252 baseline and 913 project scenario) performed between 2010 and 2019 in multiple villages across 50 municipalities in 15 Departments (provinces) in Honduras. 145 of these were taken across 6 Departments during the 10 <sup>th</sup> Verification Period. (See "VP10-02 KPT Data.xlsx," "Location" worksheet.) For weighted average calculation see ER Calculations spreadsheet, "Assumption" worksheet, Cell H32. |
| <b>Value(s) of monitored parameter</b>       | 0.004601 t/household/day  |
| <b>Monitoring equipment</b>                  | Compact digital hanging scale<br>Zipper polyethylene bag<br>Moisture meter with digital readout   |
| <b>Measuring/reading/recording frequency</b> | Annual  |
| <b>Calculation method (if applicable)</b>    | Average fuel savings per person-meal, weighted on the basis of number of stoves in operation for each age group   |
| <b>QA/QC procedures</b>                      | 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.             |
| <b>Purpose of data</b>                       | Calculation of emission reductions  |
| <b>Additional comments</b>                   | Survey data is tabulated in the attached "VP10-02 KPT Data.xlsx" and parameter flows to "VP10-01 ER Calculations.xlsx," "Assumption" worksheet, Cell G20.   |

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| <b>Relevant SDG Indicator</b>      | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul>   |
| <b>Data/parameter</b>              | <b>ID 8 / Up,y</b>  |
| <b>Unit</b>                        | % of households   |
| <b>Description</b>                 | Abandonment (drop-off) rate (the number of stoves that have fallen out of use in a given age group)   |
| <b>Measured/calculated/default</b> | Measured  |
| <b>Source of data</b>              | 19,319 usage surveys collected in 1,496 villages during the 10 <sup>th</sup> Verification by Mirador supervisors on handheld devices and input directly into the Salesforce.com monitoring database, then exported and tabulated in the attachment "VP10-13 Dropoff Data.xlsx." |

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|--|--|----------|----|----------|----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|
| <b>Value(s) of monitored parameter</b>       | <p>The following monitored <i>cumulative</i> abandonment rates are applied for the 10th Verification Period:</p> <table style="margin-left: 40px;"> <tr><td>Year 0_1</td><td>4%</td></tr> <tr><td>Year 1_2</td><td>7%</td></tr> <tr><td>Year 2_3</td><td>15%</td></tr> <tr><td>Year 3_4</td><td>14%</td></tr> <tr><td>Year 4_5</td><td>38%</td></tr> <tr><td>Year 5_6</td><td>54%</td></tr> </table> <p>The average age of stove at the time of the survey for each age group is as follows:</p> <table style="margin-left: 40px;"> <tr><td>Year 0_1</td><td>0.5 years</td></tr> <tr><td>Year 1_2</td><td>1.5 years</td></tr> <tr><td>Year 2_3</td><td>2.5 years</td></tr> <tr><td>Year 3_4</td><td>3.5 years</td></tr> <tr><td>Year 4_5</td><td>4.5 years</td></tr> <tr><td>Year 5_6</td><td>5.7 years</td></tr> </table> | Year 0_1 | 4% | Year 1_2 | 7% | Year 2_3 | 15% | Year 3_4 | 14% | Year 4_5 | 38% | Year 5_6 | 54% | Year 0_1 | 0.5 years | Year 1_2 | 1.5 years | Year 2_3 | 2.5 years | Year 3_4 | 3.5 years | Year 4_5 | 4.5 years | Year 5_6 | 5.7 years |
| Year 0_1                                     | 4%   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 1_2                                     | 7%   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 2_3                                     | 15%  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 3_4                                     | 14%  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 4_5                                     | 38%  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 5_6                                     | 54%  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 0_1                                     | 0.5 years  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 1_2                                     | 1.5 years  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 2_3                                     | 2.5 years  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 3_4                                     | 3.5 years  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 4_5                                     | 4.5 years  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| Year 5_6                                     | 5.7 years  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| <b>Monitoring equipment</b>                  | Surveys compiled by handheld device and uploaded to Salesforce.com database.   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| <b>Measuring/reading/recording frequency</b> | Annual   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| <b>Calculation method (if applicable)</b>    | Total stoves abandoned out of total households surveyed  |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| <b>QA/QC procedures</b>                      | Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| <b>Purpose of data</b>                       | Calculation of emission reductions   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |
| <b>Additional comments</b>                   | 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 "VP10-13 Dropoff Data.xlsx."   |          |    |          |    |          |     |          |     |          |     |          |     |          |           |          |           |          |           |          |           |          |           |          |           |

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| <b>Relevant SDG Indicator</b>          | <p>13 – Climate Action</p> <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul> |
| <b>Data/parameter</b>                  | <b>ID 9 / LEp,y</b>  |
| <b>Unit</b>                            | %  |
| <b>Description</b>                     | 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      |
| <b>Measured/calculated/default</b>     | Measured   |
| <b>Source of data</b>                  | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period across 415 villages in 14 Departments (provinces) of Honduras.                 |
| <b>Value(s) of monitored parameter</b> | 2,797 tonnes (1%)  |

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| Monitoring equipment                  | Surveys are taken onsite via handheld device and tracked using Salesforce.com database.  |
| Measuring/reading/recording frequency | Ongoing  |
| Calculation method (if applicable)    | <p>(1) Leakage due to the replacement of efficient household heating sources was determined to be zero. Out of 924 respondents, zero answered that they use their 2x3 to heat the home outside of regular cooking activity.</p> <p>(2) Leakage due to the continued presence of a baseline stove was determined as follows:</p> <ul style="list-style-type: none"> <li>• Multiply the % of homes that have a <i>fogón</i> (17%) by the net stoves in operation, being the total stoves in the population for which ERs are being claimed, net of abandonment (102,182: see ER Sheet, cell DY53), which returns a value of 17,371 households affected.</li> <li>• Reduce 17,371 according to the percent of total cooktime during which the <i>fogón</i> is in use in those households (3%: see Leakage Sustainability Results, "Summary" sheet, Cell G19), resulting in a value of 521. This is the number of cookstove equivalents for which emissions are not reduced.</li> <li>• Multiply 521 (cookstove equivalents) by the annualized average of 2.69 ERs/stove (see ER Sheet, Row 69) = 1,402, the number of tonnes lost due to the presence of the auxiliary stove. ER claims are directly discounted by the absolute figure of 1,402 (see ER Sheet, cell DY72).</li> </ul> <p>(3) Double counting was determined as follows:</p> <ul style="list-style-type: none"> <li>• Count the total number of households surveyed for the presence of another ICS between November 2018-October 2019: 52,617</li> <li>• Count the total number of households surveyed in which another ICS was present in the household: 267</li> <li>• Divide these two figures to determine the ratio of households in which another ICS is present: 0.5%</li> <li>• Multiply 0.5% by the net stoves in operation, being the total stoves in the population for which ERs are being claimed, net of abandonment (102,182: see ER Sheet, cell DY53), which returns a value of 519 households affected.</li> <li>• Multiply 519 households by the annualized average of 2.69 ERs/stove (see ER Sheet, Row 69) = 1,395, the number of tonnes lost due to the presence of the auxiliary stove. ER claims are directly discounted by the absolute figure of 1,395 (see ER Sheet, cell DY73).</li> </ul> <p>Considering the sources of leakage identified above, including discounts to prevent double counting, total leakage for the 10th Verification Period is 2,797 VERs, which equates to 1% of gross ERs (see ER Sheet, cell DY78).</p> |
| 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   |

