

TEMPLATE

# MONITORING REPORT

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PUBLICATION DATE **14.10.2020**

VERSION **v. 1.1**

RELATED SUPPORT - **TEMPLATE GUIDE Monitoring Report v. 1.1**

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This document contains the following Sections

Key Project Information

0 - Description of project

0 - Implementation of project

0 - Description of monitoring system applied by the project

0 - Data and parameters

0 - Calculation of SDG Impacts

0 - Safeguards Reporting

0 - Stakeholder inputs and legal disputes

## KEY PROJECT INFORMATION

### Programme of Activity Information

|                                                                               |                                                                                     |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>GS ID of Programme</b>                                                     | GS12600                                                                             |
| <b>Title of Programme</b>                                                     | Clean Water : Clean Cooking                                                         |
| <b>Version of POA-DD applicable to this monitoring report</b>                 | Version 1.6                                                                         |
| <b>Name and GS ID of fully Validated CPA/VPAs (i.e. non compliance check)</b> | GS12601 VPA-1 Clean Water: Madagascar<br>GS12851 VPA-3 Improved Cooking: Madagascar |

### Key Project Information

|                                                                                  |                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GS ID (s) of Project (s)</b>                                                  | GS12851<br>GS23369<br>GS23370<br>GS23409                                                                                                                                                                                     |
| <b>Title of the project (s) covered by monitoring report</b>                     | GS12851 – GS12600 VPA-3 Improved Cooking: Madagascar<br>GS23369 - GS12600 VPA-5 Improved Cooking: Madagascar<br>GS23370 - GS12600 VPA-6 Improved Cooking: Madagascar<br>GS23409 - GS12600 VPA-7 Improved Cooking: Madagascar |
| <b>Version number of the PDD/VPA-DD (s) applicable to this monitoring report</b> | GS12851: V1.10<br>GS23369: V1.9<br>GS23370: V1.9<br>GS23409: V1.9                                                                                                                                                            |
| <b>Version number of the monitoring report</b>                                   | V2.2                                                                                                                                                                                                                         |
| <b>Completion date of the monitoring report</b>                                  | 09/09/2026                                                                                                                                                                                                                   |
| <b>Date of project design certification</b>                                      | 19/03/2026                                                                                                                                                                                                                   |
| <b>Date of Last Annual Report</b>                                                | N/A                                                                                                                                                                                                                          |
| <b>Monitoring period number</b>                                                  | 1 <sup>st</sup> Monitoring Period; Crediting Period 1                                                                                                                                                                        |
| <b>Duration of this monitoring period</b>                                        | GS12851: 28/02/2025 to 31/12/2025<br>GS23369: 28/02/2025 to 31/12/2025<br>GS23370: 15/07/2025 to 31/12/2025                                                                                                                  |

|                                                     |                                                                                                                                                                                                                                           |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     | GS23409: 25/09/2025 to 31/12/2025                                                                                                                                                                                                         |
| <b>Project Representative</b>                       | SaniTap Ltd                                                                                                                                                                                                                               |
| <b>Host Country</b>                                 | Republic of Madagascar                                                                                                                                                                                                                    |
| <b>Activity Requirements applied</b>                | <input checked="" type="checkbox"/> Community Services Activities<br><input type="checkbox"/> Renewable Energy Activities<br><input type="checkbox"/> Land Use and Forestry Activities/Risks & Capacities<br><input type="checkbox"/> N/A |
| <b>Methodology (ies) applied and version number</b> | Reduced Emissions from Cooking and Heating: Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) V4.0<br>Gender Equality Requirements and Guidelines V2.0                                            |
| <b>Product Requirements applied</b>                 | <input checked="" type="checkbox"/> GHG Emissions Reduction & Sequestration<br><input type="checkbox"/> Renewable Energy Label<br><input checked="" type="checkbox"/> Gender Responsive Label                                             |

**Table 1 - Sustainable Development Contributions Achieved**

| Sustainable Development Goals Targeted | SDG Impact                                                                                                                 | Amount Achieved                                                         | Units/ Products          |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------|
| 13 Climate Action (mandatory)          | Emission Reductions                                                                                                        | GS12851: 22,234<br>GS23369: 35,729<br>GS23370: 14,134<br>GS23409: 4,510 | tCO2e (GS VERs)          |
| 1 No Poverty                           | GSDM-I1.1.1 Average household savings i.e., decrease in expenditure on basic services such cooking, lighting, and drinking | 5,553                                                                   | MGA / household / week   |
| 3 Good Health and Well-Being           | GSDM-I3.9.1 Number of households that observed reduction in PM2.5 & carbon monoxide (CO) concentration reductions          | 86.5%                                                                   | Proportion of households |

|                                   |                                                                                                                         |                                                                       |                                                                                                                                           |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 5 Gender Equality                 | GSDM-I5.4.1 Average time saving associated fuel collection.<br>Certified in line with GS Gender Responsive requirements | 2.5                                                                   | Average time saving per household associated with cooking time and fuel collection per day (hours)<br><br>SDG 5 – Gender Responsive units |
| 7 Affordable and Clean Energy     | GSDM-I7.3.1 Total energy savings                                                                                        | GS12851: 97.4<br>GS23369: 70.8<br>GS23370: 55.8<br>GS23409: 19.2      | Total energy savings (GWh(th))                                                                                                            |
| 8 Decent Work and Economic Growth | GSDM-I8.5.1 Total number of jobs.                                                                                       | 70<br>Full-time: 70<br>Permanent: 70<br>Female / Male: 30 / 40        | Total number                                                                                                                              |
| 15 Life on Land                   | GSDM-I15.1.1 Total non-renewable wood fuel saved                                                                        | GS12851: 12,864<br>GS23369: 5,144<br>GS23370: 7,760<br>GS23409: 2,573 | Tonnes NRB saved per year                                                                                                                 |

**Table 2 – Product Vintages**

| GS12851     |            | Amount Achieved |
|-------------|------------|-----------------|
| Start Dates | End Dates  | GS VERs         |
| 28/02/2025  | 31/12/2025 | 22,234          |

| GS23369     |            | Amount Achieved |
|-------------|------------|-----------------|
| Start Dates | End Dates  | GS VERs         |
| 28/02/2025  | 31/12/2025 | 35,729          |

| GS23370     |            | Amount Achieved |
|-------------|------------|-----------------|
| Start Dates | End Dates  | GS VERs         |
| 15/07/2025  | 31/12/2025 | 14,134          |

| GS23409     |            | Amount Achieved |
|-------------|------------|-----------------|
| Start Dates | End Dates  | GS VERs         |
| 25/09/2025  | 31/12/2025 | 4,510           |

Total: 76,607

## SECTION A. DESCRIPTION OF PROJECT

### A.1. General description of project

Madagascar is home to an estimated 30.3 million people as of 2023. Despite its natural wealth, Madagascar grapples with a persistently high poverty rate, with 80.7% of its population living on less than \$2.15 per day in 2023<sup>1</sup>. Around a quarter of the population of Madagascar has access to electricity, and only 1.5% has access to clean cooking facilities<sup>2</sup>.

According to Sustainable Energy 4 All<sup>3</sup>:

- less than 12% of the population have access to improved cookstoves or clean cooking technologies
- >80% of rural households use fuelwood for cooking
- >60% of urban households use charcoal for cooking
- Without action, 36 million people are estimated to lack access to clean cooking solutions by 2030

Cooking practices in Madagascar are shaped by a combination of cultural traditions, economic limitations, and environmental challenges. For most households, particularly in rural areas, cooking relies heavily on traditional biomass fuels like firewood and charcoal. These fuels are often used with inefficient cooking methods, such as three-stone fires called fatapera or simple metal stoves, which contribute to widespread indoor air pollution and pose significant health risks. Women and children are disproportionately affected, as they spend extended periods of time near the cooking areas.

Unsafe cooking methods have significant:

- Health consequences as inefficient cooking stoves release toxic pollutants, contributing to respiratory illnesses, eye problems, and other health complications. Women and children bear the brunt of these health risks. SE4All estimate 21,000 deaths every year due to indoor air pollution in Madagascar<sup>4</sup>.
- Negative impacts on the environment and society:
  - Deforestation and climate change: traditional stoves contribute to deforestation and emissions of greenhouse gases like methane and black

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<sup>1</sup> [World Bank Country Report](#) October 2024

<sup>2</sup> [International Energy Agency Madagascar](#) 2022.

<sup>3</sup> SE4All (2024) 'Madagascar: Integrated Energy Access Planning'. Available at: <https://www.seforall.org/system/files/2024-07/summary-madagascar-cleancooking-en.pdf>

<sup>4</sup> Ibid

carbon. 25% forest is expected to be lost by 2030, 10-20% attributable to harvesting wood for energy needs.

- Time and labour: women and children spend hours collecting firewood from often distant, unsafe sources. This time burden limits opportunities for education, income-generating activities, and leisure, perpetuating cycles of poverty.

## Programme of Activities

The Monitoring Report includes the bundle of Improved Cooking VPAs under Programme of Activities GS12600:

- VPA-3 GS12851 (real case)
- VPA-5 GS23369
- VPA-6 GS23370
- VPA-7 GS23409



Figure 1 Project launch

The project activity aims to address the problem of CO<sub>2</sub> emissions, deforestation and indoor air pollution caused by households cooking on open fires or inefficient cookstoves which burn solid biomass fuels such as charcoal and firewood.

Between 27<sup>th</sup> February and 19<sup>th</sup> December 2025, 120,036 improved cookstoves were distributed to 90,234 households in the Anosy Region, Madagascar. Urban households cooking charcoal received two stoves due to their cooking practices.

## Technologies/Measures

The project technologies distributed are the Burn Ecoa Char charcoal stove, and the Burn Ecoa Wood firewood stove.

The technologies introduced through the project are designed to enhance fuel combustion within the combustion chamber, ensuring more efficient heat transfer to cooking pots. The baseline cooking technologies have thermal efficiencies ranging from <10%-20%, whereas the project technologies have thermal efficiency of >40%. Based on the thermal energy output, ISO/TR 19867-3:2018 estimates fuel savings between 75-80%. This reduction in fuel consumption significantly lowers indoor air pollution levels for project beneficiaries by minimizing smoke, black soot, and fine particulate matter (PM<sub>2.5</sub>) and carbon monoxide (CO) emissions. The decreased reliance on cooking fuel translates to a reduction in greenhouse gas (GHG) emissions associated with the use of non-renewable biomass.

The project activity is funded by the sale of GS VERs. Carbon finance provides the capital expenditure to overcome the financial barrier of purchasing the improved cookstove for end users, as well as community engagement, training, maintenance, follow-up visits, and monitoring.

### **Project Area**

The project boundary is the Anosy Region, Madagascar.

### **Baseline Scenario**

In the absence of the project, the project beneficiaries used three stone fire or traditional inefficient charcoal stoves (fatapera) for meeting domestic cooking needs. The project has three distinct baseline scenarios:

1. Rural households who cook predominantly on three stone fires using firewood;
2. Peri-urban households who cook predominantly on three stone fires using firewood; and
3. Urban and peri-urban households who cook predominantly on traditional inefficient charcoal stoves (fatapera).

Baseline surveys and kitchen performance tests have been conducted for each scenario.

### **Gender**

The project is certified as Gender Responsive in line with the optional Gender Equality Requirements. The GSVERs include the SDG5 asset as a result of the certification.

The project reduces exposure to harmful indoor air pollution while improving the living conditions of women, who are primarily concerned with cooking tasks. To support this certification process, across the Anosy Region a baseline survey was conducted among 479 households<sup>5</sup> and focus groups were carried out with 232 participants<sup>6</sup>.

The project has conducted a gender sensitive LSC and implements a pro-active gender responsive approach aligned with SDG 5 and other relevant SDGs covering gender aspects, such as SDG 8. The project has conducted a deep gender analysis; selected

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<sup>5</sup> Supporting document 'Gender – Baseline Data Analysis'.

<sup>6</sup> Supporting document 'Gender Approach Events : Workshops and Focus Groups – Anosy Region'

gender-targeted project goals and action; and designed project-specific gender indicators and parameters<sup>7</sup>.

Gender activities and indicators can be found in sC.

The complete analysis on the Gender Sensitive and Gender Responsive Certification can be found in supporting document

'GS12600\_Improved\_Cooking\_Gender\_Responsive\_Report\_MP1'.

### Core Carbon Principles

The project will seek a Core Carbon Principles (CCP) stamp on the GS Registry. The Integrity Council of the Voluntary Carbon Market (ICVCM) has approved Gold Standard as a CCP-eligible program<sup>8</sup>, and the applied methodology Technologies and Practices to Displace Decentralized Thermal Energy Consumption (TPDDTEC) V4 is a CCP-eligible category<sup>9</sup>. The category CCP-approval has the following requirements, which are met by the project:

|                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The default fNRB value from the latest version of CDM Tool 33 is applied for emission reductions achieved on or before 31st December 2025</p> <p>or</p> <p>The Source of data for fNRB in mitigation activities is from the MoFuSS model as per CCP Eligible Program approved project documentation.</p> | <p>The Source of data for fNRB is from the MoFuSS model (ICS 17).</p> <p>The justification for use of the subnational figure and the fNRB value is also included in A6.4-MEP012-A04 Methodological tool Fraction of non-renewable biomass V2<sup>10</sup>.</p> |
| <p>Fuel consumption is determined either by using a Kitchen Performance Test (KPT) or Controlled Cooking Test (CCT), or methodology default values with cross checks on fuel savings</p>                                                                                                                    | <p>Fuel consumption is determined by using a Kitchen Performance Test for the baseline and project scenarios (ICS 18; ICS 19).</p>                                                                                                                             |
| <p>For charcoal projects, a direct charcoal emission factor (which may include production emissions) or a wood to charcoal conversion factor of four to one is used</p>                                                                                                                                     | <p>For the charcoal scenarios, the project applies direct charcoal emission factors (ICS 8: 197.15; ICS 9: 44.83).</p> <p>These are inline with a 3.3:1 wood to charcoal conversion factor.</p>                                                                |

Table 2 CCP-eligibility

<sup>7</sup> Supporting document 'In-Depth Gender Analysis - Clean Cooking VPA - Gender Responsive Certification'

<sup>8</sup> [https://icvcm.org/wp-content/uploads/2024/04/GB\\_P-GS\\_2024-3-1.pdf](https://icvcm.org/wp-content/uploads/2024/04/GB_P-GS_2024-3-1.pdf)

<sup>9</sup> [https://icvcm.org/wp-content/uploads/2025/03/GS\\_TPDDTEC\\_v4\\_2025.pdf](https://icvcm.org/wp-content/uploads/2025/03/GS_TPDDTEC_v4_2025.pdf)

<sup>10</sup> [A6.4-AMT-009-v01.0.pdf](#)

## A.2. Location of project

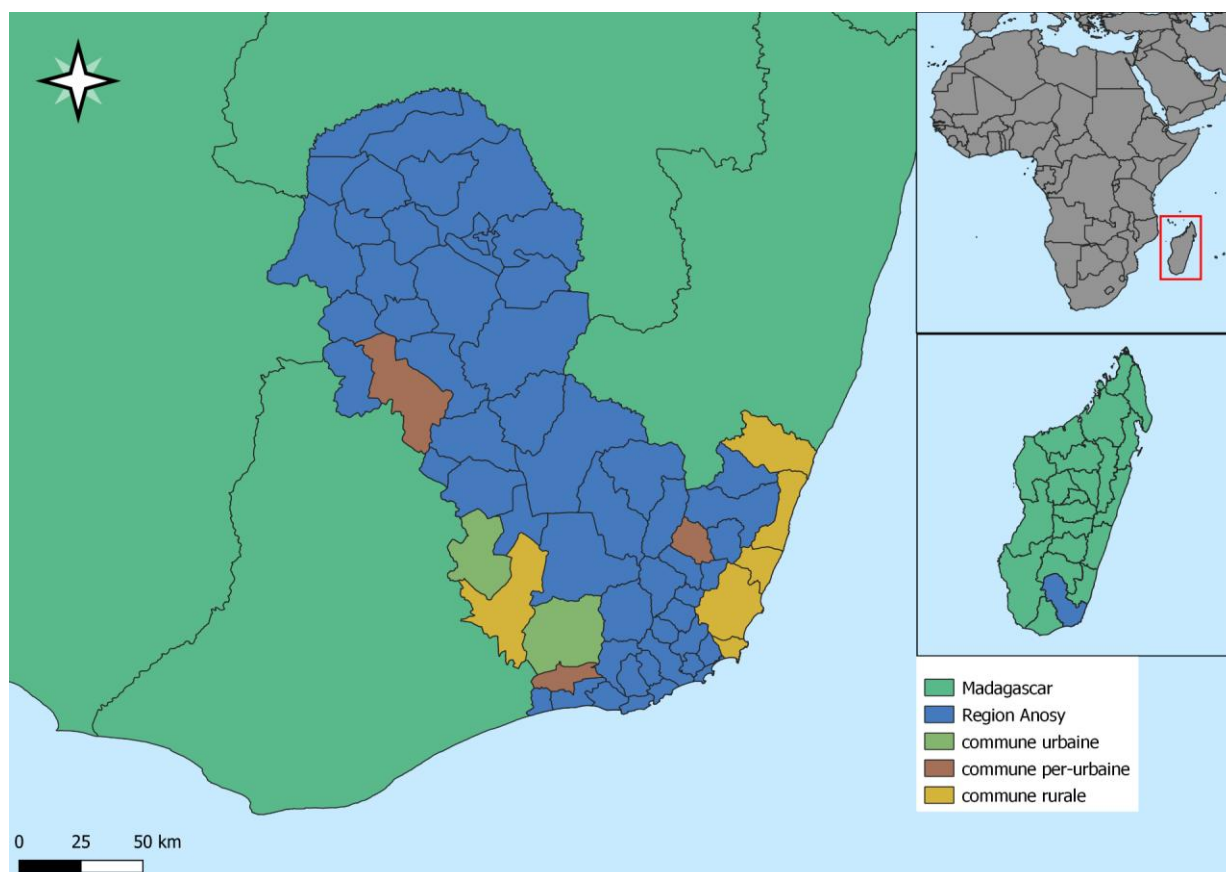


Figure 2 Map of project area

**Country:** Republic of Madagascar

**Communes:** The project is implemented in 39 communes in the Anosy Region, Toliara Province.

The region of Anosy is approximately 150 kilometres wide along its coastline and extends roughly 250 km inland. Anosy's capital and most-populous city is Tolagnaro (also called Fort Dauphin), located about halfway along the region's coast and 1,122 km south of the national capital of Antananarivo.