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| <b>Additional comments</b> | Survey data is exported from Salesforce and tabulated in the attached "VP10-09 Leakage Sustainability Results.xlsx" |
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| <b>Relevant SDG Indicator</b>                | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul>   |
| <b>Data/parameter</b>                        | <b>ID 10 / LEp,y – Leakage due to Transportation</b>  |
| <b>Unit</b>                                  | %   |
| <b>Description</b>                           | Assess leakage due to transportation  |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | Mileage records; transportation and maintenance records maintained and tabulated by the Assistant to the Director of Operations during the course of the 10 <sup>th</sup> Verification, including all vehicle types in use by the project at all levels (large trucks, light trucks and motorcycles).   |
| <b>Value(s) of monitored parameter</b>       | 0%  |
| <b>Monitoring equipment</b>                  | Vehicle odometers   |
| <b>Measuring/reading/recording frequency</b> | Mileage records track miles driven on an ongoing basis for each vehicle, and the results are tabulated annually.  |
| <b>Calculation method (if applicable)</b>    | <p>A standard online carbon calculator is used to calculate the total CO<sub>2</sub> 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.</p> <p>Transportation records for all Mirador vehicles are tabulated in the attached "VP10-14 Transportation Summary.xlsx" showing Mirador vehicles collectively drove 393,435 km (or 244,469 miles) during the 10<sup>th</sup> Verification Period. Mileage was recorded for 3 vehicle types (motorcycles, light pickups and delivery trucks) and emissions were assessed accordingly. Altogether the project emitted 92.92 tonnes of CO<sub>2</sub> due to transportation during the 10<sup>th</sup> Verification Period (see Cell E4, Summary sheet). That figure equates to 0.03% of the total emissions claimed, so it is disregarded as <i>de minimis</i>. (Source: <a href="http://www.nativeenergy.com/travel.html">http://www.nativeenergy.com/travel.html</a>).</p> |
| <b>QA/QC procedures</b>                      | Vehicle odometer checks at each instance of reporting   |
| <b>Purpose of data</b>                       | Calculation of project emissions  |
| <b>Additional comments</b>                   | 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.   |

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| <b>Relevant SDG Indicator</b>                               | 7 – Affordable and Clean Energy <ul style="list-style-type: none"> <li>7.3.1 Energy intensity measured in terms of primary energy and GDP</li> </ul>  |
| <b>Data/parameter</b>                                       | <b>ID 11 / % reduction in release of PM2.5</b>  |
| <b>Unit</b>   | %   |
| <b>Description</b>  | Measurement of the reduction of PM2.5 emissions resulting from cookstove intervention.  |
| <b>Source of data</b>                                       | McCarty, Nordica & Still, Dean, “Results of Testing the Overlook Foundation Justa Stoves Including the ‘2 By 3’ Stove: Fuel Use and Carbon/CO <sub>2eq</sub> Savings” (2009)  |
| <b>Value(s) applied</b>                                     | 79%   |
| <b>Choice of data or Measurement methods and procedures</b> | 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 (CO <sub>2</sub> ), carbon monoxide (CO) and particulate matter (PMTSP) are recorded. |
| <b>Purpose of data</b>                                      | Assess sustainability   |
| <b>Additional comment</b>                                   | 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.   |

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| <b>Relevant SDG Indicator</b>                               | 3 – Good Health and Well Being <ul style="list-style-type: none"> <li>3.9.1 Mortality rate attributed to household and ambient air pollution</li> </ul>  |
| <b>Data/parameter</b>                                       | <b>ID 12 / % reduction in personal exposure to PM2.5</b>   |
| <b>Unit</b>   | %  |
| <b>Description</b>  | Measurement of the reduction of personal exposure to PM2.5 (as opposed to the overall reduction to PM2.5) resulting from cookstove intervention.   |
| <b>Source of data</b>                                       | Lefebvre, Olivier, “Health Impact of Proyecto Mirador 2x3 Stove” (2018)  |
| <b>Value(s) applied</b>                                     | 47%  |
| <b>Choice of data or Measurement methods and procedures</b> | 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. |
| <b>Purpose of data</b>                                      | Assess sustainability  |
| <b>Additional comment</b>                                   | 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.               |

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| <b>Relevant SDG Indicator</b>                | 1 – No Poverty <ul style="list-style-type: none"> <li>1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</li> </ul>      |
| <b>Data/parameter</b>                        | <b>ID 13 / Time saved collecting fuelwood</b>   |
| <b>Unit</b>                                  | Hours/week  |
| <b>Description</b>                           | For clients who collect their own wood, PP will monitor how much time they have saved, and how they invest the time saved.  |
| <b>Measured/calculated/default</b>           | Calculated  |
| <b>Source of data</b>                        | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period in multiple villages across 114 villages in 14 Departments (provinces) of Honduras. |
| <b>Value(s) of monitored parameter</b>       | 4.52 (a reduction of 44%)   |
| <b>Monitoring equipment</b>                  | Surveys are taken onsite via handheld device and tracked using Salesforce.com database.   |
| <b>Measuring/reading/recording frequency</b> | Ongoing   |
| <b>Calculation method (if applicable)</b>    | Subtract average time spent collecting wood in the project scenario from average time spent collecting wood in baseline scenario.   |
| <b>QA/QC procedures</b>                      | Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.  |
| <b>Purpose of data</b>                       | Assess sustainability   |
| <b>Additional comments</b>                   | <i>Cross-reference to GS v2.2 documentation:<br/>ID 12 – Livelihood of the poor; ID 13 – Human &amp; Institutional Capacity</i>   |

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| <b>Relevant SDG Indicator</b>                | 1 – No Poverty <ul style="list-style-type: none"> <li>1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions</li> </ul>      |
| <b>Data/parameter</b>                        | <b>ID 14 / Money saved purchasing fuelwood</b>  |
| <b>Unit</b>                                  | US Dollars  |
| <b>Description</b>                           | 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.                                    |
| <b>Measured/calculated/default</b>           | Calculated  |
| <b>Source of data</b>                        | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period in multiple villages across 114 villages in 14 Departments (provinces) of Honduras. |
| <b>Value(s) of monitored parameter</b>       | US\$ 2.15 (53 Honduran Lempiras) per week per HH, a reduction of 50%  |
| <b>Monitoring equipment</b>                  | Surveys are taken onsite via handheld device and tracked using Salesforce.com database.   |
| <b>Measuring/reading/recording frequency</b> | Ongoing   |

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

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| <b>Relevant SDG Indicator</b>                | 2 – Zero Hunger <ul style="list-style-type: none"> <li>2.1.1 Prevalence of undernourishment</li> </ul>  |
| <b>Data/parameter</b>                        | <b>ID 15 / % of people reporting they used money saved purchasing fuelwood to buy food</b>  |
| <b>Unit</b>                                  | %   |
| <b>Description</b>                           | For clients who report saving money due to the reduction in fuelwood purchased, PP will monitor how the saved funds are spent.  |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period in multiple villages across 114 villages in 14 Departments (provinces) of Honduras.   |
| <b>Value(s) of monitored parameter</b>       | 59%   |
| <b>Monitoring equipment</b>                  | Surveys are taken onsite via handheld device and tracked using Salesforce.com database.   |
| <b>Measuring/reading/recording frequency</b> | Ongoing   |
| <b>Calculation method (if applicable)</b>    | N/A   |
| <b>QA/QC procedures</b>                      | Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.  |
| <b>Purpose of data</b>                       | Assess sustainability   |
| <b>Additional comments</b>                   | 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.<br><br><i>Cross-reference to GS v2.2 documentation:<br/>ID 12 – Livelihood of the poor; ID 13 – Human &amp; Institutional Capacity<br/>Cross-reference to GS v2.2 documentation:<br/>ID 12 – Livelihood of the poor; ID 13 – Human &amp; Institutional Capacity</i> |

|                                       |   |
|---------------------------------------|---|
| Relevant SDG Indicator                | 7 – Affordable and Clean Energy <ul style="list-style-type: none"> <li>7.3.1 Energy intensity measured in terms of primary energy and GDP</li> </ul>  |
| Data/parameter                        | <b>ID 16 / % of households that report the air inside the home is cleaner</b>   |
| 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                        | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period in multiple villages across 114 villages in 14 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                   | <i>Cross-reference to GS v2.2 documentation:<br/>ID 11 – Air Quality</i>  |

|                                       |  |
|---------------------------------------|--|
| Relevant SDG Indicator                | 4 – Quality Education <ul style="list-style-type: none"> <li>4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex</li> </ul> |
| Data/parameter                        | <b>ID 17 / Training hours provided per year</b>  |
| 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 "VP10-17 Training Data.xlsx").   |
| Value(s) of monitored parameter       | 676 hours  |
| Monitoring equipment                  | N/A  |
| Measuring/reading/recording frequency | Ongoing  |
| Calculation method (if applicable)    | N/A  |



|                            |   |
|----------------------------|---|
| <b>QA/QC procedures</b>    | Human resources specialist tracks all hours spent by Mirador employees and associates in various types of training and/or certification programs.   |
| <b>Purpose of data</b>     | Assess sustainability   |
| <b>Additional comments</b> | <p><i>Cross-reference to GS v2.2 documentation:<br/>ID 16 – Technology Transfer</i></p> <p>Trainings conducted during the 10<sup>th</sup> Verification Period:</p> <ul style="list-style-type: none"> <li>• 07/12/2018: Technician training – feedback &amp; review (9 trainees)*</li> <li>• 07/01/2019: Workshop for Inspectors – responsibilities &amp; procedures</li> <li>• 02/2019: Workshop for aspiring Technicians – company culture, requirements to build a 2x3 stove, construction materials, practice building stoves, written evaluation</li> <li>• 28/02/2019: Knowledge review &amp; validation for Technicians — How to build a 2x3, construction materials &amp; practice, how to provide training to stove beneficiaries</li> <li>• 03/04/2019: Training for Ejecutores regarding the selection and training of new technicians</li> <li>• 01/05/2019 &amp; 11/06/2019: Workshop for aspiring Technicians – company culture, requirements to build a 2x3 stove, construction materials, practice building stoves, written evaluation</li> <li>• 29/05/2019 – 03/06/2019: New supervisor training – Procedures, contracts, use of technology, field training</li> <li>• 01/07/2019 – 05/07/2019: New supervisor training – Procedures, contracts, use of technology, field training</li> <li>• 07/10/2019 – 11/10/2019: Training new Ejecutores &amp; team of technicians</li> </ul> <p>*All trainings marked with an asterisk (*) signify continuing education of existing employees.</p> |

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| <b>Relevant SDG Indicator</b>          | 5 – Gender Equality <ul style="list-style-type: none"> <li>• 5.5.2 Proportion of women in managerial positions</li> </ul>      |
| <b>Data/parameter</b>                  | <b>ID 18 / Proportion of employees who are women</b>   |
| <b>Unit</b>                            | %  |
| <b>Description</b>                     | Employment records showing the proportion of women employed, by job type   |
| <b>Measured/calculated/default</b>     | Measured   |
| <b>Source of data</b>                  | Employment records provided by Director of Human Resources (see “VP10-12 Quantitative Employment.xlsx” – “Mujeres” worksheet). |
| <b>Value(s) of monitored parameter</b> | 36% (direct employees)<br>7% (overall, including all field personnel)  |

|  |   |
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| <b>Monitoring equipment</b>                  | N/A   |
| <b>Measuring/reading/recording frequency</b> | Ongoing   |
| <b>Calculation method (if applicable)</b>    | N/A   |
| <b>QA/QC procedures</b>                      | Human resource specialist maintains ongoing log of direct and indirect employees by employee type   |
| <b>Purpose of data</b>                       | Assess sustainability   |
| <b>Additional comments</b>                   | <p>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. In VP10 the number of female employees in our direct workforce increased by 7%, and the overall number of female employees increased by 1%.</p> <p><i>Cross-reference to GS v2.2 documentation:<br/>ID 15 – Quantitative Employment and Income Generation</i></p> |

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| <b>Relevant SDG Indicator</b>                | 5 – Gender Equality <ul style="list-style-type: none"> <li>5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women’s empowerment</li> </ul>       |
| <b>Data/parameter</b>                        | <b>ID 19 / Improvement in Cooking Times</b>   |
| <b>Unit</b>                                  | %   |
| <b>Description</b>                           | Qualitative surveys to determine if the 2x3 cooks faster, slower or the same  |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period in multiple villages across 114 villages in 14 Departments (provinces) of Honduras. |
| <b>Value(s) of monitored parameter</b>       | 99%   |
| <b>Monitoring equipment</b>                  | Surveys are taken onsite via handheld device and tracked using Salesforce.com database.   |
| <b>Measuring/reading/recording frequency</b> | Ongoing   |
| <b>Calculation method (if applicable)</b>    | % of respondents that say the Dos por Tres cooks faster   |
| <b>QA/QC procedures</b>                      | Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.  |
| <b>Purpose of data</b>                       | Assess sustainability   |

|                            |   |
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| <b>Additional comments</b> | <p>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.</p> <p>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.<sup>7</sup></p> |
|----------------------------|---|

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|--|--|
| <b>Relevant SDG Indicator</b>                | <p>5 – Gender Equality</p> <ul style="list-style-type: none"> <li>5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women’s empowerment</li> </ul> |
| <b>Data/parameter</b>                        | <b>ID 20 / % of users who say there is something they don’t like about the stove</b>   |
| <b>Unit</b>                                  | %  |
| <b>Description</b>                           | Qualitative surveys to demonstrate the % of users who say there is something they don’t like about the stove   |
| <b>Measured/calculated/default</b>           | Measured   |
| <b>Source of data</b>                        | 924 Leakage and Sustainability Surveys collected by Mirador supervisors in the 10 <sup>th</sup> verification period in multiple villages across 114 villages in 14 Departments (provinces) of Honduras.  |
| <b>Value(s) of monitored parameter</b>       | 1%   |
| <b>Monitoring equipment</b>                  | Surveys are taken onsite via handheld device and tracked using Salesforce.com database.  |
| <b>Measuring/reading/recording frequency</b> | Ongoing  |
| <b>Calculation method (if applicable)</b>    | N/A  |
| <b>QA/QC procedures</b>                      | Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.   |
| <b>Purpose of data</b>                       | Assess sustainability  |
| <b>Additional comments</b>                   | 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.   |

|                               |  |
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| <b>Relevant SDG Indicator</b> | <p>8 – Decent Work and Economic Growth</p> <ul style="list-style-type: none"> <li>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</li> </ul> |
| <b>Data/parameter</b>         | <b>ID 21 / % of Mirador employees and microenterprises who report they are satisfied with their jobs</b>   |
| <b>Unit</b>                   | %  |

<sup>7</sup> Lefebvre, Olivier (Climate Solutions), “Health Impact of Proyecto Mirador 2x3 Stove” (2018)

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| <b>Description</b>                           | Results of qualitative annual survey to employees showing job satisfaction  |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | Online survey administered by Director of Human Resources. Raw data for the employee survey is provided in the file "VP10-10 Employee Survey Export.xlsx," and the survey template is provided as "VP10-11 Employee Questionnaire.pdf." |
| <b>Value(s) of monitored parameter</b>       | 96%   |
| <b>Monitoring equipment</b>                  | Annual qualitative survey administered electronically or on paper and tabulated electronically.   |
| <b>Measuring/reading/recording frequency</b> | Annual  |
| <b>Calculation method (if applicable)</b>    | N/A   |
| <b>QA/QC procedures</b>                      | Surveys are taken onsite, results are corroborated by visual inspection and tracked using Salesforce.com database.  |
| <b>Purpose of data</b>                       | Assess sustainability   |
| <b>Additional comments</b>                   | <i>Cross-reference to GS v2.2 documentation:<br/>ID 14 – Quality of Employment</i>  |

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| <b>Relevant SDG Indicator</b>                | 8 – Decent Work and Economic Growth <ul style="list-style-type: none"> <li>8.5.2 Unemployment rate, by sex, age and persons with disabilities</li> </ul> |
| <b>Data/parameter</b>                        | <b>ID 22 / Quantitative employment by job type</b>   |
| <b>Unit</b>                                  | Number of Employees  |
| <b>Description</b>                           | Employment records showing the number of people employed by the project (direct and indirect)  |
| <b>Measured/calculated/default</b>           | Measured   |
| <b>Source of data</b>                        | Employment records provided by Director of Human Resources (see "VP10-12 Quantitative Employment.xlsx" – "Empleados" worksheet).                         |
| <b>Value(s) of monitored parameter</b>       | 174  |
| <b>Monitoring equipment</b>                  | N/A  |
| <b>Measuring/reading/recording frequency</b> | Ongoing  |
| <b>Calculation method (if applicable)</b>    | N/A  |
| <b>QA/QC procedures</b>                      | Human resource specialist maintains ongoing log of direct and indirect employees by employee type  |
| <b>Purpose of data</b>                       | Assess sustainability  |
| <b>Additional comments</b>                   | <i>Cross-reference to GS v2.2 documentation:<br/>ID 15 – Quantitative Employment and Income Generation</i>   |

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| <b>Relevant SDG Indicator</b>                | 13 – Climate Action <ul style="list-style-type: none"> <li>13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population</li> </ul> |
| <b>Data/parameter</b>                        | <b>ID 23 / Tonnes of CO<sub>2</sub> reduced</b>   |
| <b>Unit</b>                                  | mtCO <sub>2</sub> e   |
| <b>Description</b>                           | Number of tonnes of CO <sub>2</sub> reduced in a given monitoring period  |
| <b>Measured/calculated/default</b>           | Measured  |
| <b>Source of data</b>                        | Emission reduction calculations, as detailed and applied in the validated file “VP10-01 ER Calculations.xlsx.”  |
| <b>Value(s) of monitored parameter</b>       | 275,890   |
| <b>Monitoring equipment</b>                  | N/A   |
| <b>Measuring/reading/recording frequency</b> | Annual  |
| <b>Calculation method (if applicable)</b>    | Detailed in ER Calculations spreadsheet   |
| <b>QA/QC procedures</b>                      | 3 <sup>rd</sup> -party VVB verification; Sustain-Cert review  |
| <b>Purpose of data</b>                       | Assess sustainability; calculation of baseline and project emissions  |
| <b>Additional comments</b>                   | 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 10th Verification Period.