The geographical coordinates of the urban centre where project activities are expected to take place are:

Fort Dauphin: 25.0225° S, 46.9854° E

## A.3. Reference of applied methodology

### GS Approved Methodology:

Technologies and Practices to Displace Decentralized Thermal Energy Consumption V4.0

### Guideline:

Cookstove Usage Rate Guideline V2.0

### Methodological Tools:

GS Gender Equality Requirements and Guidelines V2.0

GS fNRB Application for GS4GG Certification V1.0

MoFuSS (Modelling Fuelwood Saving Scenarios)

CDM Standard Sampling and surveys for CDM project activities and programmes of activities V9

CDM Tool33 Default values for common parameters V3

#### **A.4. Crediting period of project**

GS12851: 28/02/2025 to 27/02/2030

GS23369: 28/02/2025 to 27/02/2030

GS23370: 15/07/2025 to 14/07/2030

GS23409: 25/09/2025 to 24/09/2030

The length of the crediting periods as per the Design Certified VPA-DDs are 5 years, 0 months. As per s4.1.5 of the Community Service Activity Requirements V1.2, projects may have a maximum of two Design Certification Renewal Cycles, under which the VPA is eligible for a total of 15 years issuance.

## SECTION B. IMPLEMENTATION OF PROJECT

### B.1. Description of implemented project

Between 27<sup>th</sup> February and 19<sup>th</sup> December 2025, 120,036 improved cookstoves were distributed to 90,234 households in the Anosy Region, Madagascar. Urban households cooking charcoal received two stoves due to their cooking practices.



Figure 3 Project launch

### Implementation Plan

| Year                 | Improved - Wood | Improved - Charcoal <sup>11</sup> | Total   |
|----------------------|-----------------|-----------------------------------|---------|
| 2025                 | 58,193          | 61,843 <sup>12</sup>              | 120,036 |
| Projected in VPA-DDs | 58,333          | 61,666                            | 119,999 |

<sup>11</sup> Each household will receive 2 charcoal project stoves

<sup>12</sup> The number of households reached is 32,041

Table 3 Project implementation plan

The distributed project technologies are spread across the real case and homogenous regular VPAs due to the small scale cap of the maximum energy saving of 180 GWh(th) per year. The project is a small-scale project as per the definition in GS GHG Emissions Reduction & Sequestration Product Requirements V3.0:

**Type 2: End-use energy efficiency project improvement:** activities that reduce energy consumption, on demand side, with a maximum energy saving of 60 GWh per year (or an appropriate equivalent) in any year of the crediting period. In the context of this methodology, for project activities that improve thermal energy efficiency, the maximum energy saving of 60 GWh(e) per year is equivalent to 180 GWh(th) per year saving.

As the project activity involves the improvement of thermal energy efficiency, the small scale cap is 180 GWh(th) per year.

The small scale cap for the VPA is calculated in the emission reduction calculation spreadsheet<sup>13</sup>.

The number of households in each VPA is as follows:

| VPA ID | Start date | Number of HHs | Number of technologies |
|--------|------------|---------------|------------------------|
| VPA-3  | 28/02/2025 | 19,631        | 19,631                 |
| VPA-5  | 28/02/2025 | 32,041        | 61,843                 |
| VPA-6  | 15/07/2025 | 20,713        | 20,713                 |
| VPA-7  | 25/09/2025 | 17,849        | 17,849                 |

Figure 4 VPA summary

Continuous stove monitors were fitted to a sample of stoves to monitor usage in line with the Best Practice Monitoring Requirements set out in s2.4 of the Usage Rate Guidelines.

<sup>13</sup> 'GS12600\_Improved\_Cooking\_emission\_reductions\_MP1'; 'Thermal Energy'



Figure 5 Continuous stove monitors

## Project Scenario

Four project scenarios are included in the project. Scenarios 1, 2 and 3 do not involve a fuel switch. The emission reductions are calculated using method 1 of TPDDTEC V4.0 (s3.10.1.a). The scenarios are:

1. Rural household using an improved wood cookstove (no fuel switch);
2. Peri-urban household using an improved wood cookstove (no fuel switch); and
3. Urban and peri-urban household using improved charcoal cookstoves (no fuel switch).

29,802 households who cook using charcoal received 2 project stoves. This has been calculated as scenario 3.1. Due to cultural practices, 2,239 charcoal households received 1 project stove. This has been calculated as scenario 3.2.

Any use of secondary fuels and stove-stacking has been monitored in the annual usage survey.

The distribution of two project charcoal stoves to some urban households is deemed appropriate to meet their cooking needs, as such households typically cook using 2 fatapera charcoal stoves in the baseline scenario. Some households received 1 project charcoal stove, where appropriate. These scenarios have been monitored and calculated separately.

|                      | Baseline scenario 1 | Baseline scenario 2 | Baseline scenario 3 |
|----------------------|---------------------|---------------------|---------------------|
| Project Scenario 1   | $N_{1,1,y}$         |                     |                     |
| Project Scenario 2   |                     | $N_{2,2,y}$         |                     |
| Project Scenario 3.1 |                     |                     | $N_{3,3.1,y}$       |
| Project Scenario 3.2 |                     |                     | $N_{3,3.2,y}$       |

Figure 6 Scenario matrix

### B.1.1 Forward Action Requests

The following FARs were raised at Validation and Design Review.

## Validation

**FAR01:** Regarding the final recycling/disposal arrangements, the CME has specified that discussions are ongoing with scrap metal dealers for collection and recycling of waste metal. As these arrangements are still under development at the time of validation, the CME shall provide confirmation during subsequent verification that appropriate recycling/disposal arrangements have been operationalized and evidenced.

### CME response:

Non-hazardous waste from the collection and retiring of baseline technologies ('fatapera') and from the repair and replacement of parts of project technologies has been stored from the start of the project to the present. The only waste generated is scrap metal, which has been stored under cover.



Figure 7 Storage of scrap metal

The non-hazardous waste was stored until an arrangement was made with a scrap metal dealer. Once arranged, the waste was compacted, weighed and loaded on to

the collector's lorry. The waste was collected on 24/06/2026.



Figure 8 Weighing of scrap metal

This is evidenced by a receipt for the collection. A total of 3,186kgs was metal was collected. This practice will continue throughout the project.

Supporting document: 'GS12600\_scrap\_metal\_receipt\_MP1'

## Design Review

**FAR01:** The PoA included multiple technologies with the possibility of cross-effects. The verifying VVB shall check the existence of cross-effects between technologies and whether appropriate measures to account for the cross-effects have been taken during the verification.

**CME response:** The PoA includes this improved cookstove project (VPA-3, 5, 6 and 7) and a safe water supply project (VPA-1). Any potential cross effect will be on the safe water supply project, as the methodology relies on the thermal efficiency of the cooking device of the end user and the fuel used. The presence of an improved cooking technology would cause the emission reductions to decrease due to an improvement in thermal efficiency when compared to the baseline technology. However, there is no cross effect of having a safe water supply on the improved cooking project. Therefore, the presence of a safe water project does not affect the emission reductions of this project.

In line with s4.11.3 Programme of Activity Requirements and Procedures V3.0, the PoA applies (d) *combinations of technologies/measures and/or methodologies*. As per

s4.11.4.a., no cross effect takes place in the improved cooking VPAs. A cross effect will take place in VPA-1, as described above.

The Programme of Activity Requirements and Procedures V3.0 defines two types of cross-effects. The potential cross-effect in PoA GS12600 VPA-1 is Type II:

*"Cross effects could also occur when several measures rely on the same information when estimating GHG emission reductions. For example, several measures refer to historical fuel/electricity/heat consumption, or a default value".*

TPDDTEC V4 does not have a parameter in the emission reduction calculation which directly applies the thermal efficiency. The improvement in efficiency of the cooking device is accounted for in ICS 18, ICS 19, and ICS 20. These are the baseline and project KPTs, and the difference between the two tests. In ERSDWS V1 and V2, parameter SDWS 11 sets out the *"weighted average efficiency of the baseline water boiling devices"*. The baseline scenario in VPA-1 (SDWS) generally applies the default value of a three-stone fire or conventional device. This is 10% in ERSDWS V1 and 15% in ERSDWS V2. The parameter box states that if an improved cookstove is present, then the thermal efficiency is either the default value of 30% or the value from the manufacturer specifications. The thermal efficiency of the project devices are set out in this document, the VPA-DDs, and the manufacturer specifications.

ERSDWS V2 goes on to expressly provide for the adjustment for overlap with an improved cookstove project:

*"Where the SDWS activity overlaps with a registered Improved Cookstove (ICS) activity the efficiency value ( $\eta_{wb}$ ) applied for the overlapping population shall be the **efficiency of the improved cookstove** (or weighted average), not the traditional stove efficiency".*

The same will also be applied for the VPA-1 monitoring periods where ERSDWS V1 is applied.

SDWS 6 sets out the Proportion of stove types used in premises in activity area. The weighted thermal efficiency is then applied by SDWS 11, based on the mix of boiling devices. There is a geographic overlap between VPA-1 and the improved cooking project. The proportion of improved devices will be measured in the annual monitoring

of VPA-1, where the end-users are asked what cooking devices they use. The thermal efficiency values are set out below:

|                                                               |       |                             |
|---------------------------------------------------------------|-------|-----------------------------|
| ERSDWS V1 - Three-stone fire/conventional (no grate/chimney): | 0.10  | SDWS 11 - default           |
| ERSDWS V2 - Three-stone fire/conventional (no grate/chimney): | 0.15  | SDWS 11 - default           |
| Project efficiency - wood improved                            | 0.508 | manufacturer specifications |
| Project efficiency - charcoal improved                        | 0.625 | manufacturer specifications |

Table 4 SDWS 11 values

Due to the improved thermal efficiency of the project devices, the specific energy required to boil water (kJ/L) (eq.2 ERSDWS V2) reduces. This in turn reduces the emission factor for the use of fuel to obtain safe water in the baseline (tCO<sub>2</sub>e/L) (eq.1 ERSDWS V2).

The cross-effect will be accounted for in VPA-1, due to the reasons set out above. The presence of safe drinking water does not have a cross-effect on an improved cookstove project.

**FAR02:** The subsequent VVB shall check that project information on the GS Assurance Platform, such as project start date, crediting period, SDGs, are in line with the PoA-DD and VPA-DD.

**CME response:** CME has aligned project start dates, crediting periods and SDGs across all project documents and GS Assurance Platform.

**FAR03:** The PD shall ensure that the project is updated in accordance with the PA Alignment methodology and requirements published on 22/12/2025 during the performance certification via the issuance track for vintages 2026 and onwards.

**CME response:** CME is aware of the Paris Agreement Alignment of the GS Requirements and methodologies. The project documents will align with the rule updates for vintage 2026 onwards. Monitoring period 1 ends on 31/12/2025 and is not subject to the rule update.

**FAR04:** The subsequent VVB shall verify whether the real case VPA (VPA-2) has been withdrawn from the GS platform, in line with the PD's response.

**CME response:** CME is not validating VPA-2, which is listed on the GS Registry (GS12619), as the project is not going ahead. CME has deactivated the VPA, and received the following confirmation from Gold Standard:

*"We are writing to formally notify you of a status change for the Manage Information | Project or PoA or VPA no. 1 of Project GS12619 (GS12600 VPA-2 Clean Cooking: Madagascar).*

*After a review of the submission and alignment with Gold Standard protocols (GS4GG Principles & Requirements, relevant project lifecycle guidelines, and technical review frameworks), the review has been **Cancelled** per the details outlined below:*

*Project deactivated (no further reviews required)"*

The email has been submitted to the VVB as a supporting document: 'GS12600\_VPA-2\_cancellation\_email'.

## **B.2. Post-Design Certification changes**

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

There are no temporary deviations away from the Design Certified monitoring plan.

B.2.2. Corrections

A minor correction has been applied in the Monitoring Report.

The baseline parameter for SDG 15: *FC<sub>B</sub> Total non-renewable wood consumed in the baseline scenario*, was incorrectly set out in section B.6.2 *Data and parameters fixed ex ante* of the VPA-DDs. Instead, it should have been set out in section B.7.1 *Data and parameters to be monitored* of the VPA-DDs. This is because the baseline values are performance based, meaning they depend on the *ex-post* monitoring of the project performance.

The parameter box for *FC<sub>B</sub>* has been set out in section D.2 *Data and parameters monitored* of the Monitoring Report to reflect the correct parameter category.

The parameter description for *FC<sub>P</sub>* (also related to SDG 15) has also been updated to better describe the parameter. The description has been changed from "*Total non-renewable wood saved*" to "*Total non-renewable wood consumed in the project scenario*".

B.2.3. Changes to start date of crediting period

The start dates of crediting periods for GS23370 and GS23409 have been corrected from:

- GS23370: 01/06/2025 to 15/07/2025; and
- GS23409: 01/10/2025 to 25/09/2025.

As per s3.3 of the Design Change Request Requirements and Procedures V2.0, Table 1 sets out that changes in CP start date up to one year do not require justification or approval.

The changes are reflected in VPA-DD V1.10 of VPA-3, and V1.9 VPAs 5, 6, and 7.

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

There are no permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline.

B.2.5. Changes to project design of approved project

No changes have been made to the design of the approved projects.

## SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

### **Total Dissemination Record (s4.1.2 TPDDTEC V4.0)**

Project technologies were distributed between 27th February and 19th December 2025.

Sanitap Ltd is the Co-ordinating/Managing Entity (CME) which communicated with the Gold Standard. Sanitap Ltd have legal ownership of the VERs generated by the project.

Each end-user registers to participate in the project before the distribution of the project technology(ies). The end-user signs the 'Membership Registration Form'<sup>14</sup>

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<sup>14</sup> Supporting document 'Membership Registration Form'

which sets out the terms of participating in the project activity. The end-user details are recorded in a digital registration form<sup>15</sup>.



### MEMBERSHIP REGISTRATION FORM



|              |  |
|--------------|--|
| ID number    |  |
| Name         |  |
| Municipality |  |
| Fokontany    |  |



### About the Magnasoa Project

The Magnasoa Project is a collaboration between the Anôsy Region, SaniTap, and the NGO MadAdvance.

SaniTap is a UK-based social impact company working on projects in the WASH sector (Water, Sanitation, and Hygiene) and clean cooking.

MadAdvance is an NGO committed to promoting sustainable resources through the advancement of improved and clean cooking technologies, as well as through the rehabilitation and maintenance of sustainable drinking water supply infrastructure.

### Benefits of the Magnasoa Project



Reduced carbon and smoke emissions into the atmosphere.



Protecting forests by reducing deforestation and bushfires.



Improved family health due to reduced indoor air pollution.



Promoting gender equality and job creation.



Boosting household savings by lowering charcoal and firewood expenses.



Figure 9 Examples of Membership Registration Form - English

The end-user keeps the Membership Registration Form booklet for the duration of the project. This contains contact details of the CME.

At the time of distribution, each end user signs a physical distribution sheet<sup>16</sup> and the details of the end-user and project technology(ies) are recorded in a digital form<sup>17</sup>. This completes the transfer of the full ownership rights of verified carbon credits to the CME. These signed documents are collected and stored in the VPA database. Each document corresponds to a project technology and its unique identification number.

The required data for each project unit is:

1. Date of installation
2. Geographic area of sale
3. Model/type of project technology sold

<sup>15</sup> Supporting document 'Registration Form (digital)'

<sup>16</sup> Supporting document 'Distribution Sheet (physical)'

<sup>17</sup> Supporting document 'Distribution Form (digital)'

4. Quantity of project technologies sold
5. Name, telephone number (if available), and address and/or GPS coordinates:
  - a. Required for all bulk purchasers, i.e., retailers and industrial users;
  - b. Required for all end users, e.g. households
6. Mode of use: domestic, institutional commercial, other.

End-users' details are collected with a digital registration form. End-users are identifiable by a unique code generated by the survey software and by their Government ID number.



Figure 10 End users receiving project stoves

The end-user then signs a physical 'Membership Registration Form', which sets out the terms and conditions in Malagasy of participating in the project. The Agreement includes details on the transfer of carbon rights and contact details of CME. The Agreement is kept by the end-user as a condition of participating in the project and will be available to be viewed at verification site visits.

The digital distribution form is completed when the end-user receives the project technology(ies). This links the end-user to the technology(ies) and is stored in the project database. The physical distribution sheet is signed by the end-user when receiving the technology.

The total distribution record includes links to the signed registration form and distribution form for each end-user

The sequence of events and related evidence is:

1. Customer registers for project - 'Registration Form (digital)'; 'Membership Registration Form (paper-based – including payment receipt)
2. Customer receives project technology - 'Distribution Survey (digital)'; 'Distribution Sheet (paper-based)'



Figure 11 End user receiving project stove

The TDR record shows that the following number of project technologies have been distributed:

| Year | Improved - Wood | Improved - Charcoal | Total   |
|------|-----------------|---------------------|---------|
| 2025 | 58,193          | 61,843              | 120,036 |

Figure 12 TDR Summary - technologies

The total number of households reached is:

| Scenario        | No. of households |
|-----------------|-------------------|
| Rural wood      | 53,724            |
| Charcoal 1      | 2,239             |
| Peri-urban wood | 4,469             |
| Charcoal 2      | 29,802            |
| Total           | 90,234            |

Figure 13 TDR Summary - households

#### **Project Database (s4.1.3 TPDDTEC V4.0)**

The project database lists all the project technology units that have been sold or distributed by the project and have not surpassed their technical life. It is derived from the total distribution record and must be maintained continuously.

The database is used as the basis for the emission reductions calculations and the population for random sampling.

The database calculates the age cohort of each technology, and records information about each technology, such as repairs, replacement, downtime, and number of project technology-days (ICS 27 - Nb,p,y).

The project database, built on Microsoft Fabric and displayed with PowerBI, analyses project data and displays the key indicators on a dashboard, such as technologies distributed, project technology days, and forecast GSVERs.

The project database shows the following project technology days for monitoring period 1 (ICS 27 – Nb,p,y):

| MP1          | Start Date | End Date   | Project Technology Days |
|--------------|------------|------------|-------------------------|
| VPA-3        | 28/02/2025 | 31/12/2025 | 4,594,573               |
| VPA-5        | 28/02/2025 | 31/12/2025 | 5,447,265               |
| VPA-6        | 15/07/2025 | 31/12/2025 | 2,755,771               |
| VPA-7        | 25/09/2025 | 31/12/2025 | 917,608                 |
| <b>Total</b> |            |            | <b>13,715,217</b>       |

Figure 14 Project technology days

## **Maintenance**

During the monitoring period, 30 households required maintenance on their project stove(s). This is recorded in the project database. In total 1,209 days were discounted from crediting for maintenance.

Some end-users moved away from the project area and returned their project stove(s) to CME. The project technologies were either stored or redeployed to newly registered end-user households. In total 7,370 days were discounted from crediting for stove transfer.

Supporting document:

'GS12600\_Improved\_Cooking\_emission\_reductions\_MP1\_v2.8'; tab 'Stove repairs' and 'Stove transfer'

## **Alteration of Project Stoves**

During follow-up visits, the MERV team observed isolated cases where beneficiaries modified improved firewood stoves to enable the use of charcoal. The practice is restricted to Soanierana and Manambaro communes.

It has not been observed in other project communes. This conclusion is based on routine monitoring visits and follow-up checks conducted from July to December 2025.