## Leakage and Sustainability Survey

During the 10th Verification Period 924 Leakage and Sustainability surveys were administered across 415 villages in 14 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. 36% of the surveys (333 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 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 10<sup>th</sup> Verification Period are as follows:

| Stove Age Group | # of Drop-off surveys | # of villages included | Minimum size achieved? |
|-----------------|-----------------------|------------------------|------------------------|
| 0_1 Years       | 13,764                | 621                    | Yes                    |
| 1_2 Years       | 3,857                 | 285                    | Yes                    |
| 2_3 Years       | 1,508                 | 160                    | Yes                    |
| 3_4 Years       | 50                    | 8                      | Yes                    |
| 4_5 Years       | 88                    | 20                     | Yes                    |
| 5_6 Years       | 52                    | 4                      | 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 81% (see “VP10-18 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

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such that the photos 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 19,319 usage surveys in the 10<sup>th</sup> VP, indicating we would be required to call between 966 and 1,932 households, which is not practical. 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 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



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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

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(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 “VP10-03 KPT Data Sheet SPANISH.pdf” and “VP10-04 KPT Data Sheet ENGLISH.pdf” show the actual data sheets used during the four-day KPT and “VP10-05 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 10<sup>th</sup> 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 877 project scenario KPTs in 15 departments.

| Stove Age Group | # of KPTs in 10 <sup>th</sup> VP | # of KPTs overall | Statistical confidence satisfied? |
|-----------------|----------------------------------|-------------------|-----------------------------------|
| 0_1 Years       | 30                               | 136               | Yes                               |
| 1_2 Years       | 42                               | 121               | Yes                               |
| 2_3 Years       | 17                               | 148               | Yes                               |
| 3_4 Years       | 17                               | 176               | Yes                               |
| 4_5 Years       | 6                                | 141               | Yes                               |
| 5_6 Years       | 33                               | 155               | 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 10<sup>th</sup> Verification Period, Mirador reports a leakage factor of 1%.

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 10<sup>th</sup> Verification Period 912 households were assessed for the presence of an auxiliary *fogón*. A traditional *fogón* was still present in 151 of households surveyed (17%). Among those households, the *fogón* was in use an average of 1.93 hours/week, whereas the Dos por Tres was in use 7.77 hours per day, 7 days a week (total 54.39 hours per week). Thus, the *fogón* was responsible for just 3% of total cooking times in 17% of households (precise calculation without respect to rounding error). 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.<sup>8</sup>

*(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.*

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<sup>8</sup> Mongabay Environmental News, "Honduras." <http://rainforests.mongabay.com/deforestation/archive/Honduras.htm>

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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 10<sup>th</sup> Verification Period 924 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 respondents, zero answered that they use their 2x3 to heat the home outside of regular cooking activity.

*(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<sub>2</sub> 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 "VP10-13 Dropoff Data.xlsx." Cumulative abandonment rates (as provided in Parameter ID6) are applied in the document "VP10-01 ER Calculations.xlsx" and are in turn used to determine project technology-days.

### Project Field Test

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Fuelwood consumption data from 877, 4-day project KPTs is compiled and summarized in the document "VP10-02 KPT Data.xlsx." These project KPTs, which were collected from 2010 to the present, include 145 new KPTs from the 10th 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 10th Verification Period 924 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 23,000.

### 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  $\pm 30\%$  of the estimated mean. The statistical analysis is provided in the file "VP10-09 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 10<sup>th</sup> Verification Period 924 surveys were collected across 415 villages in 14 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

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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 4 and 737 separate villages per age group).

### Project Field Test

Households from 12 separate villages in 6 Departments were included in the new data set 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 "VP10-09 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 48-hour 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.

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- 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.

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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



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“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.

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## 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  $\mu\text{g}/\text{m}^3$ , 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  $\mu\text{g}/\text{m}^3$ . Baseline and project values, expressed in  $\mu\text{g}/\text{m}^3$ , were compared directly to determine the % reduction in personal exposure to PM2.5. The exposure to PM2.5 is reduced from 221  $\mu\text{g}/\text{m}^3$  to 117  $\mu\text{g}/\text{m}^3$  (47% reduction).<sup>9</sup>

## 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.

## 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.

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<sup>9</sup> LeFebvre, Olivier, "Health Impact of Proyecto Mirador 2x3 Stove" (2018)

## 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 during the 10<sup>th</sup> Verification Period, 4% of our clients reported that there are days in the year when the stove is not in use. Of those 4%, the average number of days per year when the stove is not in use is 17.03 days. When averaged over the entire survey population, there is 0.70 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*

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project activity in year y are calculated as follows:

$$ER_y = \sum_{b,p} (N_{p,y} * U_{p,y} * P_{p,b,y} * NCV_{b,fuel} * (fNRB_{b,y} * EF_{fuel,CO_2} + EF_{fuel,nonCO_2})) - \sum LE_{p,y} \quad (1)$$

Emission reduction calculations are applied according to the above equation and provided in the attached file, "VP10-01 ER Calculation.xlsx."

A total of 275,890 tonnes of emission reductions are claimed in the 10th Verification Period (net of leakage), based on a gross number of 278,687 before leakage was applied.

The breakdown of gross emission reductions (before leakage) by vintage and CP is as follows (ER sheet, Cell DN74 (2018) & Cells DO65:DY65 (2019)):

|                    |  |
|--------------------|--|
| CP2, Vintage 2018: | 23,948 = 8.6% of total gross ER (ER sheet, Cell DN65)                |
| CP2, Vintage 2019: | <u>254,739 = 91.4% of total gross ER (ER sheet, Cells DO65:DY65)</u> |
| Gross total ER:    | 278,687  |

Net emissions (after leakage) by vintage are calculated by applying the same proportion to the net total (ER Sheet, Cells DW74:DY74):

|                      |                |
|----------------------|----------------|
| CP2, Vintage 2018:   | 23,708         |
| CP2, Vintage 2019:   | <u>252,182</u> |
| Net total emissions: | 275,890        |

## SDG #15 – Life on Land

### Parameters ID 5, 7

- For ID 5 – fNRB<sub>b,y</sub>, as fNRB is by definition a baseline value, project vs. baseline calculation is not applicable. Baseline fNRB value is reported.
- For ID 7 – P<sub>p,b,y</sub>, 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 <sub>2e</sub> ) | Project emissions or actual net GHG removals by sinks (tCO <sub>2e</sub> ) | Leakage (tCO <sub>2e</sub> ) | GHG emission reductions or net GHG removals by sinks (tCO <sub>2e</sub> ) achieved in the monitoring period |                 |              |
|------------------------------------|---|--|------------------------------|---|-----------------|--------------|
|                                    |   |  |                              | Up to 31/12/2012  | From 01/01/2013 | Total amount |
| VPA1                               | *   | *  | 1%                           | N/A   | 275,890         | 275,890      |
| Total                              | *   | *  | 1%                           | N/A   | 275,890         | 275,890      |

## 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  | 275,890  |
| <b>Total</b>                       | 406,231  | 275,890  |

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

Based on the validated ER spreadsheet, 406,231 tonnes were estimated for the 10<sup>th</sup> Verification Period at the time of validation. 275,890 tonnes were actually reduced during the 10<sup>th</sup> Verification Period (see attached “VP10-01 ER Calculations,” “ER Sheet” worksheet, cell DY74).