The MERV team surveyed households in the affected communes to understand the scale of the alterations. The investigation confirms the existence of stove modification for charcoal use and concluded that:

- The practice is rare and localised
- It is driven by transitional peri-urban dynamics rather than misuse
- It does not pose a systemic threat to project outcomes.



Figure 15 Top view of an improved firewood stove showing a perforated metal grate placed above the combustion chamber, enabling charcoal use. The original stove structure remains unchanged

The MERV team conducted a census in the area and visited all end users. The team surveyed households until they established that the practice had stopped and did not spread to other communes. Out of 221 households surveyed:

- 71 households (32%) modified their stoves
- The remaining households still use the stoves as originally intended
- At 32% of households, this practice is not widespread. It can be described as 'present but not common'.

The 221 households were a census of the affected locality, not a sample. Therefore, the 71 altered project stoves is the complete count and no extrapolation is needed. The investigation found that it was households close to a road in a commercial centre.

The end-users wanted to cook commercially, and altered their firewood stoves to be able to use charcoal. The MERV team found that the practice was isolated to this location, reduced in households set back from the road, then completely stopped.

To mitigate the risk of over crediting, a conservative approach has been taken of removing the 71 households from the project. The approach is considered conservative as the technologies will continue to deliver some fuel saving benefits.

The MERV team conduct annual awareness campaigns, end user training and follow up visits, usage surveys and satisfaction surveys. If the practice of alteration happens again, the MERV team will pick up on it through these activities and investigate.

Supporting document:

'GS12600\_Improved\_Cooking\_emission\_reductions\_MP1\_v2.8'; tabs 'Stove alteration 1' and 'Stove alteration 2'; and 'GS12600\_stove\_alterations\_MERV\_Report\_MP1'

### **Grievance and Feedback Mechanism (s3.8 Stakeholder Consultation and Engagement Requirements V2.1)**

The physical Continuous Input and Grievance Expression Process book was, and still is, available at the agreed location during the monitoring period (s3.8.3 Stakeholder Consultation and Engagement Requirements V2.1). As well as the mandatory physical book, Input and Grievances can also be communicated over the telephone and on Facebook.

The grievance and feedback mechanism (Grande Mécanisme de Gestion de Feed-Back et des Plaintes de MadAvance) operates in seven interconnected stages: complaints and feedback are first received and registered through various reporting channels, then analyzed, categorized, and triaged — with straightforward cases routed automatically as either direct "VERT" (green) or "JAUNE" (yellow) treatments, while more complex cases are escalated along multiple treatment pathways.

In the treatment and investigation phase, cases are handled either via sub-mechanisms (assigned to specific teams such as the MHPV team, Projet Clean Cooking, Équipe Maintenance, HIMO/CSP department, or Social-Organisation teams) or on a case-by-case basis by field agents, focal points, or the HIMO/CSP team, with five specialized sub-mechanisms (Annexes 1–5) covering areas such as Water/Food distribution, Repair and Rehabilitation, Incident Reporting/ICU, and Sensitive/Critical complaints.

Once investigated, a decision and response is formulated and communicated to the complainant. If the response is deemed unsatisfactory, a formal appeal process is available. Cases are then closed and archived. Finally, all cases feed into a continuous reporting and improvement cycle that includes FAO oversight and direct response channels, ensuring the entire mechanism is self-reinforcing and progressively refined over time.

The mechanism was used by end-users to enquire as to when they would receive their stove(s). In total, 1,306 inputs were received. 1,288 (>98%) were end-users enquiring about receiving the stove. The others were either blank (14), remarks about the team (2), thanks and recommendations (1) and 'Other' (1).

The comments were mainly made at the office (1,200), over telephone (32) or on Facebook (23).

Supporting document:

'GS12600\_Improved\_Cooking\_grievance\_feedback\_mechanism\_MP1'

### **Good Practice Monitoring Requirements (s2.3 Usage Rate Guidelines V2.0)**

To demonstrate compliance with the Usage Rate Guidelines, the activities conducted for the Good Practice Monitoring Requirements are set out below.

The guidelines require:

- 2.3.6: *"records of all trainings including the dates, details of the staff trained and other relevant information"*
- 2.3.8: *"records of all demonstrations, training and follow up visits"*
- 2.3.10: *"records of all awareness campaigns organised"*

### ***Field Team Training and Supervision***

Training of the enumerators for the annual monitoring and project KPT took place in November 2025. This is evidenced by the event attendance form.

Supporting document: 'GS12600\_Improved\_Cooking\_enumerator\_training\_MP1'

### ***Awareness Campaign, End-User Training and Follow-Up Visits***

The awareness campaign, end-user training and follow-up visits were carried out together, as per s2.3.9 of the Usage Rate Guidelines, due to the overlap in topics. The

awareness campaigns occurred at the institutional and stakeholders level; and with communities and end-users.



Figure 16 Example of stakeholder visit



Figure 17 Example of stakeholder visit

Between October 2024 and March 2025, 40 events and engagements happened at the institutional / stakeholder level, including:

- 10 "Awareness workshops" with local organisations
- Courtesy visits to three government ministers (Energy & Hydrocarbons, Environment & Sustainable Development, Water/Sanitation/Hygiene) in Antananarivo
- Meeting with BNCCREDD+ (National Climate Change Office)
- Meetings with mayors of 7 rural communes in advance of distribution

- Presentations to DREDD Anosy and DREN Anosy (regional environmental and education directorates)
- Presentation workshop with fokontany and Loharano chiefs
- Participation in national events: MCCI launch (Oct 2024), national clean cooking policy launch (Oct 2024)

From February to November 25, the systematic, commune-level awareness programme conducted 110 events over 34 communes. Each event focused on presenting the project improved cookstoves and their benefits.

End-user training, including demonstrations, was predominantly delivered at the point of distribution. Between 24th February and 22nd November, 158 events were held across 109 unique locations. The sessions covered the benefits of using the project stove, how to use it, the terms of participating in the project, and how to provide feedback about the project or report an issue.



Figure 18 End user training event



Figure 19 End user training event

The campaigns, training and follow-up visits we carried out in a number of ways to reach as many end-users as possible. This included a radio campaign which had 708 announcements from January to December. These publicised the project, provided instructions for use of the project technology, and informed target beneficiaries of registration and distribution events.

This is evidenced by invoices for and audio files of the campaigns.

The MERV team also travels to communes in the project area by *Tamtam*, a vehicle broadcasting messages about the project via loudspeaker.



Figure 20 *Tamtam* awareness campaign 1



Figure 21 *Tamtam* awareness campaign 2

The *Tamtam* travelled to different communes from February to December 2025.

Supporting document: 'GS12600\_Improved\_Cooking\_good\_practice\_MP1'.

### **Best Practice Monitoring Requirements (s2.4 Usage Rate Guidelines V2.0)**

#### ***Continuous use monitoring***

The Best Practice Monitoring Requirements were followed for the rural firewood and urban charcoal 2 stove scenarios. Stove Use Monitors (SUMs) were placed on a random and representative sample of project stoves for project scenarios 1 (rural firewood) and 3.1 (urban charcoal 2 stoves). These households account for 92.57% of technologies distributed.

The EXACT SUMs record the stove's external temperature every minute to determine how often the stove is used. 120 households were selected for each scenario.

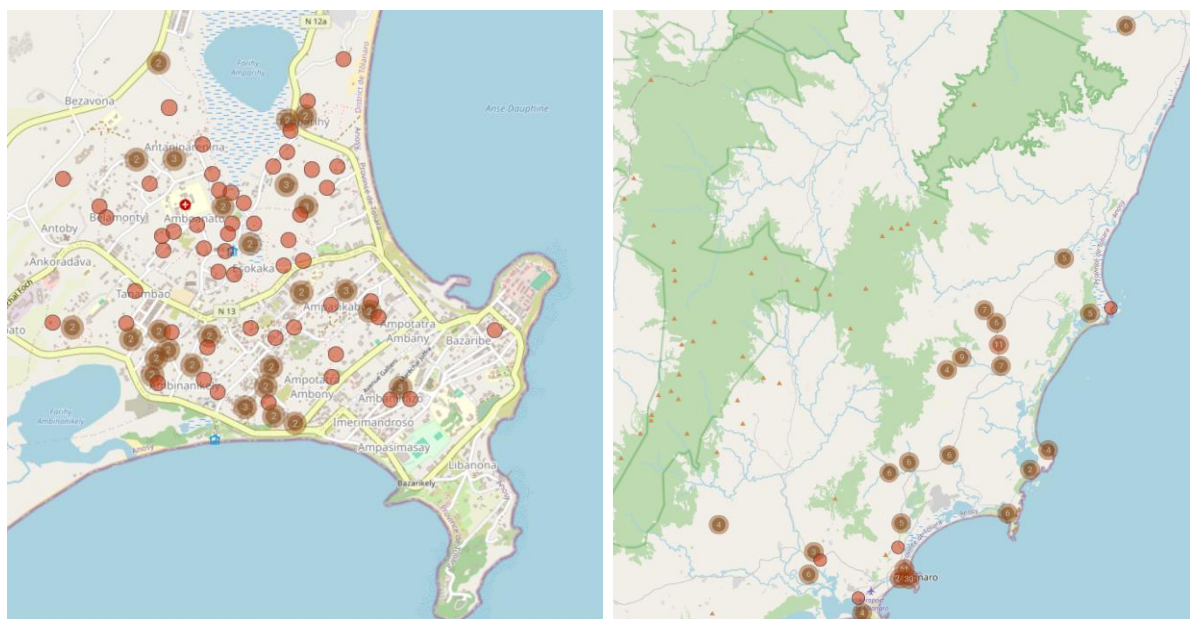


Figure 22 Example of sampling in urban and rural areas

The threshold of 0.143 cooking events per day was selected (at least one use per week). Household, using their stove less were considered as non-users (it is considered they will generate no impact). Households using their stoves more than 0.143 time per days were considered as users.

In order to be conservative, the threshold was increased to every 3 days.

To verify that the sample size meets the 90/10 requirements we applied equation 1 from the Annex I of the CDM sampling guidelines.

| Scenario       | Actual sample size | Usage Rate | Minimum sample size |
|----------------|--------------------|------------|---------------------|
| Rural firewood | 108                | 95.4%      | 5.10                |
| Charcoal 2     | 115                | 97.8%      | 4.78                |

Figure 23 Best practice usage rate

The usage rate for peri-urban firewood and charcoal 1 stove has been determined using the usage survey and is subject to the good practice monitoring threshold of 90%.

To meet the 90/10 requirement with the *once-per-3-days* usage threshold, the sample size needs to be greater than 13 for firewood stove group and bigger than 6 for age charcoal group. With a sample size of 108 and 115 respectively, we exceed these minimum requirements.

Supporting document: 'GS12600\_Improved\_Cooking\_digital\_usage\_report\_MP1'

## **Project Survey; Usage Survey (s4.1.4-10 TPDDTEC V4.0; s2.2.5-12 Usage Rate Guidelines V2.0)**

The project survey and usage survey is combined into one annual monitoring survey. The survey covers demographics, cooking habits, fuel consumption, project stove usage, and SDG impact. The results of the monitoring can be viewed in the 'INSIGHTS' tab of supporting document '2025 Cooking Project Usage Data'.

The annual monitoring took place between 01/12/2025 to 05/12/2025. In total, 801 surveys were conducted. The sampling process is set out in sD.4 Implementation of Sampling Plan.

| Scenario            | No. surveys |
|---------------------|-------------|
| Rural firewood      | 202         |
| Charcoal 2          | 199         |
| Charcoal 1          | 202         |
| Peri-urban firewood | 198         |

Table 5 Number of surveys conducted

### **Physical Verification of Stove Use**

The enumerators performed three physical checks to corroborate self-reported usage, and the results are strong:

**Appears recently used:** 86.1% of stoves showed visible signs of recent use. Urban charcoal (89.4%) and peri-urban charcoal (93.1%) scored highest, while the two firewood scenarios were slightly lower at 80.1–81.7%.

**Warm to touch:** 62.2% of stoves that appeared recently used were still warm. Urban charcoal was again highest at 78.1%, consistent with charcoal's longer burn/retention time. The firewood scenarios ranged from 54–58%, which is reasonable given that firewood fires cool faster after extinguishing. This indicator is heavily dependent on the time of day the survey was conducted relative to the last cooking event.

**Ashes or embers present:** 99.1% of stoves that appeared recently used contained ashes or embers. Only 6 stoves across the entire dataset showed no ash, all in the peri-urban scenarios.

Taken together, the physical verification data provides strong triangulation for self-reported usage. The progression from "appears used" (86.1%) → "warm" (62.2%) →

"ashes present" (99.1%) is internally consistent: virtually all stoves that look used have physical residue, with warmth being the more time-sensitive indicator.

## Use of Project ICS

Self-reported recency of use is very encouraging: 73.1% of households reported using the project stove on the day of the survey ("Today"), and a further 21.5% used it the previous day. Only 3.4% reported last use 2+ days ago, and just 2% said more than 3 days ago.

| Scenario            | Used within 2 days |
|---------------------|--------------------|
| Rural firewood      | 98%                |
| Charcoal 2          | 99.5%              |
| Charcoal 1          | 97.5%              |
| Peri-urban firewood | 96.9%              |

Table 6 Usage survey stove usage

The self-reported usage is subject to caps prescribed in s2.1 of the Usage Rate Guidelines V2:

| Level         | Claimable usage rate | Requirements                                                                                                                                                    |
|---------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mandatory     | Up to maximum 75%    | <ul style="list-style-type: none"> <li>Define use and non-use</li> <li>In person household usage survey</li> <li>Verification of accuracy of results</li> </ul> |
| Good Practice | Up to maximum 90%    | <ul style="list-style-type: none"> <li>Field team training and supervision</li> <li>End -user training and follow ups</li> <li>Awareness campaign</li> </ul>    |
| Best Practice | Above 90%            | <ul style="list-style-type: none"> <li>Continuous use monitoring</li> </ul>                                                                                     |

Table 7 Levels of Usage - Usage Rate Guidelines

## Main Cookstove Identified

Across both seasons, over 98% of households identified the project ICS (Ecoa Wood or Ecoa Char, depending on scenario) as their main cookstove used in the last 7 days. Only 0.9% named a three-stone fire or traditional stove. Stove stacking is accounted for in the project KPT and usage rate calculation. This is consistent across dry and rainy seasons with essentially no seasonal switching away from the project stove.

**Adoption intensity is high.** The convergence of self-reported main stove identification (over 98% project technology), physical verification (86.1% recently used, 99.1% ash present), same-day usage (73.1%), and high weekly frequency (mean 16.9–20.3 uses/week) paints a consistent picture of genuine, regular use of

the project stoves across all four scenarios. This is supported by the data collected by the Continuous Stover Monitoring, set out above in this section.

### Reduction in Respiratory Illness

86.5% of all respondents reported a reduction in respiratory illness, eye soreness, or coughing since they began using the project stove. Among those reporting improvement, coughing was the most commonly cited condition (61.6% of all of the subset who reported a reduction), followed by difficulty breathing (35.2%).

### Change in Household Income

83.2% of respondents reported an increase in household income since the project began. Urban charcoal (92.7%) reported the highest rates of income increase, while rural firewood was lower at 65.9% — the latter also had a notable 24.3% reporting no change. The rural result is consistent with the generally lower monetised economy in remote rural areas where income effects of fuel savings may be less perceptible.

### Money Savings

46.7% of respondents reported that they now save more money compared to before the project. 36% said they do not save more, and 17.2% were not recorded (which includes 119 "don't know" responses). Rural firewood had the lowest affirmative rate (36.9%), while peri-urban charcoal was highest (54.6%).

### Time Savings

On average, the project saved households 2 hours 30 minutes per day. **How time saved is used** (multiple-choice, n=691 respondents): domestic work was the most frequently mentioned activity (58.8% of respondents), followed by income-generating activities (40.7%), spending time with family (38.4%), rest (27.6%), and religious activities (7.2%). Education/training and leisure were rarely mentioned (2–3% each).

The dominance of domestic work is the primary use of saved time, followed closely by income generation. The fact that 40.7% channel time savings into income generation supports the self-reported income increases discussed above.

**Time savings are the most consistent and quantifiable benefit.** An average of 2 hours 30 minutes saved per day, channeled primarily into domestic work and income-generating activities, is a strong and credible co-benefit across all scenarios.

## Overall Satisfaction

Satisfaction with the project stove is overwhelmingly positive. Among those who responded, 66 % were "very satisfied" and 33.4% were "satisfied," totalling 99.4% positive. Only 4 respondents (0.5%) selected "neutral," and no respondents selected "dissatisfied" or "very dissatisfied."

## Field Test (s4.11-14, 18-20 TPDDTEC V4.0)

### Project Kitchen Performance Test

The project KPTs were conducted between December 2025 and February 2026. 184 tests were conducted in total.

| Scenario            | No. tests | HHs from bKPT |
|---------------------|-----------|---------------|
| Rural firewood      | 39        | 19            |
| Charcoal 2          | 37        | 37            |
| Charcoal 1          | 55        | 0             |
| Peri-urban firewood | 53        | 0             |

Table 8 Number of pKPTs conducted

49% of rural firewood and 100% of charcoal 2 stove were paired samples (households sampled in the baseline and the project situation are the same). The remainder of the tests were independent samples (households sampled in the project situation are different from households sampled in the baseline situation).

|                                                                                                                                                                                                  |              |              |              |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|
| Average number of adult equivalent meals prepared per day-<br>Child: 0-14 years =0.8 Adult<br>Female: over 14 years = 0.8 Adult<br>Male: 15-59 years =1 Adult<br>Male: over 59 years = 0.8 Adult | 11.5         | 12.1         | 15.9         | 11.9         |
| Median (kg/person-meal/day)                                                                                                                                                                      | 0.356        | 0.128        | 0.317        | 0.113        |
| Quartile (Q1) (kg/person-meal/day)                                                                                                                                                               | 0.281        | 0.087        | 0.230        | 0.070        |
| Quartile (Q3) (kg/person-meal/day)                                                                                                                                                               | 0.403        | 0.157        | 0.387        | 0.148        |
| IQR                                                                                                                                                                                              | 0.121        | 0.070        | 0.157        | 0.077        |
| Upper Quartile limit                                                                                                                                                                             | 0.585        | 0.261        | 0.622        | 0.264        |
| Lower Quartile limit                                                                                                                                                                             | 0.099        | 0.000        | 0.000        | 0.000        |
| Cut off % (% of outliers cut off from each end)                                                                                                                                                  | 5%           | 5%           | 5%           | 5%           |
| <b>Average consumption (kg/person-meal/day) Inside Cut Off Range</b>                                                                                                                             | <b>0.350</b> | <b>0.127</b> | <b>0.316</b> | <b>0.118</b> |
| Standard Deviation                                                                                                                                                                               | 0.092        | 0.041        | 0.094        | 0.047        |
| Coefficient Of variance (CV)                                                                                                                                                                     | 0.263        | 0.322        | 0.296        | 0.397        |
| CV^2                                                                                                                                                                                             | 0.069        | 0.104        | 0.088        | 0.158        |

|                                                |        |        |        |        |
|------------------------------------------------|--------|--------|--------|--------|
| Lower Bound value of confidence interval       | 0.000  | 0.007  | 0.022  | 0.021  |
| Upper Bound value of confidence interval       | 0.184  | 0.075  | 0.165  | 0.073  |
| Confidence interval                            | 0.184  | 0.069  | 0.143  | 0.052  |
| Precision (2-sided)                            | 0.263  | 0.270  | 0.226  | 0.222  |
| 90-30 Rule Met?                                | Yes    | Yes    | Yes    | Yes    |
| Pp,y - (Tonnes/Household/day)                  | 0.0040 | 0.0015 | 0.0050 | 0.0014 |
| Average Number of Meals per household per day  | 2.86   | 2.79   | 2.60   | 2.79   |
| Average Number of People (Adult) per household | 4.03   | 4.32   | 6.11   | 4.27   |
| Fuel consumption (Tonnes/Person/Year)          | 0.37   | 0.13   | 0.30   | 0.12   |

Table 9 Project KPT data

The baseline and project KPTs measure the adult persons served (APS), adult equivalent meals prepared (AEM), and the average fuel consumption (kg/person-meal/day). This is done to normalise the values measured by the tests and allow for comparison.

| Gender and age        | Fraction of standard adult |
|-----------------------|----------------------------|
| Child: 0-14 years     | 0.5                        |
| Female: over 14 years | 0.8                        |
| Male: 15-59 years     | 1                          |
| Male: over 59 years   | 0.8                        |

Table 10 "Standard adult" equivalence factors defined in terms of sex and age, KPT Protocol V4 (2018)<sup>18</sup>

Dividing fuel use down to kg per adult-equivalent person-meal isolates the stove's efficiency to fuel per unit of cooking service delivered. The adult-equivalent weighting corrects for demographic composition (children consume smaller meals than adults, so a household of five is not five equal "persons served"). The resulting saving is therefore attributable to switching from the baseline technology to the project technology. The average consumption value (kg/person-meal/day) in the baseline and project scenarios is normalised with the baseline *average number of adult equivalent meals prepared per day*, and compared to calculate ICS 20 ( $SFS_{b,y,p}$ ).

<sup>18</sup> <https://cleancooking.org/wp-content/uploads/2024/10/KPT-for-review.pdf>

| Scenario       | AEM (b) | AEM (p) | Pb,y                 | Pp,y  | Saving |
|----------------|---------|---------|----------------------|-------|--------|
|                |         |         | (kg/person-meal/day) |       |        |
| Rural firewood | 11.50   | 11.55   | 0.799                | 0.350 | 56.2%  |
| Charcoal 2     | 10.9    | 12.1    | 0.271                | 0.127 | 53.3%  |
| Charcoal 1     | 10.9    | 11.9    | 0.271                | 0.118 | 56.5%  |
| PU firewood    | 10.9    | 15.9    | 0.652                | 0.316 | 51.6%  |

Table 11 Project fuel savings

The calculation of ICS 20 ( $SFS_{b,y,p}$ ) shows a fuel saving of between 51.6 and 56.5%. This is in line with the technical specifications which advertise a fuel saving of up to 71% for firewood<sup>19</sup> and 65% for charcoal<sup>20</sup>.

The savings are well below the proportional efficiency cap. This is calculated by the difference in thermal efficiency between the baseline device and the project device:

- Baseline device thermal efficiency: 15%<sup>21</sup>
- Project device thermal efficiency: 50.8% (wood); 62.5% (charcoal)

| Scenario            | Cap  | Actual |
|---------------------|------|--------|
| Rural firewood      | 3.39 | 2.21   |
| Charcoal 2          | 4.17 | 2.14   |
| Charcoal 1          | 4.17 | 2.30   |
| Peri-urban firewood | 3.39 | 2.06   |

Table 12 Proportional efficiency comparison

The calculations can be found in cell L23 of the relevant scenario tab in the emission reduction calculation document.

### **Quality Assurance and Quality Control (s4.5 TPDDTEC V4.0)**

In order to demonstrate that the number of project technologies claimed in the emission reductions were procured, the wholesale invoices for the procurement of the

<sup>19</sup> <https://www.burnstoves.com/products/eco-a-wood>

<sup>20</sup> <https://www.burnstoves.com/products/charcoal-stoves>

<sup>21</sup> 19(a) CDM Tool33 Default values for common parameters V3

technologies has been provided to the VVB for verification. This can be seen in supporting document 'GS12600\_Improved\_Cooking\_commercial\_invoices\_Redacted'.

### **Gender Responsive Certification (s2.2 Gender Equality Requirements & Guidelines V2.0)**

The project is certified as Gender Responsive under Gold Standard Gender Equality Requirements & Guidelines (GERG) V2.0. The GS *Gender Policy* sets out the mandatory *Gender Sensitive* and optional (and additional) *Gender Responsive* Certification requirements. The certification prescribes the following steps:

1. Basic Context
2. Safeguarding Principles Assessment
3. Stakeholder Consultation
4. Gender Analysis and Baseline Determination
5. Establish project Goals and Measure change

Steps 1 to 3 are mandatory and are completed in the project design stage (see VPA-DDs; sA.1, sB.4, sB.7.3, sD). Steps 4 to 5 go above and beyond and are the pathway to Gender Responsive Certification. Step 4 *Gender Analysis and Baseline Determination* and Step 5 *Establish project Goals and Measure Change* are also set out in the VPA-DDs (same sections as above).

Section 2.2.9 of GERG V2 requires that "At each verification, the Project shall report an assessment of results and impacts as per the design certified monitoring plan". The assessment and impacts are set out below.

The Gender Action Plan (GAP) is structured around two Gender Goals and the respective Gender Responsive Indicators, in line with Table 2 of GERG and as set out in sB.7.3 'Other elements of monitoring plan' of the Design Certified VPA-DDs:

| Goal Category | Gender responsive indicators | Activities related in the strategy |
|---------------|------------------------------|------------------------------------|
|---------------|------------------------------|------------------------------------|

|                                                                            |     |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Category 1 -<br/>Economic<br/>Empowerment<br/>Goals</b>                 | 1.1 | % of women reporting a change in practices, attitudes, or income as a result of the freed-up time (intermediate outcome/SO3 of the strategy) | <ul style="list-style-type: none"> <li>• Annual gender workshops</li> <li>• Focus groups</li> </ul>                                                                                                                                                                                                              |
|                                                                            | 1.2 | Overall satisfaction rate regarding quality of life (health, well-being) post-acquisition of the household                                   |                                                                                                                                                                                                                                                                                                                  |
|                                                                            | 1.3 | Number of women initiated into entrepreneurial or educational activities thanks to the time freed up                                         | <ul style="list-style-type: none"> <li>• Community training workshops on social norms and gender equality (targets: local leaders, energy committee members, couples, partner NGOs)</li> <li>• Establish feedback and consultation tools (suggestion boxes, satisfaction forms, women's focus groups)</li> </ul> |
| <b>Category 2 -<br/>safeguarding<br/>against<br/>gender-based<br/>harm</b> | 2.1 | Number of women reached by awareness-raising actions on gender norms and roles                                                               | <ul style="list-style-type: none"> <li>• Strengthening Prevention of Gender-based violence (GBV) or violence against women and girls (VAWG) or sexual exploitation and abuse (SEA) or Sexual harassment (SH)</li> </ul>                                                                                          |

Table 13 Gender Responsive Goals from VPA-DD

The GAP was designed and implemented by gender experts, in collaboration with the CME and implementing partner. Full activity-level documentation is available in the Gender Responsive Report, submitted as a supporting document.<sup>22</sup>

The activities, Gender Responsive Indicators and means of verification applied in this monitoring period are those set out in sB.7.3 of the Design Certified VPA-DDs.

<sup>22</sup> 'GS12600\_Improved\_Cooking\_Gender\_Responsive\_Report\_MP1'

The in-depth gender analysis and 479-household baseline survey identified five primary structural inequalities in the project area: women perform 96% of cooking and 93.5% of fuel collection (40% of women spending more than three hours per day on fuel collection alone); 73% of respondents report cooking-related health symptoms with approximately 40% of households cooking in enclosed or semi-enclosed spaces; 33% of women have no free time after domestic tasks; only 8–10% of households make energy decisions jointly; and gender-based violence is largely unnamed and underreported, with elevated risk during firewood collection and intra-household resource tensions.

These baseline conditions, set out in sB.4 of the VPA-DDs, are the reference against which the indicator results reported below are assessed. For the change-type indicators (1.1, 1.3 and 2.1) the pre-project value is nil, as neither the project technology nor the GAP activities existed before the project. The results are therefore reported as absolute values against the baseline conditions above.

Prioritisation across these issues was conducted using three criteria — prevalence in the beneficiary population, severity of impact, and project leverage — yielding a two-tier intervention model. Tier 1 (domestic time burden and health exposure) is addressed directly through the stove distribution itself, with monitored outcomes captured by SDG 5 (time saving) and SDG 3 (health). Tier 2 (economic empowerment, social norms, GBV) is addressed through the GAP's structured activity programme.

A total of 33 community activities incorporating a gender and PEAS dimension were carried out in the monitoring period. This is in addition to the community engagement focused on the project technology. Activity types and aggregate participation are summarised in the table below.

| Activity type           | Locations                                                              | Dates                                                                                                | Participants<br>(F / M) |
|-------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------|
| Annual gender workshops | Ifarantsa; Analapatsy II; Ranomafana                                   | <ul style="list-style-type: none"> <li>07/10/2025</li> <li>08/10/2025</li> <li>14/10/2025</li> </ul> | 143<br>(17 / 126)       |
| Focus groups            | Ifarantsa; Analapatsy II; SPSM Amboasary; Tanambao Centre; Ranomafana; | <ul style="list-style-type: none"> <li>07/10/2025–16/10/2025</li> </ul>                              | 110<br>(74 / 36)        |

|                                                           |                                                                                 |                                                                                                                                                                              |                  |
|-----------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|                                                           | Enaniliha; Morafeno<br>Soanerana; Sarisambo<br>Centre                           | <ul style="list-style-type: none"> <li>• 28/11/2025–<br/>02/12/2025</li> </ul>                                                                                               |                  |
| In-depth<br>personal<br>experience<br>sessions            | Analadravy (Ankaramena);<br>Agnalahova (Soanerana);<br>Ampasy Nampoana Centre   | <ul style="list-style-type: none"> <li>• 25/11/2025</li> <li>• 26/11/2025</li> <li>• 27/11/2025</li> </ul>                                                                   | 34<br>(28 / 6)   |
| PEAS sessions<br>(GBV / SEA /<br>harassment /<br>consent) | Analapatsy II; Ifarantsa;<br>Ranomafana; Enaniliha;<br>Tanambao; SPSM Amboasary | <ul style="list-style-type: none"> <li>• 08/10/2025</li> <li>• 09/10/2025</li> <li>• 14/10/2025</li> <li>• 15/10/2025</li> <li>• 10/10/2025</li> <li>• 09/10/2025</li> </ul> | 144<br>(47 / 97) |
| Men's ally<br>groups                                      | Sarisambo Centre; Italia<br>Sarisambo; Agnalahova<br>(Soanerana)                | <ul style="list-style-type: none"> <li>• 01/12/2025</li> <li>• 02/12/2025</li> <li>• 03/12/2025</li> </ul>                                                                   | 56<br>(14 / 42)  |

Table 14 Summary of Gender Responsive activities

## GAP - Intermediate results: observed changes

### Changes in practices and improved well-being

After the PAG was implemented, data from focus groups indicate that 66% of women reported a change in practices or attitudes, while 85% reported an improvement in their quality of life (reduced fatigue, improved well-being, and perceived health). These trends are confirmed by an in-depth analysis of personal experiences, with 79% of women reporting a change in practices and 89% reporting an improvement in their health or well-being. These changes reflect the initial effects of the time saved and the savings generated by the improved stoves on women's daily lives, effects that were not observable in the initial situation.

### Male involvement and changing social norms

The baseline highlighted a prevailing denial of women's domestic burden. After the implementation of the PAG, at least 42 men explicitly acknowledged this burden, and supportive behaviours were reported (occasional sharing of tasks, logistical support, symbolic recognition). Although these practices are still limited, the shift from denial to recognition is a significant normative change, which is essential for any sustainable transformation of gender roles.

## Prevention of gender-based violence

Before the project, non-physical violence was largely trivialized and rarely identified. After the PAG was rolled out, 144 people were informed about gender-based violence and PEAS mechanisms. Qualitative analyses show a broader understanding of forms of violence, as well as a stated intention—cautious but explicit—to act or report problematic situations. These changes reflect a shift in perceptions and norms, which is essential for effectively reducing violence in a context of structural underreporting.

## Initial impacts and limitations of attribution

The changes observed point to several emerging impacts: improved perceived well-being among women, legitimization of gender as a key issue in the project, the beginnings of a symbolic redistribution of domestic roles, growing male involvement, and institutionalization of participation and feedback mechanisms.

However, in line with the logic of the logical framework and the requirements of the Gold Standard, certain structural results remain dependent on external factors. Sustainable economic empowerment, the complete transformation of intra-household power relations, and a measurable reduction in violence require time, economic opportunities, and a favourable institutional environment.

## Time saved: a lever conditioned by social norms

The gender study identified time savings as a necessary but not sufficient condition for women's empowerment, emphasizing that social control over freed-up time was a key issue. The qualitative results of the PAG shed light on this point. While the time spent cooking and collecting fuel is effectively reduced, it is still mainly reallocated to improved reproductive functions (better organization of the household, childcare, rest), before being directed towards productive or learning activities. This trajectory confirms that freed-up time only becomes a lever for empowerment when it is socially legitimized, particularly within the household.

Thus, the PAG highlights that the central issue is not only the liberation of time, but also the social recognition of women's right to dispose of this time.

## Category 1 - Economic Empowerment Goals

**Indicator 1.1** -% of women reporting a change in practices, attitudes, or income as a result of the freed-up time

66% of women report a change in practices, attitudes or income as a result of the freed-up time (49 of 74 women participating in the differentiated focus groups). This is triangulated by the in-depth personal-experience sessions, in which 79% of women (22 of 28) reported a change.

**Indicator 1.2** – Overall satisfaction rate regarding quality of life (health, well-being) in the project scenario

|                              |     |
|------------------------------|-----|
| Clear improvement            | 70% |
| Partial/cautious improvement | 15% |
| No change reported           | 15% |

Table 15 Indicator 1.2 proportions

Overall, 85% of women (63 of 74) reported a clear or partial improvement in quality of life in the differentiated focus groups; this is the value retained for Indicator 1.2. It is triangulated by the personal-experience sessions, in which 89% of women (25 of 28) reported an improvement in health or well-being.

**Indicator 1.3** – Number of women initiated into entrepreneurial or educational activities thanks to the time freed up

A total of 8 focus groups were held in the monitoring period. The annual monitoring shows that households save 2 hours 30 minutes per day due to the project technologies. 83.2% of households report an increase in income.

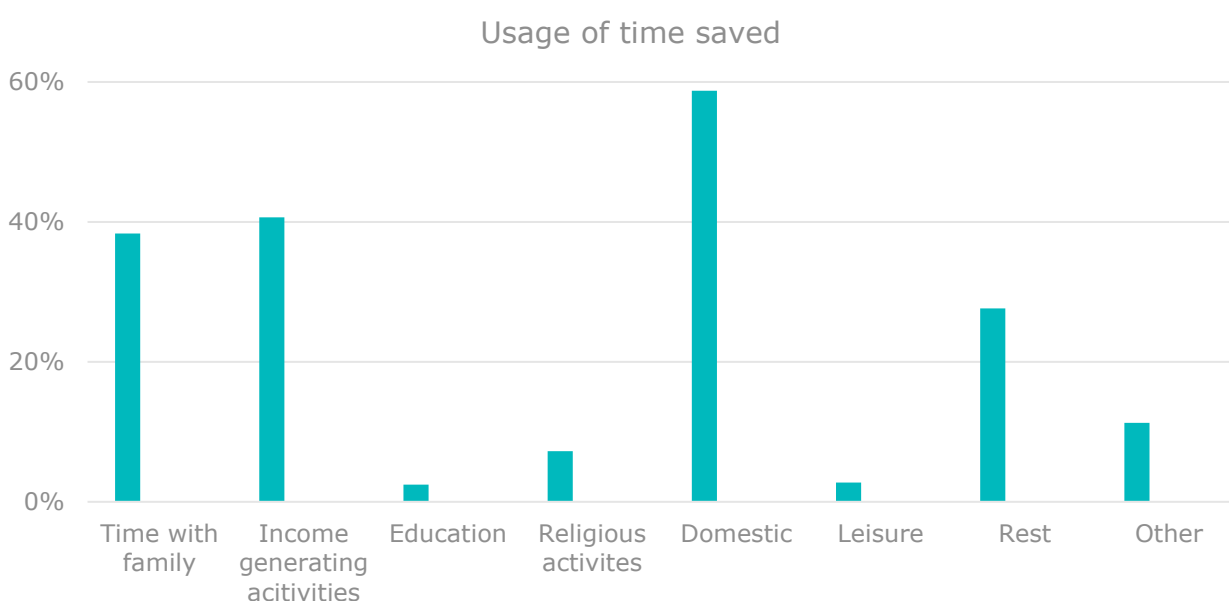


Figure 24 Bar chart of usage of time saved

40.7% of households reported using the time saved by the project to engage in income generating activities. Domestic work (58.8%) and spending time with family (38.4%) were also significant uses of the time, along with rest (27.6%).

The number of women initiated into entrepreneurial or educational activities is evidenced qualitatively in this monitoring period through the focus groups and personal-experience sessions, which document the use of freed-up time for small trade, production and learning activities. In the personal-experience sessions, 18 of 28 women (64%) reported acting as informal relays, encouraging other women to adopt the stove and sharing the information received.

## Category 2 - safeguarding against gender-based harm

**Indicator 2.1** - Number of women reached by awareness-raising actions on gender norms and roles

A total of thirty-three (33) community activities incorporating a gender and PEAS dimension were carried out between October and December 2025.

At least 47 women were directly reached through the PEAS sessions in the monitoring period. A further 133 female participations were recorded across the annual gender workshops, focus groups, personal-experience sessions and men's ally groups.

Direct female participation in the workshops has remained low, due to the targeted prioritisation of community and institutional leaders, who are predominantly male. This observation motivated the complementary deployment of women's focus groups and differentiated spaces, in order to ensure significant participation of women.