The difference is attributed to several factors, including:

- A reduction in stove build quotas from 2015-2018 in response to devaluation in the carbon market has resulted in a reduction in residual VERs for stoves built in those years.
- The country’s political situation is such that strikes, protests and blockades interrupt the stove building agenda on a regular basis.
- Unusual rains in Fall 2018 affected access to many of the rural areas; many roads continue to remain in poor condition and there have been delays in the transport of materials.
- Some resources were recommitted in 2019 to establishing operations in Guatemala and Nicaragua.

This 10<sup>th</sup> Verification Period (01/12/2018 – 30/11/2019) falls entirely within the 2<sup>nd</sup> 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 10<sup>th</sup> 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 VP10-15 Stakeholder Comment Log.xlsx) and anonymously restated below.

English translations are provided below the original Spanish.

### 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

| Date     | Comment  | Request           | Form of Resolution   | Mirador Response  | Resolved<br>1=yes,<br>2=no |
|----------|--|-------------------|--|---|----------------------------|
| 12/10/18 | No me calentaba la estufa<br>My stove wasn't heating up  | Revisar<br>Review | Hizo mantenimiento preventivo y quito un tubo.<br>Did preventative maintenance and and discarded a tube. | Enviar la supervisora<br>Send the supervisor            | 1                          |
| 12/10/18 | Hoy me calienta muy bien y le doy mantenimiento adecuado<br>Today it heats up very well and I do adequate maintenance  | Ninguna<br>None   | El Supervisor agradeció el comentario<br>The supervisor thanked them for the comment                     | Enviar la supervisora<br>Send the supervisor            | 1                          |
| 1/14/19  | Es muy buena no gasta mucha leña y economizo mas<br>It is very good, does not spend much firewood and saves more   | Ninguna<br>None   | Agradecer su opinión<br>Thank for their opinion  | Visita del Supervisor<br>Supervisory visit              | 1                          |
| 1/14/19  | Excelente la estufa funciona muy bien y economizo leña<br>Excellent the stove works very well and I save firewood  | Ninguna<br>None   | Agradecer su opinión<br>Thank for their opinion  | Visita del Supervisor<br>Supervisory visit              | 1                          |
| 1/15/19  | La Estufa es excelente porque no me gasta mucha leña y para cocer los alimentos en mu y rápido [es muy rapido]<br>The Stove is excellent because I don't use a lot of firewood and to cook the food is very fast | Ninguna<br>None   | Agradecer su opinión<br>Thank for their opinion  | Visita del Supervisor<br>Supervisory visit              | 1                          |
| 1/15/19  | La única disconformidad es que rajo la parte frontal de la Estufa<br>The only nonconformity is that the front of the Stove is cracked  | Revisar<br>Review |  | Crear caso en el Sistema<br>Create a case in the system | 0                          |
| 1/21/19  | No gasta leña y cocina muy rápido<br>Does not waste firewood and cook very fast  | Ninguna<br>None   | Agradecer su opinión<br>Thank for their opinion  | Visita del Supervisor<br>Supervisory visit              | 1                          |



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|         |  |                 |   |  |   |
|---------|--|-----------------|---|--|---|
| 1/23/19 | Muy agradecida por la estufa no quema mucha leña y no hay humo<br>Very grateful for the stove, does not burn much wood and there is no smoke   | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |
| 1/24/19 | Muy agradecida con Proyecto Mirador y con Dios por la Estufa que ha sido de gran bendición<br>Very grateful to Proyecto Mirador and to God for the stove which has been a great blessing     | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |
| 2/4/19  | Muy satisfecha con la estufa 2x3 del Proyecto Mirador les agradezco y bendiciones por su ayuda<br>Very satisfied with the Proyecto Mirador 2x3 stove I thank you and bless you for your help | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |
| 2/11/19 | Estoy agradecida por la Estufa 2x3 me gusta.<br>I am grateful for the 2x3 stove, I like it.  | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |
| 2/12/19 | La estufa del Proyecto Mirador me gusta porque es muy rápida para preparar la comida<br>I like the Proyecto Mirador stove because it is very fast to prepare food                            | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |
| 2/12/19 | Me gusta mucho la 2x3 porque cocino rápido y economizo leña y hay menos humo<br>I really like 2x3 because I cook fast and save wood and there is less smoke                                  | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |
| 2/14/19 | La Estufa es muy buena economiza leña calienta rápido y no hay humo.<br>The Stove is very good, it economizes firewood, heats fast and there is no smoke.                                    | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion | Visita del Supervisor<br>Supervisory visit | 1 |

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|         |  |                 |   |  |   |
|---------|--|-----------------|---|--|---|
| 2/14/19 | Me siento muy agradecida y les doy gracias por la Estufa 2x3<br>I feel very grateful and I thank you for the 2x3 Stove   | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion   | Visita del Supervisor<br>Supervisory visit                                       | 1 |
| 2/15/19 | Gracias Proyecto Mirador mi estufa es excelente<br>Thanks Proyecto Mirador, my stove is excellent  | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion   | Visita del Supervisor<br>Supervisory visit                                       | 1 |
| 2/15/19 | Estoy muy agradecida porque ahora no gasto mucha leña.<br>I am very grateful because now I don't spend much wood.  | Ninguna<br>None | Agradecer su opinión<br>Thank for their opinion   | Visita del Supervisor<br>Supervisory visit                                       | 1 |
| 2/28/19 | Agradezco al Proyecto Mirador porque ha mejorado mi negocio y mi calidad de vida.<br>I thank Proyecto Mirador because it has improved my business and my quality of life.                            | N/A             | Agradecer su opinión<br>Thank for their opinion   | Visita del Supervisor<br>Supervisory visit                                       | 1 |
| 2/28/19 | Muy buena estufa, rápida para cocinar ahorrativa de leña y evita el humo.<br>Very good stove, fast to cook, saving of wood and avoids smoke.   | N/A             | Visita del supervisor<br>Supervisory visit  | Agradecer el comentario<br>Thank them for the comment                            | 1 |
| 3/7/19  | Agradecemos a Dios por tener una estufa 2x3 nos ahorramos mucha leña.<br>Gracias por esta oportunidad<br>We thank God for having a 2x3 stove, we save a lot of firewood. Thanks for this opportunity | N/A             | Agradecer su comentario<br>Thank for their comment  | Visita del Supervisor<br>Supervisory visit                                       | 1 |
| 3/12/19 | Estoy agradecida por la Estufa 2x3<br>I am grateful for the 2x3 stove  | N/A             | Agradecer su opinión<br>Thank for their opinion   | Visita del Supervisor<br>Supervisory visit                                       | 1 |
| 3/13/19 | El técnico andaba muy a la carrera construyendo<br>The technician was very on the run building [building in a hurry]   | N/A             | El ejecutor debe estar mas cerca del trabajo del técnico<br>The Ejecutor should be closer to the work of the technician | Comunicar al ejecutor la situación.<br>Communicate the situation to the Ejecutor | 1 |

|                       |   |            |  |   |                 |
|-----------------------|---|------------|--|---|-----------------|
| <p><b>3/18/19</b></p> | <p>Con el Proyecto me siento alegre porque yo no tenia estufa, ahorro leña y no recibo humo, cocino mas rápido y agradezco al Proyecto Mirador haber venido a este lugar<br/>With the Project I feel happy because I didn't have a stove, I save wood and I don't get smoke, I cook faster and I thank Proyecto Mirador for coming to this place</p>              | <p>N/A</p> | <p>Visita del Supervisor<br/>Visita del supervisor<br/>Supervisory visit</p> | <p>Agradecer la opinión.<br/>Thank them for the opinion</p> | <p><b>1</b></p> |
| <p><b>3/23/19</b></p> | <p>Agradezco al supervisor por su visita ya que resolvió los problemas que yo tenia con la estufa.<br/>I thank the supervisor for his visit since he solved the problems I had with the stove.</p>  | <p>N/A</p> | <p>Se hizo mantenimiento a la estufa<br/>Did maintenance on the stove</p>    | <p>Visita del Supervisor<br/>Supervisory visit</p>          | <p><b>1</b></p> |
| <p><b>4/1/19</b></p>  | <p>Es un regalo especial lo mejor para mi. Excelente mi estufa.<br/>It is a special gift, the best for me. My stove is excellent</p>  | <p>N/A</p> | <p>Visita del supervisor<br/>Supervisory visit</p>                           | <p>Agradecer la opinión.<br/>Thank them for the opinion</p> | <p><b>1</b></p> |
| <p><b>4/2/19</b></p>  | <p>Es ahorrativa no quema mucha leña es saludable y me gusta mucho.<br/>It is thrifty, not burning a lot of firewood, it is healthy and I like it a lot.</p>  | <p>N/A</p> | <p>Visita del supervisor<br/>Supervisory visit</p>                           | <p>Agradecer la opinión.<br/>Thank them for the opinion</p> | <p><b>1</b></p> |
| <p><b>4/4/19</b></p>  | <p>Gracias al Proyecto Mirador por darnos la Estufa 2x3, es muy buena, ahorra leña, hay menos humo y hago oficio en un 2x3. Espero que podamos lograr mas Proyecto.<br/>Thanks to Proyecto Mirador for giving us the 2x3 Stove, it is very good, saves firewood, there is less smoke and I operate a business with a 2x3. I hope we can achieve more Project.</p> | <p>N/A</p> | <p>Visita del Supervisor<br/>Supervisory visit</p>                           | <p>Agradecer la opinión.<br/>Thank them for the opinion</p> | <p><b>1</b></p> |