## SECTION D. DATA AND PARAMETERS

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

#### SDG 13

|                   |                                  |
|-------------------|----------------------------------|
| Data/parameter ID | ICS 1                            |
| Data/parameter    | Baseline scenario survey results |
| Unit              | NA                               |

|                                                      |                                                                                                                                         |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Description                                          | Report of the results of the baseline scenario survey                                                                                   |
| Source of data                                       | Baseline Survey                                                                                                                         |
| Value(s) applied                                     | Refer section B.4 of PDD and Baseline study sheet.                                                                                      |
| Choice of data or Measurement methods and procedures | The baseline scenario surveys were conducted as per the methodological requirements.                                                    |
| Purpose of data                                      | To determine the baseline scenario of the host country's demographic regarding cooking devices, behaviours and dependence on fuel type. |
| Additional comment                                   | To be determined at the start of first crediting period.                                                                                |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID | <b>ICS 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Data/parameter    | Project technology description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Unit              | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Description       | <p>The detailed description of the project technology shall include as a minimum:</p> <ul style="list-style-type: none"> <li>- Manufacturer name,</li> <li>- product name (if applicable),</li> <li>- technology type,</li> <li>- capacity characteristics,</li> <li>- continuous useful energy output demonstration,</li> <li>- rated thermal efficiency,</li> <li>- Any performance certifications from National Standards body or certification body recognised by national standards body also shall be provided.</li> </ul> <p>A summary of each technology is set out in sA.3 above.</p> |
| Source of data    | Manufacturer specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Value(s) applied  | <p><b>Improved firewood stove</b></p> <ul style="list-style-type: none"> <li>- Manufacturer name: BURN</li> <li>- Product name: Ecoa Wood LongLife</li> <li>- Useful energy output: 2.8 kW</li> <li>- Thermal efficiency: 50.8%</li> </ul>                                                                                                                                                                                                                                                                                                                                                     |

|                                                      |                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      | <b>Improved charcoal stove</b> <ul style="list-style-type: none"> <li>- Manufacturer name: BURN</li> <li>- Product name: Ecoa Char G5</li> <li>- Useful energy output: 1.8 kW</li> <li>- Thermal efficiency: 62.5%</li> </ul> <p>The complete manufacturer specifications can be found in sA.3.</p> |
| Choice of data or Measurement methods and procedures | Manufacturer specifications                                                                                                                                                                                                                                                                         |
| Purpose of data                                      | -                                                                                                                                                                                                                                                                                                   |
| Additional comment                                   | <p>Supporting documents:</p> <ul style="list-style-type: none"> <li>- 'Manufacturer_specifications_ECOA_Charcoal'</li> <li>- 'Manufacturer_specifications_ECOA_Wood'</li> </ul>                                                                                                                     |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                                    | <b>ICS 3</b>                                                                                                                                                                                                                                                                                                                                                         |
| Data/parameter                                       | Expected technical life of project technology                                                                                                                                                                                                                                                                                                                        |
| Unit                                                 | Years                                                                                                                                                                                                                                                                                                                                                                |
| Description                                          | The expected technical life of an individual project technology is defined in the VPA-DDs.                                                                                                                                                                                                                                                                           |
| Source of data                                       | Manufacturer specifications                                                                                                                                                                                                                                                                                                                                          |
| Value(s) applied                                     | <b>Ecoa Wood LongLife – 7-10 years</b><br><b>Ecoa Char Stainless – 7-10 years</b>                                                                                                                                                                                                                                                                                    |
| Choice of data or Measurement methods and procedures | Manufacturer's specifications                                                                                                                                                                                                                                                                                                                                        |
| Purpose of data                                      | Defining lifespan of project technologies.                                                                                                                                                                                                                                                                                                                           |
| Additional comment                                   | If the expected technical life of project technology is shorter than the crediting period, then the PP shall replace/retrofit the expiring project technology with equivalent or better-quality project technology /parts at the end of the technical life. Otherwise, it will ensure that no emission reductions are claimed after the end of their technical life. |

|  |                                                                                                                                                                                 |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Supporting documents:</p> <ul style="list-style-type: none"> <li>- 'Manufacturer_specifications_ECOA_Charcoal'</li> <li>- 'Manufacturer_specifications_ECOA_Wood'</li> </ul> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                    |                                                                                                                                                                                                                                                                                     |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID  | <b>ICS 4</b>                                                                                                                                                                                                                                                                        |
| Data/parameter     | Indoor air pollution (IAP) levels of the project technology                                                                                                                                                                                                                         |
| Unit               | N/A                                                                                                                                                                                                                                                                                 |
| Description        | <p><b>PM<sub>2.5</sub></b></p> <p>Ecoa Char Stainless – 87.36 mg/MJ<sub>d</sub></p> <p>Ecoa Wood LongLife – 268.73 mg/MJ<sub>d</sub></p> <p><b>Carbon Monoxide (CO)</b></p> <p>Ecoa Char Stainless – 10.14 mg/MJ<sub>d</sub></p> <p>Ecoa Wood LongLife – 4.42 mg/MJ<sub>d</sub></p> |
| Source of data     | Manufacturer's specifications                                                                                                                                                                                                                                                       |
| Purpose of data    | Demonstration that indoor pollution levels have not worsened compared to the baseline scenario.                                                                                                                                                                                     |
| Additional comment | <p>Supporting documents:</p> <ul style="list-style-type: none"> <li>- 'Manufacturer_specifications_ECOA_Charcoal'</li> <li>- 'Manufacturer_specifications_ECOA_Wood'</li> </ul>                                                                                                     |

|                   |                                                                                                                                 |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID | <b>ICS 5</b>                                                                                                                    |
| Data/parameter    | Avoidance of double counting or double claiming among project participants                                                      |
| Unit              | N/A                                                                                                                             |
| Description       | Evidence of avoidance of double counting or double claiming with other parties directly involved with the project or programme. |
| Source of data    | Written assertion                                                                                                               |
| Value(s) applied  | -                                                                                                                               |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Choice of data or Measurement methods and procedures | <p>CME has full legal ownership of the credits generated through the use of the project technologies. The rights were granted by the end users through individual customer agreements signed upon receipt of the stoves. The electronic copy is recorded on the PPs database, while the physical copy is kept by the beneficiary.</p> <p>The uncontested legal ownership with the technology manufacturer is secured via a contractual agreement. There is no other PP involved in the project.</p> <p>Each household and project technology is provided with a unique ID to prevent double counting of emission reductions in the project area.</p> |
| Purpose of data                                      | Avoidance of double counting or double claiming                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Additional comment                                   | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID | <b>ICS 6</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Data/parameter    | Avoidance of double counting or double claiming with other mitigation actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Unit              | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Description       | Review and analysis of mitigation actions in other voluntary markets and other compliance schemes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Source of data    | Gold Standard Project Database, CDM Project Database and other relevant voluntary carbon credit standard databases such as Verra or other national registries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Value(s) applied  | <p>The project is not included in any other carbon project as:</p> <ul style="list-style-type: none"> <li>• The proposed project does not utilize any elements of a former project.</li> <li>• Each project technology is associated with a unique serial number for unique identification (marked on the ICS itself). These stoves have never been used by other beneficiaries. The project end user information (name, address etc.) of the beneficiaries is collected at the time of distribution and recorded in the distribution database to eliminate any double counting. The project does not involve project technologies from other carbon projects or programs.</li> <li>• The project does not distribute the project technologies to households which already own a stove</li> </ul> |

|                                                      |                                                                                                  |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                                                      | from another carbon project. It does not displace stoves from other carbon projects or programs. |
| Choice of data or Measurement methods and procedures | As per applied methodology.                                                                      |
| Purpose of data                                      | Avoidance of double counting or double claiming                                                  |
| Additional comment                                   | Undertaken at the time of project design review and VPA inclusion review.                        |

|                                                      |                                                                                                                                                                                    |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                                    | <b>ICS 7</b>                                                                                                                                                                       |
| Data/parameter                                       | Regulatory framework for provision of thermal energy services                                                                                                                      |
| Unit                                                 | NA                                                                                                                                                                                 |
| Description                                          | Evidence that the project does not undermine or conflict with any national, sub-national or local regulations or guidance for thermal energy supply/devices or fuel supply or use. |
| Source of data                                       | -                                                                                                                                                                                  |
| Value(s) applied                                     | The project complies with the legal, environmental, and social regulations of the VPA host country, Madagascar.<br>A detailed analysis is provided in section A.1 of the VPA-DDs.  |
| Choice of data or Measurement methods and procedures | As per applied methodology.                                                                                                                                                        |
| Purpose of data                                      | -                                                                                                                                                                                  |
| Additional comment                                   | Undertake at the start of each crediting period.                                                                                                                                   |

|                   |                      |
|-------------------|----------------------|
| Data/parameter ID | <b>ICS 8</b>         |
| Data/parameter    | $EF_{b,f,CO_2}$      |
| Unit              | tCO <sub>2</sub> /TJ |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description                                          | CO <sub>2</sub> emission factor arising from use of fuels in baseline scenario                                                                                                                                                                                                                                                                                                                                                                                        |
| Source of data                                       | Methodology default or cap                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Value(s) applied                                     | <b>Wood:</b> 112<br><b>Charcoal:</b> 197.15 (includes charcoal production emissions)                                                                                                                                                                                                                                                                                                                                                                                  |
| Choice of data or Measurement methods and procedures | As per applied methodology.<br>The emissions stemming from charcoal production in Madagascar is highly inefficient, with conversion efficiencies as low as 8-17% for traditional kilns/ improved traditional kilns (meaning significant biomass loss and emissions) <sup>23</sup> . Charcoal production is also a key driver of deforestation in Madagascar, affecting carbon stocks and biodiversity.<br>The methodological cap is based on a kiln efficiency of 30% |
| Purpose of data                                      | Baseline emission calculations                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Additional comment                                   | The methodological cap gives a wood to charcoal conversion of 3.3 KGs of wood for every 1 KG of charcoal. This is below the 4:1 level.                                                                                                                                                                                                                                                                                                                                |

|                   |                                                                                      |
|-------------------|--------------------------------------------------------------------------------------|
| Data/parameter ID | <b>ICS 9</b>                                                                         |
| Data/parameter    | $EF_{b,f,nonCO2}$                                                                    |
| Unit              | tCO <sub>2</sub> /TJ                                                                 |
| Description       | Non-CO <sub>2</sub> emission factor arising from use of fuels in baseline scenario   |
| Source of data    | Methodology default                                                                  |
| Value(s) applied  | <b>Wood:</b> 9.46<br><b>Charcoal:</b> 44.83 (includes charcoal production emissions) |

<sup>23</sup> Charcoal Production [https://energypedia.info/wiki/Charcoal\\_Production](https://energypedia.info/wiki/Charcoal_Production)

|                                                      |                                                                                                                                                                            |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Choice of data or Measurement methods and procedures | As per applied methodology.                                                                                                                                                |
| Purpose of data                                      | Baseline emission calculations                                                                                                                                             |
| Additional comment                                   | The baseline fuel and project fuel are the same in project scenarios 1 and 2. As per method 1 of emission reduction calculation, $EF_{b,f,non-CO_2} = EF_{p,f,non-CO_2}$ . |

|                                                      |                                                                                                                                     |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                                    | <b>ICS 12</b>                                                                                                                       |
| Data/parameter                                       | $NCV_{b,fuel}$                                                                                                                      |
| Unit                                                 | TJ/ton                                                                                                                              |
| Description                                          | Net calorific value of the fuels used in the baseline                                                                               |
| Source of data                                       | Methodology default                                                                                                                 |
| Value(s) applied                                     | <b>Wood:</b> 0.0156<br><b>Charcoal:</b> 0.0295                                                                                      |
| Choice of data or Measurement methods and procedures | As per applied methodology.                                                                                                         |
| Purpose of data                                      | Baseline emission calculations                                                                                                      |
| Additional comment                                   | The baseline fuel and project fuel are the same. As per method 1 of emission reduction calculation, $NCV_{b,fuel} = NCV_{p,fuel}$ . |

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID | <b>ICS 17</b>                                                                                                            |
| Data/parameter    | $f_{NRB,i,y}$                                                                                                            |
| Unit              | Percentage                                                                                                               |
| Description       | Fractional non-renewability status of woody biomass fuel during year y, in case the baseline fuel is biomass or charcoal |
| Source of data    | MoFuSS                                                                                                                   |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value(s) applied                                     | 54%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Choice of data or Measurement methods and procedures | <p>The subnational value for Toliary has been applied. The value can be found in Table 4 (Madagascar; Toliary) of the A6.4 Methodological Tool Fraction of non-renewable biomass V1.0.<sup>24</sup></p> <p>The MoFuSS value is applied in line with GS Rule Update: fNRB Application for GS4GG Certification V1.0. Section 2.3.1 provides:</p> <p><i>"For the issuance of GSVERs, design certification or inclusion of an activity, or renewal of crediting period of a design certified activity, the project developer shall use one of these fNRB values:</i></p> <ul style="list-style-type: none"> <li><i>a. Modelling Fuelwood Saving Scenario (MoFuSS) derived values, or</i></li> <li><i>b. Updated version of Tool 33 Default values for common parameters (version 2.0 or earlier versions are not valid any more) after CDM Executive Board approval or revised version of Tool 30 under PACM- A6.4, or</i></li> <li><i>c. New method developed for fNRB calculation under PACM-A6.4, approved by Gold Standard"</i></li> </ul> |
| Purpose of data                                      | Calculations of emission reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Additional comment                                   | Article 6.4 Mechanism Methodological tool: Fraction of non-renewable biomass V1.0 sets out subnational level values, which were not contained in CDM TOOL33. The tool is noted here as further evidence of the fNRB for CCP-labeling and independent project-level ratings purposes in anticipation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                   |                    |
|-------------------|--------------------|
| Data/parameter ID | <b>ICS 18</b>      |
| Data/parameter    | Pb,y               |
| Unit              | kg/person-meal/day |

<sup>24</sup> [https://unfccc.int/sites/default/files/resource/A6.4-AMT-009-v01.0\\_public.pdf](https://unfccc.int/sites/default/files/resource/A6.4-AMT-009-v01.0_public.pdf)

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description                                          | Quantity of fuel that is consumed in baseline scenario b during year y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Source of data                                       | Baseline Field Performance Test Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Value(s) applied                                     | <b>Rural - Wood:</b> 0.799<br><b>Peri-Urban - Wood:</b> 0.652<br><b>Urban and Peri-Urban - Charcoal:</b> 0.271                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Choice of data or Measurement methods and procedures | Baseline Field Performance Test – KPT<br>As per Table 3 of the KPT Protocol V4.0, hanging scales and pin-type moisture meters were used. The scales and meters were purchased before the field tests, so there was no need for calibration. This is evidenced in supporting document 'bKPT_equipment_receipts'.                                                                                                                                                                                                                                                                     |
| Purpose of data                                      | Method 1 - Calculation of baseline emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Additional comment                                   | The value for <b>Rural - Wood</b> households was 0.773 tonnes/person/year. This is capped by the threshold value.<br><br>The threshold value and cap value will be applied as per the methodology:<br><b>Threshold value:</b> 0.75 tonnes/person/year of fuelwood<br><b>Cap value:</b> 0.95 tonnes/person/year of fuelwood<br><br>The average number of adult equivalent meals prepared per day in the baseline is used to normalise the baseline and project KPTs.<br><b>Rural - Wood:</b> 11.50<br><b>Peri-Urban - Wood:</b> 10.9<br><b>Urban and Peri-Urban - Charcoal:</b> 10.9 |

## SDG 1

|                   |                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID | <b>GSDM-I1.1.1</b>                                                                                                                                    |
| Data/parameter    | HHS <sub>B</sub>                                                                                                                                      |
| Unit              | MGA / week                                                                                                                                            |
| Description       | Average household expenditure on basic service on cooking fuels in baseline i.e., reduction in expenditure on purchased fuel for cooking in baseline. |

|                                                      |                          |
|------------------------------------------------------|--------------------------|
| Source of data                                       | Baseline Survey          |
| Value(s) applied                                     | 11,464                   |
| Choice of data or Measurement methods and procedures | -                        |
| Purpose of data                                      | SDG 1 Impact calculation |
| Additional comment                                   | -                        |

## D.2 Data and parameters monitored

### SDG 13

|                                    |                                                                                                                                                                                                                   |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter ID                | <b>ICS 15</b>                                                                                                                                                                                                     |
| Data / Parameter                   | Avoidance of double counting or double claiming among project technology end users                                                                                                                                |
| Unit                               | NA                                                                                                                                                                                                                |
| Description                        | Evidence of avoidance of double counting or double claiming with project technology end users                                                                                                                     |
| Source of data                     | Customer agreements                                                                                                                                                                                               |
| Value(s) applied                   | NA                                                                                                                                                                                                                |
| Measurement methods and procedures | The beneficiaries transfer their rights to ownership of carbon credits to PP via the customer agreement. The electronic copy is recorded on the PPs database, while the physical copy is kept by the beneficiary. |
| Monitoring frequency               | Per project technology distributed                                                                                                                                                                                |
| QA/QC procedures                   | Cross check using general internet search and search of public records of Gold Standard and other voluntary market and UNFCCC mechanisms                                                                          |
| Purpose of data                    | Demonstration of Avoidance of Double Counting among end users                                                                                                                                                     |
| Additional comment                 | -                                                                                                                                                                                                                 |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter ID                | <b>ICS 16</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Data / Parameter                   | Presence of stove stacking                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Unit                               | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description                        | Descriptive statistics of the presence and usage practices of baseline- and other non-project-technology by project technology end users                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Source of data                     | Usage survey: use of other stoves                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Value(s) applied                   | NA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Measurement methods and procedures | Usage Survey- use of other stoves, to capture cooking habits and stove usage of households in the region, including quantification of use of baseline devices, by formulating questions and/or collecting evidence to determine the frequency of usage of both the project devices and baseline devices, or monitoring surveys to capture the number of meals cooked.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Monitoring frequency               | Annual                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| QA/QC procedures                   | <p>At the time of project survey, presence of multiple Project ICS shall be checked in the sampled household. In case samples with more than 1 project ICS are identified, the project ICS population shall be adjusted accordingly.</p> <p>Further, in case existing baseline technology is found in use in parallel with project ICS, the baseline consumption shall be adjusted accordingly:</p> <ul style="list-style-type: none"> <li>• if the baseline fuel consumption was defined based on the total fuel used for cooking by the user, determine the percentage of meals or cooking performed on the project technology and multiply the baseline fuel usage by this percentage.</li> <li>• adjust the baseline fuel consumption to be defined based only on the use of the cooking technology that is directly replaced by the project technology.</li> </ul> |
| Purpose of data                    | To adjust Pp,y or SFSp,b,y as deemed appropriate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Additional comment                 | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter ID                | <b>ICS 19</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Data / Parameter                   | Pp,y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Unit                               | kg/person-meal/day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Description                        | Quantity of fuel that is consumed in project scenario p during year y                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Source of data                     | Project performance field tests - see section 4.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Value(s) applied                   | <b>Rural - Wood:</b> 0.350<br><b>Peri-Urban Wood:</b> 0.316<br><b>Urban Charcoal:</b> 0.127<br><b>Peri-Urban Charcoal:</b> 0.118                                                                                                                                                                                                                                                                                                                                                                                               |
| Measurement methods and procedures | <p>Project Kitchen Performance Test</p> <p>As per Table 3 of the KPT Protocol V4.0, hanging scales were used. The scales were purchased in Dec 25 before the field tests from later in December through to February 26, so there was no need for calibration. This is evidenced in supporting document 'pKPT_equipment_receipt_MP1'.</p>                                                                                                                                                                                       |
| Monitoring frequency               | <p>Updated every two years, or more frequently</p> <p>The KPT values are valid for two years and may be applied for before or after period, however the gap between start date of first KPTs and second KPTs shall not be more than two years.</p>                                                                                                                                                                                                                                                                             |
| QA/QC procedures                   | Compliance with the general requirements for sampling (Section 4.4), general requirements for QA/QC (Section 4.5) and Annex 2 Kitchen performance test.                                                                                                                                                                                                                                                                                                                                                                        |
| Purpose of data                    | Method 1 calculation of project emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Additional comment                 | <p>Used to calculate SFS under method 1</p> <p>As per the methodology, an applicable adjustment factor is applied. Parameters ICS 18 and 19 measure kg/person-meal/day in order to normalise the test results. The fuel consumption is multiplied by the number of meals consumed per household per day in the baseline scenario to normalise the results of the baseline and project kitchen performance tests. Otherwise, measuring kg/household/day does not account for the variation in household size between tests.</p> |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------|---------|------------|-----|-------|-----------------|-----|-------|------------------|-----|-------|------------------|-----|-------|--|--------|-----|
| Data / Parameter ID                | ICS 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Data / Parameter                   | SFS <sub>b,p,y</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Unit                               | kg/person-meal/day                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Description                        | Specific fuel savings for an individual project technology of baseline b/project p pair in year y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Source of data                     | Calculated from P <sub>b,y</sub> , P <sub>p,y</sub> and other information to obtain the savings in the required units                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Value(s) applied                   | <b>Rural Wood:</b> 0.449<br><b>Peri-Urban Wood:</b> 0.336<br><b>Urban Charcoal 2:</b> 0.145<br><b>Charcoal 1:</b> 0.153                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Measurement methods and procedures | Baseline and Project Kitchen Performance Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Monitoring frequency               | Updated every two years, or more frequently                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| QA/QC procedures                   | <p>Cross-check with proportional efficiency of baseline and project technology. For example, if the baseline stove efficiency is 10% and the project rated efficiency is 25%, the savings should reflect a factor of 2.5 approximately in the first year of the crediting year and not more. If it is more, then the value is capped based on proportional efficiency.</p> <p>The efficiencies of the baseline cooking devices are set out in 19(a)-(b) of CDM Tool33 v3.</p> <p>The efficiencies of the project cooking devices are set out in sA.3 of the Monitoring Report.</p> <p><b>Thermal efficiency of cooking devices</b></p> <table><tr><td></td><td>Baseline</td><td>Project</td></tr><tr><td>Rural Wood</td><td>15%</td><td>50.8%</td></tr><tr><td>Peri-Urban Wood</td><td>15%</td><td>50.8%</td></tr><tr><td>Urban Charcoal 2</td><td>15%</td><td>62.5%</td></tr><tr><td>Urban Charcoal 1</td><td>15%</td><td>62.5%</td></tr></table> <p><b>Proportional efficiency</b></p> <table><tr><td></td><td>Actual</td><td>Cap</td></tr></table> |         | Baseline | Project | Rural Wood | 15% | 50.8% | Peri-Urban Wood | 15% | 50.8% | Urban Charcoal 2 | 15% | 62.5% | Urban Charcoal 1 | 15% | 62.5% |  | Actual | Cap |
|                                    | Baseline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Project |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Rural Wood                         | 15%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 50.8%   |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Peri-Urban Wood                    | 15%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 50.8%   |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Urban Charcoal 2                   | 15%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 62.5%   |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
| Urban Charcoal 1                   | 15%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 62.5%   |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |
|                                    | Actual                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cap     |          |         |            |     |       |                 |     |       |                  |     |       |                  |     |       |  |        |     |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |      |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|
|                    | Rural Wood                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2.21 | 3.39 |
|                    | Peri-Urban Wood                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2.06 | 3.39 |
|                    | Urban Charcoal 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2.14 | 4.17 |
|                    | Urban Charcoal 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2.30 | 4.17 |
| Purpose of data    | Used to calculate Emission Reduction ER <sub>y</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |      |
| Additional comment | <p>Applies when using Method 1.</p> <p>As per the methodology, more than one technology unit per household is distributed, "<i>special attention must be given to ensure the savings per technology are calculated conservatively</i>".</p> <p>Project scenario Urban Charcoal 2 distributes 2 project stoves to the beneficiary households. The conservativeness of the calculation is demonstrated in the difference between the theoretical proportional efficiency cap, and the actual proportional efficiency achieved (demonstrated above).</p> <p>The savings were calculated using a project Kitchen Performance Test. The test was conducted on all fuel consumed in the household over the testing period, rather than on one device only.</p> <p>This removes the risk of over-crediting which may stem from measuring the fuel saving on one project device and doubling it to represent the savings of a multi-device household.</p> |      |      |

|                     |                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter ID | <b>ICS 26</b>                                                                                                                                                                                                                                                                                                                                                |
| Data / Parameter    | $U_{p,y}$                                                                                                                                                                                                                                                                                                                                                    |
| Unit                | Percentage                                                                                                                                                                                                                                                                                                                                                   |
| Description         | Weighted average usage rate in project scenario p during year y                                                                                                                                                                                                                                                                                              |
| Source of data      | <p>Usage survey, following the description in section 4.1. Usage survey.</p> <p>The survey result must provide the statistically valid proportion of users actively using the project technology for each project technology age cohort.</p> <p>From the annual usage survey results, calculate the weighted average percent of users actively using the</p> |

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                    | project technology, where the weighting is by the quantity of project technologies of each age cohort being credited in a given project scenario.                                                                                                                                                                                                                                                                                                                                             |
| Value(s) applied                   | <p><b>Best Practice</b></p> <p>Rural Wood: 95.4%</p> <p>Charcoal 2: 97.8%</p> <p><b>Good Practice</b></p> <p>Peri-Urban Wood: 90% (Measured value: 96.9%)</p> <p>Charcoal 1: 90% (Measured value: 97.5%)</p>                                                                                                                                                                                                                                                                                  |
| Measurement methods and procedures | <p>Usage survey (mandatory requirements)</p> <p>Continuous Stove monitors (best practice requirements)</p>                                                                                                                                                                                                                                                                                                                                                                                    |
| Monitoring frequency               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| QA/QC procedures                   | Compliance with the general requirements for sampling (Section 4.4) and general requirements for QA/QC (Section 4.5).                                                                                                                                                                                                                                                                                                                                                                         |
| Purpose of data                    | Used to calculate Emission Reduction E <sub>Ry</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Additional comment                 | <p>Conducted in line with the Cookstove Usage Rate Guidelines V2.0, applying mandatory monitoring (s2.2) and good practice (s2.3) requirements at a minimum. This allows for claiming up to 90% usage rate.</p> <p>The best practice (s2.4) monitoring requirements, installing Continuous Stove Monitors (CSM), was carried out on scenarios 1 and 3.1. This allows for claiming above 90%.</p> <p>Evidence is provided in sC 'Description of Monitoring System Applied by the Project'.</p> |

|                     |                                                                                                            |
|---------------------|------------------------------------------------------------------------------------------------------------|
| Data / Parameter ID | <b>ICS 27</b>                                                                                              |
| Data / Parameter    | $N_{b,p,y}$                                                                                                |
| Unit                | Days                                                                                                       |
| Description         | Number of project technology-days included in the project database for baseline b/project p pair in year y |
| Source of data      | <p>Project database</p> <p>Emission reduction calculations</p>                                             |

|                                    |                                                                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value(s) applied                   | <b>GS12851:</b> 4,594,573<br><b>GS23369:</b> 5,447,265<br><b>GS23370:</b> 2,755,771<br><b>GS23409:</b> 917,608                                                                                                |
| Measurement methods and procedures | Calculated from the Project database as the sum of the number of project technology units times the calendar days during the year y that they were present at the end user locations in the Monitoring Period |
| Monitoring frequency               | Annually                                                                                                                                                                                                      |
| QA/QC procedures                   | Distribution database<br>Distribution forms<br>Invoices demonstrating procurement of technologies                                                                                                             |
| Purpose of data                    | Used to calculate Emission Reduction ERy                                                                                                                                                                      |
| Additional comment                 | 'GS12600_Improved_Cooking_emission_reductions_MP1'<br>- Tab 'Nb,p,2025 data'; column F<br>- Tab 'Nb,p,2025 data'; cells W20:AD25<br>- Tab 'VPA Summary and Inputs'; cells E14:E19                             |

|                      |                                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------------------------|
| Data / Parameter ID  | <b>ICS 28</b>                                                                                                        |
| Data / Parameter     | LE <sub>p,y</sub>                                                                                                    |
| Unit                 | tCO <sub>2</sub> e per year                                                                                          |
| Description          | Leakage in project scenario p during year y                                                                          |
| Source of data       | Sources established by following section 2.4.A Leakage emissions                                                     |
| Monitoring frequency | Default discount value of 0.95 applied to emission reductions                                                        |
| QA/QC procedures     | Compliance with the general requirements for sampling (Section 3.1) and general requirements for QA/QC (Section 3.2) |
| Additional comment   | -                                                                                                                    |

## SDG 1

|                                    |                                                                                                                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                  | <b>GSDM-I1.1.1</b>                                                                                                                                                         |
| Data/parameter                     | HHS <sub>p</sub>                                                                                                                                                           |
| Unit                               | MGA / week                                                                                                                                                                 |
| Description                        | Average household expenditure on basic service due to adaptation of project technology in project i.e., reduction in expenditure on purchased fuel for cooking in project. |
| Source of data                     | Annual monitoring                                                                                                                                                          |
| Value(s) applied                   | 5,911                                                                                                                                                                      |
| Measurement methods and procedures | Determined via ex-post monitoring over a sample of project ICS users using a survey questionnaire                                                                          |
| Monitoring frequency               | Annual                                                                                                                                                                     |
| QA/QC procedures                   | -                                                                                                                                                                          |
| Purpose of data                    | SDG 1 Impact calculation                                                                                                                                                   |
| Additional comment                 | 'GS12600_Improved_Cooking_annual_monitoring_MP1'<br>- Tab 'SDG Insight'; cell G15                                                                                          |

### SDG 3

|                                    |                                                                                                                |
|------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                  | <b>GSDM-I3.9.1</b>                                                                                             |
| Data/parameter                     | HAP <sub>p</sub>                                                                                               |
| Unit                               | % of households who perceive less incidence of eye problems and or respiratory illness in the project scenario |
| Description                        | Number of households that observed reduction in PM2.5 & carbon monoxide (CO) concentration reductions          |
| Source of data                     | Ex-post monitoring surveys                                                                                     |
| Value(s) applied                   | 86.5%                                                                                                          |
| Measurement methods and procedures | Determined via ex-post monitoring over a sample of project ICS users using a survey questionnaire              |
| Monitoring frequency               | Annual                                                                                                         |
| QA/ QC procedures                  | -                                                                                                              |

|                    |                                                                                   |
|--------------------|-----------------------------------------------------------------------------------|
| Purpose of data    | SDG 3 Impact calculation                                                          |
| Additional comment | 'GS12600_Improved_Cooking_annual_monitoring_MP1'<br>- Tab 'SDG Insights'; cell K7 |

## SDG 5

|                                    |                                                                                                             |
|------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                  | <b>GSDM-I5.4.1</b>                                                                                          |
| Data/parameter                     | ATSp                                                                                                        |
| Unit                               | Hours/household/day                                                                                         |
| Description                        | Average time saving, associated with fuel collection time, due to adoption of project technology in project |
| Source of data                     | Ex-post monitoring surveys                                                                                  |
| Value(s) applied                   | 2.5                                                                                                         |
| Measurement methods and procedures | Determined via ex-post monitoring over a sample of project ICS users using a survey questionnaire           |
| Monitoring frequency               | Annual                                                                                                      |
| QA/ QC procedures                  | -                                                                                                           |
| Purpose of data                    | SDG 5 Impact calculation                                                                                    |
| Additional comment                 | GS12600_Improved_Cooking_annual_monitoring_MP1<br>- Tab 'SDG Insights'; cell S226                           |

## SDG 7

|                   |                                                             |
|-------------------|-------------------------------------------------------------|
| Data/parameter ID | <b>GSDM-I7.3.1</b>                                          |
| Data/parameter    | EC <sub>b</sub>                                             |
| Unit              | kWh(th)/day                                                 |
| Description       | Average energy consumption per household per day            |
| Source of data    | Emission reduction calculations                             |
| Value(s) applied  | <b>Rural - Wood:</b> 38.7<br><b>Peri-Urban - Wood:</b> 30.7 |

|                                    |                                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------|
|                                    | <b>Urban - Charcoal:</b> 24.4<br><b>Peri-Urban - Charcoal:</b> 24.4                         |
| Measurement methods and procedures | Calculation set out in section E.1                                                          |
| Monitoring frequency               | Annual                                                                                      |
| QA/ QC procedures                  | -                                                                                           |
| Purpose of data                    | SDG 7 Impact calculation                                                                    |
| Additional comment                 | 'GS12600_Improved_Cooking_emission_reductions_MP1'<br>- Tab 'Thermal Energy'; cells C15:F15 |

|                                    |                                                                                                                    |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                  | <b>GSDM-I7.3.1</b>                                                                                                 |
| Data/parameter                     | EC <sub>p</sub>                                                                                                    |
| Unit                               | kWh(th) / day                                                                                                      |
| Description                        | Average energy consumption per household per day                                                                   |
| Source of data                     | Emission reduction calculations                                                                                    |
| Value(s) applied                   | <b>Rural Wood:</b> 17.4<br><b>Peri-Urban Wood:</b> 14.9<br><b>Charcoal 2:</b> 11.4<br><b>Charcoal 1:</b> 10.6      |
| Measurement methods and procedures | Calculation set out in section E.2                                                                                 |
| Monitoring frequency               | Annual                                                                                                             |
| QA/ QC procedures                  | -                                                                                                                  |
| Purpose of data                    | SDG 7 Impact calculation                                                                                           |
| Additional comment                 | <b>Energy Savings per VPA in MP1 (GWh(th))</b><br>GS12851: 97.4<br>GS23369: 70.8<br>GS23370: 55.8<br>GS23409: 19.2 |

'GS12600\_Improved\_Cooking\_emission\_reductions\_MP1'

- Tab 'Thermal Energy'; cells C16:F16
- Tab 'Thermal Energy'; cells D38:G38

## SDG 8

|                                    |                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data/parameter ID                  | <b>GSDM-I18.5.1</b>                                                                                                                                                                                                                                                                                                                                           |
| Data/parameter                     | EECT <sub>p</sub>                                                                                                                                                                                                                                                                                                                                             |
| Unit                               | Total number                                                                                                                                                                                                                                                                                                                                                  |
| Description                        | Total number of employees by employment contract and employment type because of project activity in baseline, by gender                                                                                                                                                                                                                                       |
| Source of data                     | HR Records                                                                                                                                                                                                                                                                                                                                                    |
| Value(s) applied                   | Total: 70<br>Gender Split: <ul style="list-style-type: none"> <li>• Female: 30 (43%)</li> <li>• Male: 40 (57%)</li> </ul> Employment Type: <ul style="list-style-type: none"> <li>• Full time: 70 (100%)</li> <li>• Part time: 0</li> </ul> Contract Status: <ul style="list-style-type: none"> <li>• Permanent: 70 (100%)</li> <li>• Temporary: 0</li> </ul> |
| Measurement methods and procedures | HR Records                                                                                                                                                                                                                                                                                                                                                    |
| Monitoring frequency               | Annual                                                                                                                                                                                                                                                                                                                                                        |
| QA/ QC procedures                  | -                                                                                                                                                                                                                                                                                                                                                             |
| Purpose of data                    | SDG 8 Impact calculation                                                                                                                                                                                                                                                                                                                                      |
| Additional comment                 | 'GS12600_employment_records_MP1'                                                                                                                                                                                                                                                                                                                              |

## SDG 15

|                   |                     |
|-------------------|---------------------|
| Data/parameter ID | <b>GSDM-I15.1.1</b> |
| Data/parameter    | FC <sub>B</sub>     |

|                                    |                                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Unit                               | Tonnes NRB/ household / year                                                                                                |
| Description                        | Total non-renewable wood consumed in the baseline scenario                                                                  |
| Source of data                     | Emission reduction calculations                                                                                             |
| Value(s) applied                   | <b>GS12851:</b> 22,893<br><b>GS23369:</b> 9,634<br><b>GS23370:</b> 14,035<br><b>GS23409:</b> 4,599                          |
| Measurement methods and procedures | Calculation set out in section E.1                                                                                          |
| Monitoring frequency               | Annual                                                                                                                      |
| QA/ QC procedures                  | -                                                                                                                           |
| Purpose of data                    | SDG 15 Impact calculation                                                                                                   |
| Additional comment                 | 'GS12600_Improved_Cooking_emission_reductions_MP1'<br>- Tab 'SDG15'; cells B2:M6<br>- Tab 'Nb,p,2025 data'; columns Q and R |

|                                    |                                                                                                   |
|------------------------------------|---------------------------------------------------------------------------------------------------|
| Data/parameter ID                  | <b>GSDM-I15.1.1</b>                                                                               |
| Data/parameter                     | FC <sub>p</sub>                                                                                   |
| Unit                               | Tonnes NRB/ household / year                                                                      |
| Description                        | Total non-renewable wood consumed in the project scenario                                         |
| Source of data                     | Emission reduction calculations                                                                   |
| Value(s) applied                   | <b>GS12851:</b> 10,030<br><b>GS23369:</b> 4,491<br><b>GS23370:</b> 6,275<br><b>GS23409:</b> 2,026 |
| Measurement methods and procedures | Calculation set out in section E.2                                                                |
| Monitoring frequency               | Annual                                                                                            |

|                    |                                                                                                                             |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------|
| QA/ QC procedures  | -                                                                                                                           |
| Purpose of data    | SDG 15 Impact calculation                                                                                                   |
| Additional comment | 'GS12600_Improved_Cooking_emission_reductions_MP1'<br>- Tab 'SDG15'; cells B2:M6<br>- Tab 'Nb,p,2025 data'; columns Q and R |

### D.3. Comparison of monitored parameters with last monitoring period

| Data/Parameter         | Value obtained in this monitoring period                                                                                                                                                      | Value obtained last monitoring period |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| ICS 19 - $P_{p,y}$     | Rural Wood: 0.350<br>Peri-Urban Wood: 0.316<br>Charcoal 2: 0.127<br>Charcoal 1: 0.118                                                                                                         | N/A                                   |
| ICS 20 - $SFS_{b,p,y}$ | Rural Wood: 0.449<br>Peri-Urban Wood: 0.336<br>Charcoal 2: 0.145<br>Charcoal 1: 0.153                                                                                                         | N/A                                   |
| ICS 26 - $U_{p,y}$     | <b>Best Practice</b><br>Rural Wood: 95.4%<br>Charcoal 2: 97.8%<br><b>Good Practice</b><br>Peri-Urban Wood: 90%<br>(Measured value: 96.9%)<br>Urban Charcoal 1: 90%<br>(Measured value: 97.5%) | N/A                                   |
| ICS 27 - $N_{b,p,y}$   | GS12851: 4,594,573<br>GS23369: 5,447,265<br>GS23370: 2,755,771<br>GS23409: 917,608                                                                                                            | N/A                                   |
| GSDM-I3.9.1 - $HAP_p$  | 86.5%                                                                                                                                                                                         | N/A                                   |
| GSDM-I5.4.1 - $ATS_p$  | 2.5                                                                                                                                                                                           | N/A                                   |
| GSDM-I7.1.1 - $EC_p$   | Rural Wood: 17.4<br>Peri-Urban Wood: 14.9                                                                                                                                                     | N/A                                   |

|                                 |                        |     |
|---------------------------------|------------------------|-----|
|                                 | Charcoal 2: 11.4       |     |
|                                 | Charcoal 1: 10.6       |     |
| GSDM-I8.5.1 - EECT <sub>p</sub> | Total: 70              | N/A |
|                                 | Gender Split:          |     |
|                                 | • Female: 30 (43%)     |     |
|                                 | • Male: 40 (57%)       |     |
|                                 | Employment Type:       |     |
|                                 | • Full time: 70 (100%) |     |
|                                 | • Part time: 0         |     |
|                                 | Contract Status:       |     |
|                                 | • Permanent: 70 (100%) |     |
|                                 | • Temporary: 0         |     |
| GSDM-I15.1.1 - FC <sub>p</sub>  | GS12851: 10,030        | N/A |
|                                 | GS23369: 4,491         |     |
|                                 | GS23370: 6,275         |     |
|                                 | GS23409: 2,026         |     |

This section has been intentionally left blank as this is the first monitoring period.