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|         |  |                                |  |  |   |
|---------|--|--------------------------------|--|--|---|
| 4/5/19  | La estufa es muy buena porque ahorra leña<br>The stove is very good because it saves firewood  | N/A                            | Visita del Supervisor<br>Supervisory visit   | Agradecer la opinión.<br>Thank them for the opinion  | 1 |
| 4/6/19  | Gracias por la Estufa 2x3 es beneficiosa para cada persona. Gracias y muchas bendiciones.<br>Thank you for the 2x3 Stove, it is beneficial for each person. Thank you and many blessings.  | N/A                            | Visita de supervisión<br>Supervisory visit   | Agradecer su comentario<br>Thank them for the comment  | 1 |
| 4/9/19  | La plancha de la estufa no sirve me gustaría que me puedan donar otra ya que la estufa es muy buena<br>The stovetop does not work I would like you to donate another one since the stove is very good  | Otras plancha<br>Other plancha | El supervisor le explico como hacer para adquirir otra plancha.<br>The supervisor explained how to acquire another plancha | Explicar el proceso para adquirir otra plancha<br>Explain the process to acquire another plancha | 1 |
| 4/22/19 | Estamos super agradecidas por la Estufa. Muy buen Proyecto ayuda mucho en el hogar. Lo necesitaba bastante la uso todos los días. Muchas Gracias y que Dios les bendiga.<br>We are super grateful for the Stove. Very good project, helps a lot at home. I needed it a lot every day. Thank you very much and God bless you. | N/A                            | Visita de Supervisión<br>Supervisory visit   | Agradecer el comentario<br>Thank them for the comment  | 1 |
| 4/23/19 | Me siento agradecido porque el proyecto entro en mi aldea<br>I feel grateful because the project entered my village  | Ninguna<br>None                | Visita de Supervisión<br>Supervisory visit   | Agradecer su opinión<br>Thank them for the opinion   | 1 |

|         |   |     |  |   |   |
|---------|---|-----|--|---|---|
| 4/23/19 | <p>Le doy gracias a Dios y al Proyecto Mirador por haber venido a cambiarme la vida por completo. Mi estufa es única no la cambiaría por nada porque a mi y a la familia nos ha llenado de bienestar y tranquilidad . Gracias al Señor me tomaron en cuenta</p> <p>I thank God and Proyecto Mirador for having come to change my life completely. My stove is unique, I would not change it for anything because it has filled us with well-being and tranquility. Thank the Lord they took me into account</p> | N/A | Visita del Supervisor<br>Supervisory visit | Agradecer su comentario<br>Thank them for the comment | 1 |
| 4/24/19 | <p>Me siento muy agradecida con el Proyecto la estufa es buena para cocinar.</p> <p>I feel very grateful to the Project, the stove is good for cooking.</p>   | N/A | Visita del Supervisor<br>Supervisory visit | Agradecer su comentario<br>Thank them for the comment | 1 |
| 4/24/19 | <p>Me siento muy agradecida porque el proyecto llego a mi aldea</p> <p>I feel very grateful because the project came to my village</p>  | N/A | Visita del Supervisor<br>Supervisory visit | Agradecer su comentario<br>Thank them for the comment | 1 |
| 4/25/19 | <p>Me siento agradecida con la estufa que me ha funcionado bien.</p> <p>I feel grateful for the stove that worked well for me.</p>  | N/A | Visita de Supervisor<br>Supervisory visit  | Agradecer su opinión<br>Thank them for the opinion    | 1 |
| 4/26/19 | <p>Es buena porque se ahorra leña y se cocina mas rápido y no hay humo</p> <p>It is good because it saves firewood and cooks faster and there is no smoke</p>   | N/A | Visita de Supervisión<br>Supervisory visit | Agradecer su opinión<br>Thank them for the opinion    | 1 |

|         |   |     |  |   |   |
|---------|---|-----|--|---|---|
| 5/8/19  | La estufa es buena gasta poca leña gracias Proyecto Mirador<br>The stove is good, uses little wood, thanks Proyecto Mirador   | N/A | Agradecer su opinión.<br>Thank for their opinion | Visita de Supervisión<br>Supervisory visit            | 1 |
| 5/13/19 | Me calienta bien y es mejor que la que tenía<br>It heats up well and is better than the one I had   | N/A | Vista de Supervisión<br>Supervisory visit        | Agradecer el comentario<br>Thank them for the comment | 1 |
| 5/13/19 | Gracias primero a Dios después a la Institución que nos donó la Estufa 2x3. Me siento muy agradecida porque ahorramos leña y no hay humo. Es una excelente estufa.<br>Thank you first to God afterwards to the Institution that donated the 2x3 Stove. I feel very grateful because we save firewood and there is no smoke. It is an excellent stove. | N/A | Visita de supervisión<br>Supervisory visit       | Agradecer su comentario<br>Thank them for the comment | 1 |
| 5/16/19 | No respiramos humo, ahorramos leña, no hemos padecido de tos, nos ayuda mucho gracias por preocuparse por nosotros.<br>We do not breathe smoke, we save firewood, we have not suffered from cough, it helps us a lot, thanks for caring about us.   | N/A | Visita de supervisión<br>Supervisory visit       | Agradecer su opinión<br>Thank them for the opinion    | 1 |
| 5/16/19 | Me gusta la estufa porque ahorro, no nos contamina el humo y cocinamos en un 2x3<br>I like the stove because I save, the smoke doesn't contaminate us and we cook in a 2x3  | N/A | Visita del Supervisor<br>Supervisory visit       | Agradecer su comentario<br>Thank them for the comment | 1 |
| 5/17/19 | Agradezco el regalo, estoy contento que no es política.<br>I appreciate the gift, I'm glad it's not political.  | N/A | Visita del Supervisor<br>Supervisory visit       | Agradecer su comentario<br>Thank them for the comment | 1 |

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|---------|---|-----|--|---|---|
| 5/18/19 | El técnico anda muy rápido y la chimenea quedo mal tapada<br>The technician [works] very fast and the chimney was badly covered   | N/A |  | Informar al ejecutor<br>Inform the Ejecutor           | 0 |
| 5/20/19 | Se usa menos leña, hago mas rápido la comida ya no hay humo.<br>Less wood is used, I make food faster and there is no smoke.  | N/A | Visita de Supervisión<br>Supervisory visit | Agradecer su comentario<br>Thank them for the comment | 1 |
| 5/20/19 | La Estufa Caliente muy bien, no tengo humo en la casa.<br>The Stove Heats very well, I have no smoke in the house.  | N/A | Visita de supervisión<br>Supervisory visit | Agradecer su opinión<br>Thank them for the opinion    | 1 |
| 5/24/19 | Caliente muy bien, ahorra leña, no hay humo en la cocina,<br>Heats very well, saves firewood, there is no smoke in the kitchen,   | N/A | Visita de Supervisión<br>Supervisory visit | Agradecer su opinión<br>Thank them for the opinion    | 1 |
| 5/27/19 | Estoy contenta con la Estufa. a mi me habían prohibido usar fogón tradicional y esta oportunidad del proyecto donando estufas la aproveche y me hicieron la mía, el muchacho que la construyo es muy amable<br>I am happy with the stove. I had been forbidden to use a traditional stove, and I took advantage of the opportunity of this project donating stoves, and they made mine, the boy who built it is very kind | N/A | Vista de Supervisión<br>Supervisory visit  | Agradecerle<br>Thank them                             | 1 |

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|---------|--|-----|---|---|---|
| 5/28/19 | Estoy feliz con mi Estufa 2x3, porque economizo leña, cocino luego y no hay daño a mi salud.<br>I am happy with my 2x3 Stove, because I save firewood, cook later and there is no harm to my health. | N/A | Visita de Supervisión<br>Supervisory visit  | Agradecerle su comentario<br>Thank them for the comment | 1 |
| 6/5/19  | Mi estufa me salio buena porque no tengo problema con ella. Estoy muy agradecido con el proyecto.<br>My stove came out good because I have no problem with it. I am very grateful to the project.    | N/A | Visita de Supervisión<br>Supervisory visit  | Agradecer la opinión<br>Thank them for the opinion      | 1 |
| 6/14/19 | Me siento contenta porque economizo en la Estufa 2x3 y cocino excelente y rápido<br>I feel happy because I save on the 2x3 Stove and cook excellent and fast   | N/A | Visita del Supervisor<br>Supervisory visit  | Agradecerle su comentario<br>Thank them for the comment | 1 |
| 6/15/19 | No me terminaron la estufa, me hizo falta un tubo<br>They did not finish the stove, I needed a tube  | N/A | Se le enviaron los tubos<br>Sent them tubes | Enviar supervisor<br>Send a supervisor                  | 1 |
| 6/17/19 | Ya no hay humo, cocinamos rápido.<br>There is no smoke anymore, we cook fast.  | N/A | Vista de supervision<br>Supervisory visit   | Agradecerle<br>Thank them                               | 1 |
| 6/17/19 | Ya no hay humo, cocinamos rápido.<br>There is no smoke anymore, we cook fast.  | N/A | Vista de supervisión<br>Supervisory visit   | Agradecerle<br>Thank them                               | 1 |
| 6/18/19 | Estoy muy contenta por la estufa, me calienta muy bien y la cocina ya no se ahuma.<br>I am very happy with the stove, it warms me very well and the kitchen no longer smokes.                        | N/A | Visita de Supervisión<br>Supervisory visit  | Agradecer la opinión<br>Thank them for the opinion      | 1 |



|         |  |     |  |  |   |
|---------|--|-----|--|--|---|
| 6/20/19 | Estoy muy agradecida con el Proyecto, me ahorro leña y no hay humo en mi cocina<br>I am very grateful to the Project, I save firewood and there is no smoke in my kitchen  | N/A | Visita de supervisión<br>Supervisory visit | Agradecer su comentario<br>Thank them for the comment        | 1 |
| 6/26/19 | Para mi es un privilegio tener esta estufa ahorro leña y es saludable, estoy feliz y contento.<br>It is a privilege for me to have this wood-burning stove and it is healthy, I am happy and content.  | N/A | Visita de supervisor<br>Supervisory visit  | Agradecer las opiniones<br>Thank them for the opinions       | 1 |
| 7/2/19  | Mi agradecimiento por la Estufa 2x3<br>My thanks for the 2x3 Stove   | N/A | Visita del Supervisor<br>Supervisory visit | Agradecer la opinión<br>Thank them for the opinion           | 1 |
| 7/9/19  | Me siento feliz y agradecida con el Proyecto de las Estufas 2x3 , ahorro leña funciona al 100% ahorro trabajo y mantengo la salud de mis pulmones<br>I feel happy and grateful with the 2x3 Stoves Project, saving wood works 100% saving work and I maintain the health of my lungs | N/A | Visita de Supervisión<br>Supervisory visit | Agradecer la opinión<br>Thank them for the opinion           | 1 |
| 7/10/19 | La estufa no da problemas y me ahorro leña, no sale humo es buena<br>The stove does not give problems and I save firewood, no smoke comes out, it's good   | N/A | Visita del Supervisor<br>Supervisory visit | Agradecimiento por su respuesta<br>Thank them for the answer | 1 |
| 7/10/19 | agradecida por la Estufa que me calienta bien y puedo cocinar<br>grateful for the stove that heats up well and I can cook  | N/A | Visita de Supervisión<br>Supervisory visit | Agradecer la opinión<br>Thank them for the opinion           | 1 |

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|         |  |     |  |   |   |
|---------|--|-----|--|---|---|
| 7/10/19 | Es una buena estufa porque no se ve humo en la cocina<br>It's a good stove because you don't see smoke in the kitchen  | N/A | Visita de Supervisión<br>Supervisory visit | Agradecimiento<br>Thank them                          | 1 |
| 7/16/19 | Para mi la estufa es un éxito, muy buena, rápido se hacen las cosas es muy útil tener esa estufa.<br>For me the stove is a success, very good, it does things fast, it is very useful to have that stove.                  | N/A | Visita del Supervisor<br>Supervisory visit | Enviar el supervisor<br>Send the supervisor           | 1 |
| 7/17/19 | Pienso que es muy útil me ha ayudado a economizar leña y a mejorar la salud de mi familia.<br>I think it is very useful, it has helped me save fuelwood and improve the health of my family                                | N/A | Enviar el supervisor<br>Supervisory visit  | Agradecer la opinión<br>Thank them for the opinion    | 1 |
| 7/18/19 | La Estufa ha sido de gran beneficio porque a mi niña le había prohibido el humo y ahora no tengo humo.<br>The Stove has been of great benefit because my daughter was prohibited to breathe smoke and now I have no smoke. | N/A | Visita del Supervisor<br>Supervisory visit | Enviar el Supervisor<br>Send the supervisor           | 1 |
| 7/22/19 | La Estufa calienta bien, no hay humo, cocino bien ahorro leña, Gracias al Proyecto Mirador<br>The stove heats well, there is no smoke, I cook well saving firewood, Thanks to Proyecto Mirador                             | N/A | Vista del Supervisor<br>Supervisory visit  | Agradecer su comentario<br>Thank them for the comment | 1 |
| 7/25/19 | El técnico dijo que no pusiera cemento arriba de la chimenea, mi vecino tapo y aun filtra el agua.<br>The technician said not to put cement on top of the chimney, my neighbor covered it and water is still dripping.     | N/A | Tapar el agujero<br>Plug the hole          | Revisión por el supervisor<br>Supervisory review      | 1 |

|                       |   |            |   |  |                 |
|-----------------------|---|------------|---|--|-----------------|
| <p><b>7/29/19</b></p> | <p>La Estufa esta funcionando bien porque no hay humo, calienta bien, los primeros días uno no le haya mucho pero a medida se va acostumbrando y es beneficiosa.<br/>The stove is working well because there is no smoke, it heats well, the first few days you don't have much but as time passes used to it and it is beneficial.</p> | <p>N/A</p> | <p>Visita del Supervisor<br/>Supervisory visit</p>                            | <p>Agradecer las respuestas<br/>Thank them for the answers</p> | <p><b>1</b></p> |
| <p><b>7/30/19</b></p> | <p>Estoy alegre porque la estufa calienta bien, la cocina pasa limpia y ahorro leña<br/>I'm happy because the stove heats well, the kitchen goes clean and it saves wood</p>  | <p>N/A</p> | <p>Visita de Supervisión<br/>Supervisory visit</p>                            | <p>Agradecer las respuestas<br/>Thank them for the answers</p> | <p><b>1</b></p> |
| <p><b>8/3/19</b></p>  | <p>Estoy contenta no hay humo...cocinamos rápido y ahorramos leña.<br/>Gracias a Proyecto Mirador<br/>I'm happy there is no smoke ... we cook fast and save firewood.<br/>Thanks to Proyecto Mirador</p>  | <p>N/A</p> | <p>Visita de Supervisión<br/>Supervisory visit</p>                            | <p>Agradecer las respuestas<br/>Thank them for the answers</p> | <p><b>1</b></p> |
| <p><b>8/6/19</b></p>  | <p>Por la economía de leña me gusta porque reduce el humo y cocina mas rápido.<br/>Because of the fuelwood savings, I like it because it reduces smoke and cooks faster.</p>  | <p>N/A</p> | <p>Agradecimiento por parte del supervisor<br/>Thanks from the supervisor</p> | <p>Enviar supervisor<br/>Send a supervisor</p>                 | <p><b>1</b></p> |

|         |   |     |  |   |   |
|---------|---|-----|--|---|---|
| 8/7/19  | Me siento muy agradecida con el Proyecto Mirador. se ha hecho muy provechoso para la salud y en especial para mi salud y de mi familia.<br>I feel very grateful to Proyecto Mirador. It has become very beneficial for health and especially for my health and my family. | N/A | Visita de Supervisión<br>Supervisory visit                                       | Agradecer su comentario<br>Thank them for the comment                 | 1 |
| 8/8/19  | Me gasta poca leña y e muy buena<br>I spend little wood and it is very good   | N/A | Visita del Supervisor<br>Supervisory visit                                       | Agradecimiento por parte del Supervisor<br>Thanks from the supervisor | 1 |
| 8/9/19  | Me gusta porque calienta muy rápido y es económica<br>I like it because it heats very fast and is economical  | N/A | Visita del Supervisor<br>Supervisory visit                                       | Enviar el supervisor<br>Send the supervisor                           | 1 |
| 8/21/19 | Me parece un proyecto excelente ya que me ayuda a ahorrar leña y sobre todo ya no respiro humo<br>It seems like an excellent project because it helps me save firewood and above all I don't breathe smoke anymore  | N/A | Visita de Supervisión<br>Supervisory visit                                       | Agradecer su comentario<br>Thank them for the comment                 | 1 |
| 8/21/19 | Completamente satisfecha con el Proyecto.<br>Completely satisfied with the Project.   | N/A | Visita del Supervisor<br>Supervisory visit                                       | Agradecer su opinión<br>Thank them for the opinion                    | 1 |
| 8/29/19 | La estufa no calienta bien<br>The stove does not heat up well   | N/A | Se le explico como hacer el mantenimiento<br>Explained how to do the maintenance | Enviar el supervisor<br>Send the supervisor                           | 1 |
| 8/29/19 | Estoy muy contenta con mi estufa porque hasta el día de hoy me funciona muy bien.<br>I am very happy with my stove because to this day it works very well for me.   | N/A | Visita del Supervisión<br>Supervisory visit                                      | Agradecer su opinión<br>Thank them for the opinion                    | 1 |

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|---------|--|-----|---|---|---|
| 8/30/19 | Economiza leña y cocino rápido<br>Save wood and cooks quickly  | N/A | Visita del Supervisor<br>Supervisory visit        | Agradecer su comentario<br>Thank them for the comment                       | 1 |
| 8/31/19 | Estoy alegre porque en mi casa no hay humo<br>I'm happy because there is no smoke in my house  | N/A | Visita del Supervisor<br>Supervisory visit        | Agradecer su comentario<br>Thank them for the comment                       | 1 |
| 8/31/19 | Las Estufas son buenas y económicas<br>The Stoves are good and economical  | N/A | Visita de Supervisión<br>Supervisory visit        | Agradecer su comentario<br>Thank them for the comment                       | 1 |
| 9/1/19  | Las estufas son muy buenas y económicas.<br>The Stoves are very good and economical  | N/A | Visita de Supervisión<br>Supervisory visit        | Agradecer su comentario<br>Thank them for the comment                       | 1 |
| 9/2/19  | Estoy feliz de cocinar en la 2x3 muchas gracias<br>I am happy to cook in 2x3 thank you very much   | N/A | Visita del Supervisor<br>Supervisory visit        | Agradecer su comentario<br>Thank them for the comment                       | 1 |
| 9/3/19  | No me calienta Parejo<br>It does not heat evenly   | N/A | Se realizo mantenimiento<br>Performed maintenance | Revisar la estufa por parte del supervisor<br>Supervisor reviewed the stove | 1 |
| 9/4/19  | Son muy buenas porque se ahorra leña y se puede cocinar mas rápido.<br>They are very good because it saves firewood and you can cook faster.   | N/A | Visita de Supervisor<br>Supervisory visit         | Agradecer su comentario<br>Thank them for the comment                       | 1 |
| 9/5/19  | Estoy muy agradecida con el Proyecto por la Estufa 2x3 me ha cambiado el sistema de cocinar ya no preocupa el humo y las enfermedades. Muchas Gracias<br>I am very grateful to the Project for the 2x3 Stove. The cooking system has changed me since the smoke and diseases are no longer worrying. Thank you so much | N/A | Visita del Supervisor<br>Supervisory visit        | Agradecer su comentario<br>Thank them for the comment                       | 1 |

|          |  |     |  |  |   |
|----------|--|-----|--|--|---|
| 9/11/19  | <p>Tube problemas con la Estufa porque la chimenea me pega en la viga y escurre resina y me da miedo que agarre fuego la casa.</p> <p>I had problems with the Stove because the chimney hits on the beam and drains resin and I am afraid that I will catch fire in the house.</p>                         | N/A | Pendiente<br>Pending                       | <p>Se comunico el caso al Ejecutor para buscar una solución.</p> <p>Communicated the case to the Ejecutor to look for a solution</p> | 0 |
| 9/11/19  | <p>Estoy muy agradecida con el Proyecto que Dios les bendiga</p> <p>I am very grateful to the Project, God bless you</p>   | N/A | Visita del Supervisor<br>Supervisory visit | <p>Agradecer su comentario</p> <p>Thank them for the comment</p>   | 1 |
| 9/25/19  | <p>Es super buena las tortillas se cocinan bien.</p> <p>It is super good, the tortillas are cooked well.</p>   | N/A | Vista del Supervisor<br>Supervisory visit  | <p>Agradecer su comentario</p> <p>Thank them for the comment</p>   | 1 |
| 9/26/19  | <p>No tengo humo en la casa y cocina muy bien.</p> <p>I have no smoke in the house and cook very well.</p>   | N/A | Visita de supervisor<br>Supervisory visit  | <p>Agradecer su comentario</p> <p>Thank them for the comment</p>   | 1 |
| 10/11/19 | <p>Estoy agradecida con Proyecto Mirador ya que es muy fundamental para la salud de mi hijo y toda la familia. Muy satisfecha en todos los sentidos.</p> <p>I am grateful to Proyecto Mirador since it is very fundamental for the health of my son and the whole family. Very satisfied in every way.</p> | N/A | Visita de Supervisión<br>Supervisory visit | <p>Agradecer su comentario</p> <p>Thank them for the comment</p>   | 1 |

## LIST OF ANNEXES

Monitoring Report - 10th Verification Period

| <i>Annex</i> | <i>File Name</i>                            | <b>Description</b>   |
|--------------|---|--|
| 01           | VP10-01 ER Calculations.xlsx                | Carbon credits calculated based on net stoves in operation during crediting period |
| 02           | VP10-02 KPT Data.xlsx                       | Aging Stove KTs - contains all KPT data to date (baseline & project)               |
| 03           | VP10-03 KPT Data Sheet SPANISH.pdf          | Fuelwood Consumption Study/Aging Stove KT - data collection sheet in Spanish       |
| 04           | VP10-04 KPT Data Sheet ENGLISH.pdf          | Fuelwood Consumption Study/Aging Stove KT - data collection sheet in English       |
| 05           | VP10-05 KPT Guidelines.pdf                  | KPT Guidelines provided by Robert Bailis, PhD                                      |
| 06           | VP10-06 Sales Record.xlsx                   | Stove installation database  |
| 07           | VP10-07 Stoves Installed by Month.pdf       | Monthly summary of stove installation database                                     |
| 08           | VP10-08 Training Brochure.pdf               | Brochure given to beneficiaries when trained in stove use and maintenance          |
| 09           | VP10-09 Leakage Sustainability Results.xlsx | Results & summary for monitoring surveys   |
| 10           | VP10-10 Employee Survey Export.xlsx         | Summary of employee questionnaires   |
| 11           | VP10-11 Employee Questionnaire.pdf          | Sample employee questionnaire  |
| 12           | VP10-12 Quantitative Employment.xlsx        | Report on number of employees and salaries by employee type                        |
| 13           | VP10-13 Dropoff Data.xlsx                   | Data to substantiate monitored dropoff figures.                                    |
| 14           | VP10-14 Transportation Summary.xls          | Report on mileage for all vehicles used  |
| 15           | VP10-15 Stakeholder Comment Log.xls         | Stakeholder Feedback Log - Continuous Input & Grievance Mechanism                  |
| 16           | VP10-16 Double Counting Data.xls            | Survey data for households where other ICS is present                              |
| 17           | VP10-17 Training Data.xlsx                  | Report on training hours for all types of training                                 |