#### D.4. Implementation of sampling plan

Data and parameters monitored in section D.2 above are to be determined by a sampling approach. Data and parameters are either a mean (average) or proportion (yes/no; %) parameter values. In line with s4.4 of TPDDTEC V4.0 General requirements for sampling, a statistically valid sample has been used to determine the parameter values in line with CDM Standard for sampling and surveys for CDM project activities and programme of activities<sup>25</sup>, achieving a 90% confidence interval and a 10% margin of error. This is measured by the [CDM sample size calculator](#). For parameters  $SFS_{p,b,y}$  or  $SER_{b,p,y,CO2}$  under emission reduction methods 1 and 3, the 90/30 rule is applied (s4.4.6 TPDDTEC V4.0).

The VPAs have been cross sampled. This is permissible for bundles of less than 10 VPAs (s4.4.3 TPDDTEC V4.0).

<sup>25</sup> <https://cdm.unfccc.int/Reference/Guidclarif/index.html>

| Data and parameter | Mean or proportion | Relative precision                                                                      |
|--------------------|--------------------|-----------------------------------------------------------------------------------------|
| <b>Baseline</b>    |                    |                                                                                         |
| ICS 18 - Pb,y      | Mean               | Rural - Wood: 2.96%<br>Peri-Urban Wood: 4.66%<br>Charcoal: 3.22%                        |
| <b>Project</b>     |                    |                                                                                         |
| ICS 19 - Pp,y      | Mean               | Rural - Wood: 7.51%<br>Peri-Urban Wood: 7.24%<br>Charcoal 2: 9.50%<br>Charcoal 1: 9.52% |
| ICS 26 - Up,y      | Proportion         | Rural - Wood: 1.6%<br>Peri-Urban Wood: 2.1%<br>Charcoal 2: 0.8%<br>Charcoal 1: 1.8%     |

Table 16 Parameters and relative precision

The relative precision calculation can be found in the 'Relative precision' tab of the emission reduction calculation spreadsheet. The calculation follows the equation set out in CDM Standard for sampling and surveys for CDM project activities and programme of activities V4.0 and the [CDM sample size calculator](#).

For sampling project data and parameters, the project database is used as the basis for a digital randomization tool to randomly selected households to be respondents to the annual monitoring and bi-annual project KPTs. The annual monitoring, including the usage survey, will achieve a 90% confidence interval and a 10% margin of error. The group size is >1,000 for each project scenario (s4.3.3). Therefore, the minimum sample size is 100 households for each scenario.

The project KPTs have been conducted for this monitoring period and will be conducted every two years in line with ICS 19. The pKPTs are a mixture of paired and independent sampling.

If the distribution of the project technologies is longer than a 1-year period, then the project technologies may be in different age cohorts. Should multiple age cohorts develop, then the usage rate will be calculated per age cohort with a minimum sample size of 30 households per age cohort.

## Random Sampling

CDM Standard Sampling and surveys for CDM project activities and programmes of activities V9 requires that parameter estimates calculated from sample data are "unbiased" and "reliable":

- 6.c.i "An unbiased estimate is one that does not systematically underestimate or overestimate the parameter value it is representing"

- 6.c.ii *"Reliability of a sample-based estimate is typically expressed in terms of the probability that the population parameter value falls within a specified distance from the sample-based estimate. The probability is called the "confidence", and the distance is referred to as the "precision"."*

To ensure an "unbiased" and "reliable" sample, we use a built-in function within Microsoft's database platform called NEWID() to randomly select the households to participate in the annual monitoring and project kitchen performance test.

NEWID() is explained [here](#).

This function automatically generates a completely random ID for each entry. The data is then sorted based on these random IDs, resulting in a randomised order of the household in each scenario. The randomisation was conducted on 29/09/2025. Numbers 1 to 200 were selected for the annual monitoring for each scenario, giving a total of 800 randomly selected households. A total of 801 surveys were conducted between 01/12/2025 and 05/12/2025.

Supporting document: 'GS12600\_Improved\_Cooking\_random\_sample\_MP1'

## Monitoring survey

The project and usage survey is combined in one annual monitoring survey. In line with s4.1.8, participants in the annual monitoring survey have technologies which have been in use for at least 0.5 years.

Peri-urban firewood and charcoal stoves were distributed towards the end of the year. Therefore, there is not a sufficient number of technologies >0.5 years old to satisfy the age cohort rule. Therefore, household with project technologies >3 months were used in the random sampling process.

## Project KPT

For urban, a random sample was selected from the list of households that completed the baseline KPT (37).

For rural, 27 of those who participated in the baseline also participated in the project KPT. The remainder did not as they did not receive project stoves. The remainder (12) were randomly selected from the monitoring sample.

Peri urban firewood (53) and charcoal 1 stoves (55) scenarios were randomly selected from the monitoring sample.

## Outliers

The full distribution of values show a small number of extreme outliers at both ends. These points are not representative of typical behaviour and have a disproportionate impact on averages and trend analysis.

The skewness was between 0.8 and 1.2, indicating a clear positive skew, and the distribution plot shows that this skew is driven by a small cluster of unusually high values rather than the main body of the data. A symmetric 5% trim on both ends is a standard statistical approach for reducing the influence of these extremes while keeping the dataset intact.

After the outlier analysis the sample remains well within the 90/30 rule, and the skewness drops below 0.7, giving a more stable and representative basis for the calculation.

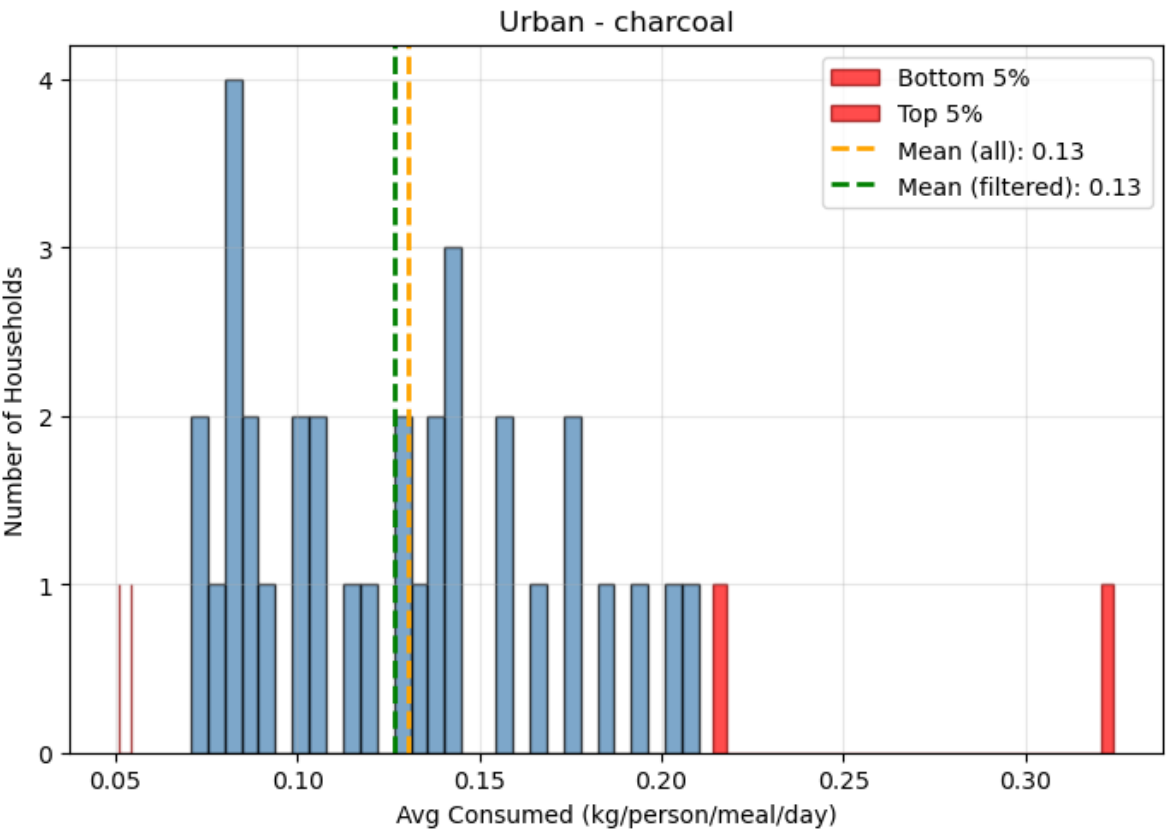


Table 17 Distribution Urban charcoal 2 stove pKPT

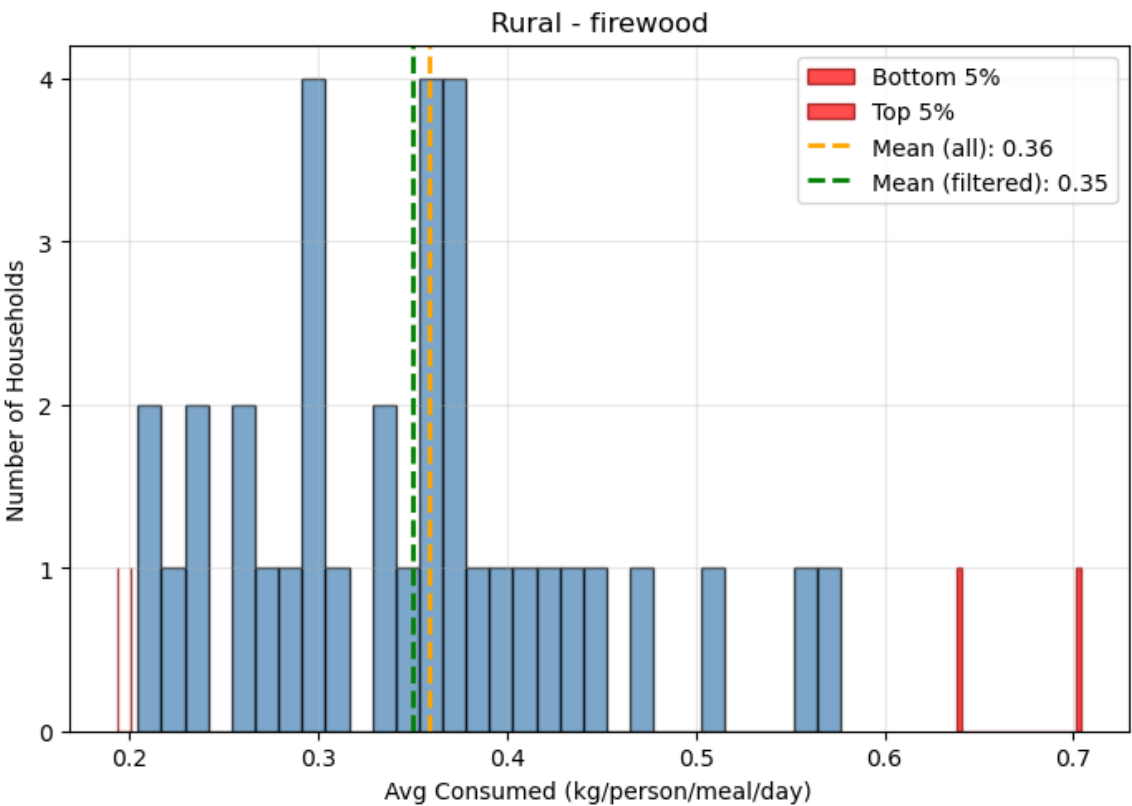


Table 18 Distribution rural firewood stove pKPT

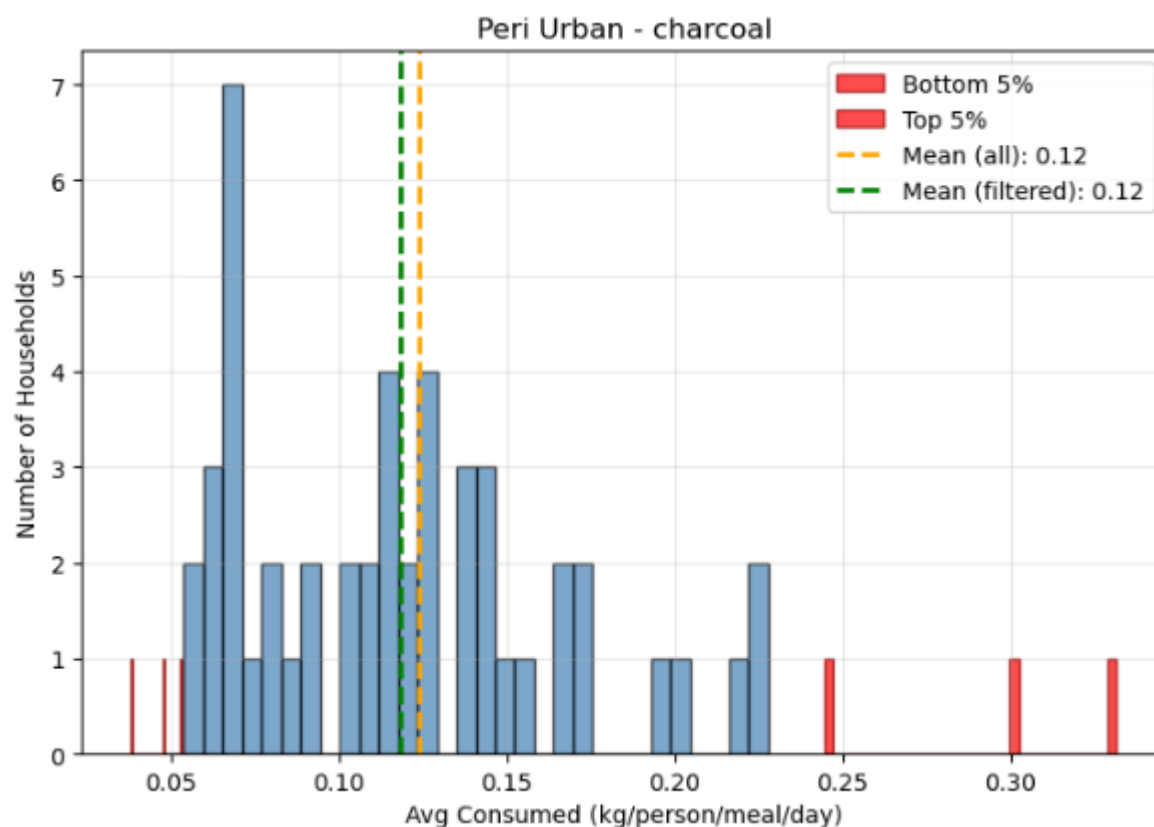


Table 19 Distribution Charcoal 1 stove pKPT

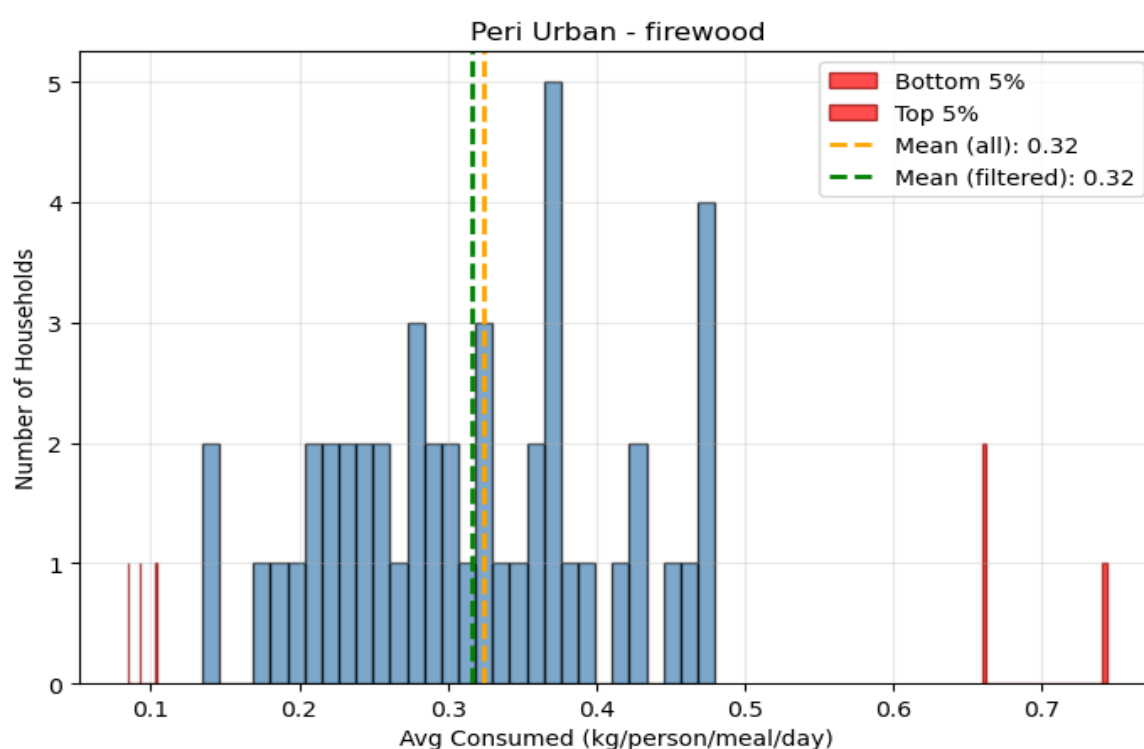


Table 20 Distribution peri-urban firewood pKPT

| Scenario       | Count | Mean  | Skewness |
|----------------|-------|-------|----------|
| Rural firewood | 35    | 0.350 | 0.61     |
| Charcoal 2     | 33    | 0.127 | 0.45     |

|                     |    |       |      |
|---------------------|----|-------|------|
| Charcoal 1          | 49 | 0.118 | 0.65 |
| Peri-urban firewood | 47 | 0.316 | 0.07 |

Table 21 Analysis with outliers removed

## SECTION E. CALCULATION OF SDG IMPACTS

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

Method 1 is applied to calculate the emission reductions as the “*baseline and project fuel(s) are identical and emission reductions are exclusively from improved efficiency*”.

#### SDG 13 Climate Action

##### Equation 1:

$$ER_y = \sum ( N_{b,p,y} \times U_{p,y} \times SFS_{p,b,y} \times NCV_{b,fuel} \times (f_{NRB,b,y} \times EF_{b,f,CO2} + EF_{b,f,nonCO2})) - \sum LE_{p,y}$$

Where:

$ER_y$ : Emission reduction for total project activity in year y (tCO<sub>2</sub>e/Year)

$N_{b,p,y}$ : Number of project technology-days included in the project database for baseline b/project p pair in year y (Days)

$U_{p,y}$ : Cumulative usage rate for the technologies in the project scenario p in year y (fraction)

$SFS_{p,b,y}$ : Specific fuel savings for an individual project technology of baseline b/project p pair in year y (tonnes/technology\*days)

$NCV_{b,fuel}$ : Net calorific value of the fuel(s) that is substituted or reduced in baseline b (TJ/tonnes)

$f_{NRB_{b,y}}$ : Fractional non-renewability status of woody biomass fuel during year y (fraction)

$EF_{b,f,CO2}$ : CO<sub>2</sub> emission factor from use of fuel f (tCO<sub>2</sub>/TJ)

$EF_{b,f,nonCO2}$ : Non-CO<sub>2</sub> emission factor arising from use of fuel f, when baseline fuel is biomass or charcoal (tCO<sub>2</sub>/TJ)

The methodology uses a performance-based baseline. That is, the baseline values used in the emission reduction calculations are determined by the performance of the project activity. Therefore, the SDG 13 baseline values are set out in section E.2 below, along with the project values.

SDG 7 and 15 also have performance-based baseline parameters, which have been set out in this section below.

## SDG 1 No Poverty

|                                        |                                                                                                                                                                                 |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM-I1.1.1<br>Source: Baseline survey | $HHS_B = 11,464$ ariary / week<br>Where:<br>$HHS_B$ : Average household expenditure on basic service (expenditure on purchased fuel for cooking) in baseline i.e., reduction in |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SDG 3 Good Health and Well-Being

|             |                       |
|-------------|-----------------------|
| GSDM- 3.9.1 | No baseline parameter |
|-------------|-----------------------|

## SDG 5 Gender Equality

|             |                       |
|-------------|-----------------------|
| GSDM- 5.4.1 | No baseline parameter |
|-------------|-----------------------|

## SDG 7 Affordable and Clean Energy

|                                                                                                      |                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM- 7.3.1 Total energy savings.<br>Source: Emission reduction calculations; thermal efficiency tab | $FC_{fuel,b}$ :<br>GS12851: 177.6<br>GS23369: 132.7<br>GS23370: 102.7<br>GS23409: 35.1<br>Where:<br>$FC_{fuel,b}$ : Baseline fuel consumption per project in year y (Tonnes) |
|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SDG 8 Decent Work and Equal Opportunities

|                                   |                       |
|-----------------------------------|-----------------------|
| GSDM- 8.5.1 Total number of jobs. | No baseline parameter |
|-----------------------------------|-----------------------|

## SDG 15 Life on Land

|                                                                     |                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM-I15.1.1<br>Source: Emission reduction calculations; SDG 15 tab | $FC_B =$<br>GS12851: 22,893<br>GS23369: 9,634<br>GS23370: 14,035<br>GS23409: 4,599<br>Where:<br>$FC_B$ : Total amount of non-renewable fuel consumed in baseline, calculated as $P_{B,y} * fNRB_{b,y}$ ( $P_{b,y}$ is quantity of fuel that is consumed in baseline scenario p during year y) |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

### SDG 13 Climate Action

The emission reductions have been calculated on a scenario basis, then reduced to an ER per household per day level. This is then multiplied by  $N_{p,y}$  to give the total VERs per project in the monitoring period.

| Parameter    | ID     | Wood - rural | Wood - PU         | Charcoal 2 | Charcoal 1        |
|--------------|--------|--------------|-------------------|------------|-------------------|
| ERy1         | Eq. 1  | 37,450       | 3,428             | 34,472     | 1,257             |
| EFb,f,co2    | ICS 8  | 112          | 112               | 197.15     | 197.15            |
| EFb,f,nonco2 | ICS 9  | 9.46         | 9.46              | 44.83      | 44.83             |
| NCV,b,fuel   | ICS 12 | 0.0156       | 0.0156            | 0.0295     | 0.0295            |
| fNRB,b,2025  | ICS 17 | 0.54         | 0.54              | 0.54       | 0.54              |
| Pb,2025      | ICS 18 | 0.00892      | 0.01039           | 0.00297    | 0.00297           |
| Pp,2025      | ICS 19 | 0.00403      | 0.00344           | 0.00139    | 0.00129           |
| SFSp,b,2025  | ICS 20 | 0.00489      | 0.00695           | 0.00158    | 0.00168           |
| Up,1         | ICS 26 | 0.954        | 0.9 <sup>26</sup> | 0.978      | 0.9 <sup>27</sup> |
| Nb,p,2025    | ICS 27 | 7,739,054    | 528,898           | 5,250,832  | 196,433           |
| ΣLEp,2025    | ICS 28 | 95%          | 95%               | 95%        | 95%               |

Table 22 Summary of emission reduction calculations

The VERs per household are as follows:

| GS VERs           | Wood - rural | Wood - PU | Charcoal 2 | Charcoal 1 |
|-------------------|--------------|-----------|------------|------------|
| HH per year (365) | 1.67         | 2.37      | 2.21       | 2.34       |
| HH per day        | 0.0048       | 0.0065    | 0.0066     | 0.0064     |

Table 23 Breakdown of GSVERs

The VERs per HH per day are then multiplied by the  $N_{p,y}$  and distributed across the 4 VPAs to give the VERs per VPA:

| VERs  | MP 1 Start Date | MP1    |
|-------|-----------------|--------|
| VPA-3 | 28/02/2025      | 22,234 |
| VPA-5 | 28/02/2025      | 35,729 |
| VPA-6 | 15/07/2025      | 14,134 |
| VPA-7 | 25/09/2025      | 4,510  |
| Total |                 | 76,607 |

Table 24 VERs per VPA MP1

## SDG 1 No Poverty

$$\text{SDG 1 Impact} = \text{HHS}_P - \text{HHS}_B$$

|             |                                                  |
|-------------|--------------------------------------------------|
| GSDM-I1.1.1 | HHS <sub>P</sub> = 5,911 ariary / week<br>Where: |
|-------------|--------------------------------------------------|

<sup>26</sup> Measured value: 96.9%

<sup>27</sup> Measured value: 97.5%

|  |                                                                                                                                                                                                                          |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | HHS <sub>p</sub> : Average household savings due to decrease in expenditure on basic service due to adaptation of project technology in project i.e., reduction in expenditure on purchased fuel for cooking in project. |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### SDG 3 Good Health and Well Being

$$\text{SDG 3 Impact} = \text{HAP}_p$$

|             |                                                                                                                                                                                                          |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM- 3.9.1 | <p>HAP<sub>p</sub> = 86.5%</p> <p>Where:</p> <p>HAP<sub>p</sub>: Proportion of households who perceive less incidence of eye problems and or respiratory illness after use of the project technology</p> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### SDG 5 Gender Equality

$$\text{SDG 5 Impact} = \text{ATS}_p$$

|             |                                                                                                                                                                                |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM- 5.4.1 | <p>ATS<sub>p</sub> = 2.5</p> <p>Where:</p> <p>ATS<sub>p</sub>: Average time saving, associated with fuel collection time, due to adoption of project technology in project</p> |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### SDG 7 Affordable and Clean Energy

$$\text{SDG 7 Impact} = (\text{FC}_{\text{fuel},b} - \text{FC}_{\text{fuel},p}) * \text{NCV}_{\text{fuel}} / \text{Cf}$$

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM- 7.3.1 | <p>FC<sub>fuel,b</sub>:</p> <p>GS12851: 40,985</p> <p>GS23369: 16,188</p> <p>GS23370: 23,694</p> <p>GS23409: 8,108</p> <p>FC<sub>fuel,p</sub>:</p> <p>GS12851: 18,500</p> <p>GS23369: 7,545</p> <p>GS23370: 10,809</p> <p>GS23409: 3,670</p> <p>NCV<sub>fuel</sub></p> <p>Wood: 0.0156</p> <p>Charcoal: 0.0295</p> <p>Cf:</p> <p>3.6</p> <p>Where:</p> <p>FC<sub>fuel,b</sub>: Baseline fuel consumption per project in year y (Tonnes)</p> |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |                                                                                                                                                                                 |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | $FC_{fuel,p}$ : Project fuel consumption per project in year y (Tonnes)<br>$NCV_{fuel}$ : Net calorific value of the fuel that is reduced<br>$C_f$ : Conversion factor (TJ/GWh) |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SDG 8 Decent Work and Equal Opportunities

$$SDG\ 8\ Impact = EECT_P$$

|             |                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM- 8.5.1 | $EECT_P = 70\ jobs$<br><u>Gender Split:</u><br>Female: 30 (43%)<br>Male: 40 (57%)<br><u>Employment Type:</u><br>Full time: 70 (100%)<br>Part time: 0<br><u>Contract Status:</u><br>Permanent: 70 (100%)<br>Temporary: 0<br>Where:<br>$EECT_P$ : Total number of employees by employment contract and employment type because of project activity in Project, by gender |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SDG 15 Life on Land

$$SDG\ 15\ Impact = FC_P - FC_B$$

|                                                                     |                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSDM-I15.1.1<br>Source: Emission reduction calculations; SDG 15 tab | $GS12851: 10,030$<br>$GS23369: 4,491$<br>$GS23370: 6,275$<br>$GS23409: 2,026$<br>Where:<br>$FC_P$ : Total amount of non-renewable fuel consumed in project, calculated as $P_{p,y} * fNRB_{p,y}$ ( $P_{b,y}$ is quantity of fuel that is consumed in project scenario p during year y) |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### E.3. Calculation of leakage

Leakage emissions are determined following option 1 (s3.11.2) of the methodology.

A default adjustment factor of 0.95 is applied to the emission reductions to approximate leakage emissions.

#### E.4. Calculation of net benefits or direct calculation for each SDG Impact

| SDG | SDG Impact | Baseline estimate | Project estimate | Net benefit |
|-----|------------|-------------------|------------------|-------------|
| 13  | GS12851:   | 40,527            | 18,292           | 22,234      |
|     | GS23369:   | 66,933            | 31,203           | 35,729      |
|     | GS23370:   | 24,729            | 10,594           | 14,134      |
|     | GS23409:   | 8,130             | 3,620            | 4,510       |
| 1   | All VPAs:  | 11,464            | 5,911            | 5,553       |
| 3   | All VPAs:  | 0                 | 86.5%            | 86.5%       |
| 5   | All VPAs:  | 0                 | 2.5              | 2.5         |
| 7   | GS12851:   | 177.6             | 80.2             | 97.4        |
|     | GS23369:   | 132.7             | 61.8             | 70.8        |
|     | GS23370:   | 102.7             | 46.8             | 55.8        |
|     | GS23409:   | 35.1              | 15.9             | 19.2        |
| 8   | GS12851:   | 0                 | 70               | 70          |
|     | GS23369:   |                   |                  |             |
|     | GS23370:   |                   |                  |             |
|     | GS23409:   |                   |                  |             |
| 15  | GS12851:   | 22,893            | 10,030           | 12,864      |
|     | GS23369:   | 9,634             | 4,491            | 5,144       |
|     | GS23370:   | 14,035            | 6,275            | 7,760       |
|     | GS23409:   | 4,599             | 2,026            | 2,573       |

#### E.5. Comparison of actual SDG Impacts with estimates in approved PDD

| SDG | Values estimated in ex ante calculation of approved PDD for this monitoring period | Actual values <sup>28</sup> achieved during this monitoring period |
|-----|------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 13  | GS12851: 21,525                                                                    | 22,234                                                             |
|     | GS23369: 30,982                                                                    | 35,729                                                             |
|     | GS23370: 12,966                                                                    | 14,134                                                             |
|     | GS23409: 4,754                                                                     | 4,510                                                              |

<sup>28</sup> Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

|    |                                                                                         |                                                                                        |
|----|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1  | 5,732 ariary per week                                                                   | 5,553 ariary per week                                                                  |
| 3  | 90%                                                                                     | 86.5%                                                                                  |
| 5  | 1 hour per household per day                                                            | 2.5                                                                                    |
| 7  | GS12851: 89.7<br>GS23369: 56.7<br>GS23370: 54.0<br>GS23409: 19.8                        | 97.4<br>70.8<br>55.8<br>19.2                                                           |
| 8  | GS12851: 27<br>GS23369: 27<br>GS23370: 27<br>GS23409: 27<br>108 jobs across the project | 70 jobs across the project<br>Full-time: 70<br>Permanent: 70<br>Female / Male: 30 / 40 |
| 15 | GS12851: 10,271<br>GS23369: 7,640<br>GS23370: 6,615<br>GS23409: 2,381                   | 12,864<br>5,144<br>7,760<br>2,573                                                      |

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

### SDG 13

The ex-ante emission reductions estimates were calculated based on a conservative estimated fuel saving of 50% and conservative usage rate of the best practice monitoring requirement cap of 90%. The estimated project technology days were based on the project technology distribution plan.

### SDG 1

The ex-ante value of 10,000 MGA / week was an estimate based on feedback from end-users.

### SDG 3

The ex-ante value of 90% was assumed based on the best practice monitoring requirement usage rate cap.

### SDG 5

The ex-ante estimate of 1 hour saved / day was a conservative estimate based on the figure for time spent collecting fuel quoted in the SDG Impact Tool: "*Sub-Saharan Africa (2-hour average across 20+ countries and 50 data points)*". The 1 hour per day saving assumed a 50% reduction.

## **SDG 7**

The estimates were based on the SDG 13 ex-ante values.

## **SDG 8**

The estimates were based on creating 108 total jobs, distributed equally across the 4 VPAs (27 jobs per VPA). This was a projection from the human resources team of the implementing partner.

## **SDG 15**

The estimates were based on the SDG 13 ex-ante values.

### **E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD**

## **SDG 13**

The ex-ante estimates were calculated based on a conservative estimated fuel saving of 50% and a usage rate of 90%. The project KPTs show a fuel saving of 51.6-56.5%:

- Rural wood: 56.2%
- Charcoal 2: 53.3%
- Wood peri-urban: 51.6%
- Charcoal 1: 56.5%

The usage rate for the rural wood and charcoal 2 scenarios were measured following the best practice monitoring requirements of the Usage Rate Guidelines, and achieved a usage rate of 95.4% and 97.8%, respectively.

Furthermore, it was estimated that 89,167 households would participate in the project activity. The actual value is 90,234 households.

Given the better than estimated pKPT values and usage rates, and the slightly higher number of households in the project activity, the *ex post* emission reductions are 9.1% higher than the *ex ante* values.

Some of the differences at the VPA level can be explained by the estimated and actual number of households included in each VPA.

| VPA   | <i>Ex ante</i> | <i>Ex post</i> | Difference | %     |
|-------|----------------|----------------|------------|-------|
| VPA-3 | 21,525         | 22,234         | 709        | 3.3%  |
| VPA-5 | 30,982         | 35,729         | 4,747      | 15.3% |
| VPA-6 | 12,966         | 14,134         | 1,168      | 9.0%  |
| VPA-7 | 4,754          | 4,510          | -244       | -5.1% |
| Total | 70,227         | 76,607         | 6,380      | 9.1%  |

Table 25 *Ex ante* v *Ex post* VERs

## SDG 1

The ex-ante estimate of 10,000 MGA / week was higher than the actual value. The project value shows a saving of 5,553 MGA / week.

## SDG 3

The value achieved is 3.5% lower than the estimated value.

## SDG 5

The ex-ante estimate of 1 hour saved / day was a conservative estimate based on the figure for time spent collecting fuel quoted in the SDG Impact Tool: "*Sub-Saharan Africa (2-hour average across 20+ countries and 50 data points)*". The 1 hour per day saving assumed a 50% reduction. However, GSDM-I5.4.1 also includes time associated with cooking. Therefore, the baseline assumption was overly conservative, as the project saving also includes cooking time. The project value shows a saving of 2.5 hours / day, which exceeds the estimated value.

## SDG 7

The ex-ante estimates were calculated based on a conservative estimated fuel saving of 50%. The project KPTs show a fuel saving of 51.6-56.5%. This has increased the energy saved by the project activity.

## SDG 8

The estimates were based on creating 108 total jobs, distributed equally across the 4 VPAs (27 jobs per VPA). The project created 70 jobs during the monitoring period. This is due to a planned expansion not taking place.

## SDG 15

The ex-ante estimates were calculated based on a conservative estimated fuel saving of 50%. The project KPTs show a fuel saving of 51.6-56.5%, as set out above under the SDG 13 heading. This has increased the energy saved by the project activity.

## SECTION F. SAFEGUARDS REPORTING

No safeguarding principles were added to the monitoring plan.

## SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

### **G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses/mitigations.**

In total, 1,306 inputs were received. 1,288 (>98%) were end-users enquiring about receiving the stove. The others were either blank (14), remarks about the team (2), thanks and recommendations (1) and 'Other' (1). These were responded to accordingly in most cases to inform project beneficiaries about when the distributions would take place.

### **G.2. Report on any stakeholder mitigations that were agreed to be monitored.**

No stakeholder mitigations were agreed to be monitored.

### **G.3. Provide details of any legal contest that has arisen with the project during the monitoring period**

No legal contests have arisen with the project in the monitoring period.

## Revision History

| Version | Date            | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1     | 14 October 2020 | <p>Hyperlinked section summary to enable quick access to key sections</p> <p>Improved clarity on Key Project Information</p> <p>Section for POA monitoring</p> <p>Forward action request section</p> <p>Improved Clarity on SDG contribution/SDG Impact term used throughout</p> <p>Clarity on safeguard reporting</p> <p>Clarity on design changes</p> <p>Leakage section added for VER/CER projects</p> <p>Addition of Comparison of monitored parameters with last monitoring period</p> <p>Provision of an <a href="#">accompanying Guide</a> to help the user understand detailed rules and requirements</p> |
| 1.0     | 10 July 2017    | Initial adoption                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |