



GROUPED PROJECTS FOR LAOS IMPROVED COOKSTOVE

Document Prepared by:

Sustainability Investment Promotion and Development

Joint Stock Company

(SIPCO)

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CONTENTS

PROJECT DETAILS	4
1.1 Summary Description of the Implementation Status of the Project	4
1.2 Audit History.....	4
1.3 Sectoral Scope and Project Type	6
1.4 Project Proponent	6
1.5 Other Entities Involved in the Project	6
1.6 Project Start Date	6
1.7 Project Crediting Period	7
1.8 Project Location	7
1.9 Title and Reference of Methodology	7
1.10 Double Counting and Participation under Other GHG Programs	11
1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions.....	11
1.12 Sustainable Development Contributions	12
1.13 Commercially Sensitive Information.....	17
2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT	17
2.1 Stakeholder Engagement and Consultation.....	17
2.2 Risks to Stakeholders and the Environment.....	23
2.3 Respect for Human Rights and Equity	25
2.4 Ecosystem Health	27
3 IMPLEMENTATION STATUS	29
3.1 Implementation Status of the Project Activity	29
3.2 Deviations	29
3.3 Grouped Projects	37
3.4 Baseline Reassessment.....	44
4 DATA AND PARAMETERS.....	44
4.1 Data and Parameters Available at Validation	44
4.2 Data and Parameters Monitored.....	46
4.3 Monitoring Plan.....	50
5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS	55
5.1 Baseline Emissions	55

5.2	Project Emissions	55
5.3	Leakage Emissions	56
5.4	GHG Emission Reductions and Carbon Dioxide Removals	56
APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION.....		62
APPENDIX 2: SUPPLY CHAIN.....		62

PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The intention of the grouped project activity involves the installation of energy efficient Improved Cooking Stove (ICS) in the households (hereafter “users”) of Lao People's Democratic Republic (here after “Laos”) for cooking households. For this reason, this proposed project activity aims at reducing the woodfuel consumption of traditional stove users by distributing ICS to households. By reducing the consumption of woodfuel, it can contribute to improving public health problems. Furthermore, this proposed project can contribute to Laos's climate change respond and sustainable development.

The project activity targets households with no previous ICS access. The geographical boundary is in Laos. ICSs are distributed free of cost to users. Sustainability Investment Promotion and Development Joint Stock Company (SIPCO) financed the implementation of the project in full.

The Project activity will promote the dissemination of energy efficient ICS. This will in turn reduce deforestation and degradation of forests in Laos through participation of the people in adopting energy efficient stoves. This will also contribute to improvement in quality of lives of the people from Laos through reduction of drudgery, time and money spent on fuel wood collection and through improvement of indoor air pollution. Globally, the project will contribute by reducing emission of GHG into the atmosphere.

The scenario existing prior to the implementation of the project is the actual baseline scenario which is equal to the existing common practice by the households i.e. in absence of the project activity the equivalent amount of thermal energy generated using firewood in three stone open fires to meet the cooking energy demand. The grouped project will distribute free of ICSs to households who using traditional cookstove for cooking meal. All the project instances to be included in this grouped project will be from within Laos only.

The improved cookstoves (model Ecozen) covered under the project has been manufactured by Viet Charcoal Production Company Limited. The equipment lifetime is 10 years. The credits shall be claimed only till the end of the operational life of the project devices.

Until end of this monitoring period, there are 30 project instances under the grouped project¹. The first ICS was distributed on 10 March 2023. The first monitoring period is from 10 March 2023 to 30 September 2023. The second monitoring period is from 01 October 2023 to 30 June 2024. Till the end of second monitoring period, a total of 370,000 ICSs was reported installed under the project. Detail below:

¹ The detail of the 30 project instances is mentioned in the section 3.1

Table 1: Distribution schedule

Month of installation	Number of ICSs
03/2023	3,026
04/2023	26,030
05/2023	15,340
06/2023	21,739
07/2023	19,312
08/2023	27,819
09/2023	23,115
10/2023	21,854
11/2023	23,690
12/2023	23,943
01/2024	28,187
02/2024	15,443
03/2024	28,678
04/2024	31,393
05/2024	28,113
06/2024	32,318
Total	370,000

The total GHG emission reductions generated in the second monitoring from 01 October 2023 to 30 June 2024 is 1,016,780tCO₂e GHG emission reductions.

1.2 Audit History

Audit Type	Period	Program	VVB Name	Number of years
Validation	14 September 2023 (The registered date) (the	VCS	Carbon Check (India) Private Ltd.	-

1 st Verification	10 March 2023 – 30 September 2023	VCS	Ecolance Private Limited	0.56
2 nd Verification	01 September 2023 – 30 June 2024	VCS	Ecolance Private Limited	0.75

1.3 Sectoral Scope and Project Type

Sectoral scope ²	03 – Energy Demand
Project activity type	Type II – Energy efficiency improvement project

1.4 Project Proponent

Organization name	Sustainability Investment Promotion and Development Joint Stock Company. (SIPCO)
Contact person	Ms. Nguyen Thi Hong Hanh
Title	Director
Address	6th Floor, Hop Long Building, No.1, 59 Lang Ha Street, Ba Dinh District, Hanoi, Viet Nam
Telephone	+84 243 519 0955
Email	info@carbonvietnam.com

1.5 Other Entities Involved in the Project

Not Applicable

1.6 Project Start Date

Project start date	10-March-2023
Justification	The project start date of a non-AFOLU project is the date on which the project began generating GHG emission reductions or removals. The project start date is 10 March 2023 which is the distribution date of the first cookstove under the project activity.

² Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

1.7 Project Crediting Period

Crediting period	☐ Seven years, twice renewable ☒ Ten years, fixed ☐ Other (state the selected crediting period and justify how it conforms with the VCS Program requirements)
Start and end date of first or fixed crediting period	10 March 2023 to 09 March 2033

1.8 Project Location

The grouped project will be hosted by Laos. The grouped project covers the whole of Laos including 17 provinces and 01 Capital.

Latitudes: 19.8563° N

Longitudes: 102.4955° E

The detail of coordination of Laos shall be provided separately in KML file.



Map 1: Map of grouped project

Detail geographic information of the project activity instance is below:

Project activity Instance	Province	Coordinate
PA 1	Houaphanh	<u>20.333°N 103.833°E</u>
PA 2		https://www.google.com.hk/maps/place/Houaphanh+Province,+Laos/@20.2940879,103.3907176,9z/data=!3m1!4b1!4m6!3m5!1s0x313190c0e0de9649:0xd826dd5dfbe925e8!8m2!3d20.3254175!4d104.1001326!16zL20vMDJqZm5u?entry=ttu
PA 3		
PA 4		
PA 5		

PA 6	Bolikhamxay	18.383°N 103.650°E
PA 7		https://www.google.com.hk/maps/place/Bolikhamsai+Province,+Laos/@18.4950666,103.3815804,9z/data=!3m1!4b1!4m6!3m5!1s0x313a5a3f0e5e5b65:0xcdd6b624492b6bc0!8m2!3d18.4362924!4d104.4723301!16zL20vMDJqM2Jo?entry=ttu
PA 8		
PA 9	Xaysomboun	18.905°N 103.092°E https://www.google.com.hk/maps/place/Xaisomboun+Province,+Laos/@18.8688982,102.8705794,10z/data=!3m1!4b1!4m6!3m5!1s0x31256f9f80a312df:0x18ae02974f069405!8m2!3d18.9181183!4d102.989615!16s%2Fm%2F0138td9t?entry=ttu
PA 10	Khammouan	17.500°N 105.333°E https://www.google.com.hk/maps/place/Khammouane+Province,+Laos/@17.5846778,104.6890242,9z/data=!3m1!4b1!4m6!3m5!1s0x31394e912b041533:0xf4c3a45264b6d1e1!8m2!3d17.6384066!4d105.2194808!16zL20vMDJqM3Rs?entry=ttu
PA 11	Xiengkhoang	19.609°N 103.728°E
PA 12		https://www.google.com.hk/maps/place/Xiangkhouang+Province,+Laos/@18.3675262,102.0988092,7z/data=!4m6!3m5!1s0x312fe135c0fed4f3:0x698eaca74dc84387!8m2!3d19.6375088!4d103.3587288!16zL20vMDJqZzAx?entry=ttu
PA 13		
PA 14		
PA 15	Xekong	15.6065°N 106.3082°E
PA 16		https://www.google.com.hk/maps/place/Sekong+Province,+Laos/@15.606588,106.308181,9z/data=!3m1!4b1!4m6!3m5!1s0x314032a88d882403:0x4388095d0854f755!8m2!3d15.5767446!4d107.0067031!16zL20vMDJqM24y?entry=ttu
PA 17	Salavan	15.9119°N 105.0015°E
PA 18		https://www.google.com.hk/maps/place/Salavan+Province,+Laos/@15.9119172,105.0014889,9z/data=!3m1!4b1!4m6!3m5!1s0x311558d39704508b:0x3d025666be56beeb
PA 19		

		O!8m2!3d15.8171073!4d106.2522143!16zL20vMDJqM3Fk?entry=ttu
PA 20	Atapeu	14.8123°N 106.5509° E
PA 21		https://www.google.com.hk/maps/place/Attapeu+Province,+Laos/@14.8123618,106.5509038,10z/data=!3m1!4b1!4m6!3m5!1s0x316b3d45dfe29267:0x2e5e8abd4d1c1b3f!8m2!3d14.93634!4d107.1011931!16zL20vMDJqMnlz?entry=ttu
PA 22	Champasak	14.6937°N 104.7682° E
PA 23		https://www.google.com.hk/maps/place/Champasak+Province,+Laos/@14.6937575,104.7682991,9z/data=!3m1!4b1!4m6!3m5!1s0x31130b47b68cfeeb:0xe0f3ddad7c051c0!8m2!3d14.6578664!4d105.9699878!16zL20vMDFjeWxm?entry=ttu
PA 24		
PA 25		
PA 26		
PA 27		
PA 28		
PA 29	Bokeo	20.3074°N 100.3465° E
PA 30		https://www.google.com.hk/maps/place/Bokeo+Province,+Laos/@20.3074437,100.3465538,10z/data=!3m1!4b1!4m6!3m5!1s0x3128320af2bfb607:0xb72079c271e9e8f2!8m2!3d20.2872662!4d100.7097867!16zL20vMDFjX3Ru?entry=ttu

1.9 Title and Reference of Methodology

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	VMR0006	Methodology for installation of High efficiency firewood cookstoves	1.1
Methodology	AMS-II.G	Energy Efficiency and Fuel Switch Measures in Thermal Applications	11.1

CDM Standard	CDM Standard	Sampling and surveys for CDM project activities and programme of activities	09.0
CDM Guideline	CDM Guideline	Sampling and surveys of CDM project activities and programmes of activities	04.0
Tool	30	Calculation of the fraction of non-renewable biomass	04.0

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☒ Yes

☐ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☒ Yes

☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, “VCUs may be issued for the greenhouse gas emission reductions and removals associated with Ecozen Cookstove, manufactured by Viet Charcoal Production Company Limited in Di Su Commune, My Hao District, Hung Yen Province, Vietnam, distributed by Sustainability Investment Promotion and Development Joint Stock Company (SIPCO) under their project activity titled “Grouped projects for Laos Improved Cookstove” (VCS ID: 2924)”.

☒ Yes

☐ No

Detail in Appendix 2 in this report.

1.12 Sustainable Development Contributions

The project activity helps in achieving following co-benefits, which contribute in sustainable development in host country.

a) Environment well-being:

- The project activity contributes to the reduction in GHG emission due to reduction in use of non-renewable biomass and it can ensure natural recovery of forests and/or reforestation.
- The project activity leads to reduction in indoor air pollutants from wood smoke and avoid smoke related health disorders.
- The reduction in non-renewable biomass consumption for cooking through efficient use leads to improved ecological balance.
- The project activity support fire prevention in the household kitchen.

b) Socio and Economic Benefits:

- Implementation of the project activity results in employment opportunities for people involved with installation, maintenance and distribution of these household biomass based cookers.
- The project activity improves the status of living of people in households cooking since the community level implementation of units of these kinds can be carried out at considerably lower costs. There is less dependence on firewood and its expenses and time associated with firewood buying and collection.
- Business development component of the project activity has resulted in the enhancement of capacity development and technical knowhow for moderately educated people in the community through workshops, seminars and training programs.

- The project alleviates the work burden of women and children as they have to spend less time to collect firewood for cooking.
- Community health issues such as chronic lung diseases, acute respiratory infections, cataracts, blindness, and adverse effects on pregnancy are decreased due to improvement of indoor air quality.

c) Technological benefit

The introduction of locally manufactured technology with improved energy efficiency helps in technological self-reliance in the area.

The project aligns with and contribute to sustainable development objectives outlined in Table 1 below.

Table 1: Sustainable Development Contributions

Row number	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Current Project Contributions	Contributions Over Project Lifetime
Sequential row number	SDG Target number	Number and text of SDG indicator or, if no official SDG indicator is applicable, user-defined indicator	Indicate the project's contribution to the SDG Indicator (implemented activities to increase or decrease)	Brief description of the quantifiable impact of the project's activities related to the SDG indicator, during the monitoring period.	Brief description of the cumulative quantifiable impact of the project's activities related to the SDG indicator, over the project lifetime.
1)	1.4	1.4. Project specific indicator: Increase of proportion population living in households with access to basic services. Net benefit = Number of project ICS * Usage rate	Implemented activities to increase	Provide 370,000 families in this monitoring period with greater access to basic services in the form of clean cooking technology	The project will allow 370,000 households access to clean cooking technology over the lifetime of the project.
2)	3.9	3.9. Project specific indicator: Number of individuals experiencing health benefits due to reduced exposure to indoor air pollution.	Implemented activities to decrease	Reduce Household Air Pollution (HAP) due to cooking by using 370,000 improved cookstove in these households in this monitoring period.	The project will lead to reduction in Household Air Pollution (HAP) thereby resulting in improved health conditions of women and children

3)	5.4	5.4. Project specific indicator: Decrease of time spent on unpaid domestic and care work, by sex, age and location	Implemented activities to decrease	Under the project scenario, women will see a massive reduction in both the amount of fuelwood required for cook meal, and the amount of time taken to cook meal. Conducting sample surveys of end user from the similar project implement in Viet Nam with the same model of cookstove, the results show that these households can save time for cooking meals and collecting wood fuel. This frees up time for other economically productive activities or personal care.	Women will see a massive reduction in both the amount of fuelwood required for cooking, and the amount of time taken to cook. They would be able to save time for collecting wood fuel and cooking. They would also have time to engage in other employment opportunities.
4)	7.1	7.1. Project specific indicator Increase population with primary reliance on clean fuels and technology	Implemented activities to increase	With the installation of 370,000 ICSs in first project activity to replace traditional stove, the project will improve energy efficiency in beneficiary homes and greater access to basic services in the form of clean cooking technology	The project will allow 370,000 households to gain access to clean cooking technology until end of 2 nd monitoring period

5)	8.3	8.3.. Project specific indicator Increase informal employment in total employment, by sector and sex Net benefit = ES_{project} – ES_{baseline} <table><tr><th>Parameter</th><th>Description</th></tr><tr><td>ES_{project}</td><td>Gainfully employed staff in project scenario.</td></tr><tr><td>ES_{baseline}</td><td>Gainfully employed staff in baseline. A value of 0 shall be considered as in absence of project activity no employment opportunities would have been created.</td></tr></table>	Parameter	Description	ES _{project}	Gainfully employed staff in project scenario.	ES _{baseline}	Gainfully employed staff in baseline. A value of 0 shall be considered as in absence of project activity no employment opportunities would have been created.	Implemented activities to increase	The project generate around 12 employment opportunities of host country for assembling, distribution post-sale operation & Maintenance of ICSs	The project is expected to employ a total of 30 until end of 2 nd monitoring period
Parameter	Description										
ES _{project}	Gainfully employed staff in project scenario.										
ES _{baseline}	Gainfully employed staff in baseline. A value of 0 shall be considered as in absence of project activity no employment opportunities would have been created.										
6)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	Reduce the total fuelwood usage in the project area to generate approximately 1,016,780 tCO2e of emission reductions	The project is expected to achieve GHG emission reduction more than 1,220,898 until end of 2 nd monitoring period						
7)	15.0	15.1.1. Forest area as a proportion of total land area	Implemented activities to increase	By replacing inefficient open cooking fires with 370,000 stoves in this monitoring period and performing energy efficiency improvements in improved cookstoves, the project activity will save of 1,070,770 tons woody fuel in this monitoring period.	By distributing 370,000 improved cookstove instead of traditional cookstove, the project help reduction in demand for firewood. Contribute an estimated reduction in removal of woody fuel of 1,366,695 tons from forests surrounding the communities until end of 2 nd monitoring period						

1.13 Commercially Sensitive Information

The project activity involves distribution of improved cookstove to individual household. There is no commercially sensitive information so this section is not applicable

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

Stakeholder Identification

The stakeholders have been identified as individuals or groups that are potentially affected by the project and within each of the following categories: government, international government agencies, non-governmental organizations, religious aid agencies, academic, current, and potential future implementing partners, stove manufactures, carbon sector organizations, partner donors, the media, individuals, and their families.

Stakeholders can be defined by three steps approach as following:

Step 1: The first step is to identify the expected and unforeseen consequences of the project's activities. Once the outcomes are determined, the potential stakeholders affected by these impacts are identified.:

Step 2: Following the holistic perspective on the overall benefits and co-benefits of the project, stakeholder group identification is carried out as each stage of project implementation. The examination for stakeholder identification per different stages are as follows:

- Project Initiation: stakeholders include self-help groups such as Lao Red Cross who can assist the project initiator in understanding the project benefits and potential impediments, making ingress within the community...

	• Project Development: At this step, stakeholders include government representatives, community development organisations, investors, NGOs working in defined groups, etc • Project Implementation: End-users, implementing partners, stove manufacturers, training personnel. The PPs has signed contract with Provincial's women Union, this is an agency with all levels from central to local (village, hamlet), they are close the households and can know exactly these households who are using the traditional cookstove and they can select the correct beneficiaries. • Project monitoring (validation and verification): surveyors, database developers, end-users involved in project monitoring. Almost of project stakeholders affected by project activity identified in the step 2 by SIPCO. Step 3: Select representatives from each stakeholder identified in step 2 as the final step of the identification process. The final list of stakeholder includes end users, representative of Lao Red Cross, government authorities, local NGOs and business, local vendor, ICS manufacturers. The full list of identified stakeholders has been provided to the VVB as a supportive document.
Legal or customary tenure/access rights	The project activity involves distribution of ICSs to households and it is not involving any legal or customary tenure/access rights to territories and resources. So, this section is not applicable.
Stakeholder diversity and changes over time	Each stakeholder is defined as a group composed of individual stakeholders who derive similar income, livelihood, well -being and/or cultural values from the project and whose values are different from those of other groups. There are many stakeholders identified at period of project activity, from starting, development, implementation and monitoring. There is insignificant change in

	stakeholders' diversity and therefore have no real impact on their opinion during the monitoring period. - ICS user: there has been an unquantifiable improvement in their health, livelihood, wellbeing, and income as per exchange during onsite survey. - Lao Red Cross: No change in structure & functionality or any organization values. - Local vender: Various local businesses supply wood in the project area. Project activity helps save wood in cooking so influence consumption of these products and could thus negatively affect vendor livelihoods. - Manufacturer: More jobs for their employee in manufacturing, transportation and maintenance ICSs. Other governmental authority and NGOs: No change was observed in structure & functionality.
Expected changes in well-being	- The project activity is contributing to the reduction in GHG emission due to reduction in use of non-renewable biomass and it can ensure natural recovery of forests and/or reforestation. - Community health issues such as chronic lung diseases, acute respiratory infections, cataracts, blindness, and adverse effects on pregnancy are decreasing due to improvement of indoor air quality. - The introduction of locally manufactured technology with improved energy efficiency helps in technological self-reliance in the area
Location of stakeholders	All the stakeholders are operating and living in the area of project activity which is in the geographical boundary of Laos country.
Location of resources	Have no change in location of resource during the monitoring period. - ICS user: they still freely access to local forest around their household to collect wood fuel. - Local vender: They still can supply wood in the project area.

	Women Union and local NGOs and government: They have no change in structure & functionality, they are still operating in Laos and access to the same resources
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2.1.2 Stakeholder Consultation and Ongoing Communication

Ongoing consultation	The PP is maintaining ongoing communication with stakeholders through different measures. 1) During the monitoring survey, project has taken the chance to update information to different stakeholders, and collected comments through interviews, surveys, direct observations, group discussions. The PP also conducts and reports the monitoring result from the random sampling of to all stakeholders on annually basis. 2) Staff of SIPCO and Red Cross of the villages communicates & collects end-users' comments through regular visits and phone interviews to household at least 1 time per year. 3) Through monitoring survey trip, the field team managers also actively organize and conducts group discussions with different stakeholders The data from these interactions is compiled into annual reports and updated to the Red Cross & local governmental authority. Through the ongoing communication process, all the implementation information, such as the results of monitoring, the risks, costs and benefits the project and the plan of site visit from verification body has been updated timely to the stakeholders. In addition, the PP also updates workers on relevant law and applicable regulation (if any) and conduct additional educational services as requested by the beneficiary.
Date(s) of stakeholder consultation	• 18 August 2022, the date of initial stakeholder consultation meeting for grouped project. • 24 to 30 June 2024, the date to conduct ongoing consultation & conduct sampling survey at the same time • 25 July 2024, the date of record for ongoing communication of stakeholders.

Communication of monitored results	The monitored results have been shared with Lao Red Cross & relevant stakeholders through annual reports include the information of 1) The list of households has been selected for survey 2) The summarize of the result of SIPCO's representative sample conduct survey.
Consultation records	All formal consultation will be logged in the consultation forms. Forms will be saved for record of correspondence
Stakeholder input	During this ongoing communication, some household hope the manufacture can increase the size of project stove to cook more thing, And the manufacturer has taken note and research the way to design the cookstove accordingly. However, the change of size of project stove is not suitable at this time due to cost issue.

2.1.3 Free, Prior, and Informed Consent

Consent	The project activities take place with the approval of Village Chief, in a series of consultation meetings as documented. In addition, ICS is a completely voluntary activity and households in participating villages are free to choose whether they take part or not. Free, prior, and informed consent takes place before installation.
Outcome of FPIC	The project activity involves distribution of improved cookstove to individual households and it has not encroached on land, relocated people. All of information is transparency.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
There is no the grievance raised during this monitoring period.	Not Applicable.

The grievance mechanism process could be illustrated as below:



- **Receive Grievance**

The grievance could be received by all means, such as in person/over the phone, via email/website.

- **Record**

All formal grievances are logged in the External Grievance Register and Grievance Lodgment Forms will be saved for record of correspondence.

- **Screen**

The stakeholder contact officer is responsible for assigning a grievance owner to liaise with the external stakeholders and work on a resolution. Grievances are screened depending the level of severity in order to determine who the grievance owner will be and how the grievance is approached.

- **Acknowledge**

A grievance is acknowledged, the grievance owner, within two working days of a grievance being submitted. Communication is made either verbally or in written form.

The acknowledgement of a grievance should include a summary of the grievance, method that is taken to resolve the grievance and an estimated timeframe in which the grievance is resolved. If required, the acknowledgement provides an opportunity to ask for any additional information or to clarify any issues.

- **Investigate**

The grievance owner is responsible for investigating the grievance. The investigation may require the grievance owner to make site visits, consult employees, contact external stakeholders and complete other activities. Records of meetings, discussions and activities all need to be recorded during the investigation. Information gathered during the investigation will be analyzed and assist

in determining how the grievance is handled and what steps need to be taken in order to resolve the grievance.

- **Act**

Following the investigation, the grievance owner uses the findings to create an action plan outlining steps to be taken in order to resolve the grievance. The grievance owner is responsible for assigning actions, monitoring actions undertaken and making sure deadlines are adhered to. Once all actions have been completed and the grievance owner feels the grievance has been resolved, they then formally advise the external stakeholder via their preferred method of contact.

- **Follow up and close out**

The grievance owner make contact with the external stakeholder/s three weeks after the grievance is resolved. When contacting the external stakeholder, the grievance owner will verify that the outcome was satisfied and also gather any feedback on the grievance process.

Minutes of the meeting is recorded and saved.

If required, the grievance owner may need to follow up with the external stakeholder on numerous occasions to confirm all parties are satisfied.

The procedure is accessible to stakeholders for ongoing consultation, but there is no any grievance received in this monitoring period.

2.1.5 Public Comments

Summary of comments received	Actions taken
There were no negative or adverse comments received from stakeholders in this monitoring period	Not applicable

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

SIPCO has many years of experiences in implementing similar project activities and engaging communities. We have policies in place to inform management and employees about the avoidance of corruption, code of conduct, and business ethics. These policies are applied by all project staff, including company management to ensure that the organization is run in accordance with all legal requirements and is held to the highest standards of operation.

2.2.2 Risk assessment

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	No risk identified	The project activity involves distribution of improved cookstove to individual household. There is no trade-off or any negative impact to their livelihood, land, food, etc. therefore, no any risk identified to stakeholder participation
Risks to stakeholder participation	No risk identified	Project activities create jobs for local people, help them from unemployed to employed. All of working condition such as working hour, clothes, environment... as per Viet Nam's and Lao's Labor Law. therefore, no any risk identified to working condition
Working conditions	No risk identified	The project activity help reduce the proportion of time rural women spend on unpaid domestic work related to collection of firewood, Therefore, no any risk identified relate to safety of women and girls.
Safety of women and girls	No risk identified	The project alleviates the work burden of children and minority and marginalized grouped as they have to spend less time to collect firewood for cooking. Therefore, no any risk identified relate to safety of minority and marginalized grouped
Safety of minority and marginalized groups, including children	No risk identified	The project activity involves distribution of improved cookstove to individual household. The project activity reduce air pollutants from wook smoke and improve the air quality indoor.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	No risk identified	The project activity involves distribution of improved cookstove to individual household. There is no trade-off or any negative impact to their livelihood, land, food, etc. therefore, no any risk identified to stakeholder participation

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

Risks identified ³		Mitigation or preventative measure(s) taken
Discrimination	No risk identified	The project participants do not discriminate based on gender and ensure that an equal number of women and members of other underrepresented groups have the opportunity to apply
Sexual harassment	No risk identified	As part of our commitment to having a diverse and inclusive workplace, we have zero tolerance for harassment and bullying.
Gender equity in labor and work	No risk identified	The project also encourages women in the local communities to take up employment as per their skills, and provide training to all staff regardless of gender. The company as per its human resource policy ensures fair opportunity and equal pay for equal work done to both men and women. Furthermore, the project activity provides more opportunities to women through self-help groups, thus helping in overall women empowerment
Forced labor	No risk identified	SIPCO does not tolerate child labor or forced, involuntary or trafficked labor in any form. Victimization at work, such as recurring negative actions directed against individual employees, is not permitted. All employees shall treat one another with respect, dignity and common courtesy.
Child labor	No risk identified	
Human trafficking	No risk identified	

³ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The contractor, synonymous with implementing partner, enters into an independent contractor agreement with SIPCO. The agreement contains details of SIPCO's and the contractor's compliance according to Viet Nam labor laws. Specific information is provided on anti-terrorism and anti-corruption efforts, including a code of conduct. Per the Core Labour Conventions of the International Labour Organization (ILO), SIPCO respects, and works in tandem with the elimination of all forms of forced or compulsory labour, the effective abolition of child labour, minimum age convention, the right to organize, and the elimination of discrimination in respect of paid positions and occupation.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	The project activity involves distribution of improved cookstove to individual households and it is not involving any indigenous peoples and cultural heritage.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	The project activity involves distribution of improved cookstove to individual households and it is not involving any property right removal/relocation of property rights holders.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	The project activity dose not impacts property right impacts property rights so this section is not applicable
Benefit sharing during the monitoring period	The project activity dose not impacts property right impacts property rights so this section is not applicable

2.4 Ecosystem Health

Risk identified		Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified	The implementation of the grouped project does not impose any severe impacts on the ecological system in the surrounding areas. This project activity helps in reducing the consumption of fuel wood by efficient fuel combustion thereby reducing deforestation and reducing indoor air pollution. The use of efficient Cooking Stove technology reduce adverse environmental and social impacts associated with the use of non-renewable biomass. The reduced consumption of the stated baseline fuel has sustainable benefit for all household's traditional cook stoves users included in the project activity. The implementation of the project reduce workloads involved in fuel collection, and by reducing indoor air pollution, reduce the risk of respiratory diseases, especially for women and children. Efficient or improved Cooking stoves also
Soil degradation and soil erosion	No risk identified	
Water consumption and stress	No risk identified	

		contribute to environment protection by reducing biomass consumption and hence greenhouse gas emissions, mainly CO2, when the combusted biomass originates from non-renewable stocks. Therefore, it has no impact to ecosystem health, so this section is not applicable.
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2.4.1 Rare, Threatened, and Endangered species

Species or habitat	It is not applicable since there is no ecosystem impact were identified during validation
Areas needed for habitat connectivity	

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	No risk identified	The project activity involves distribution of improved cookstove to individual households and it is not impact to habitat in ecosystem
Areas for habitat connectivity	No risk identified	

2.4.2 Introduction of species

It is not applicable since project not introduce any species

2.4.3 Ecosystem conversion

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion	No risk identified	It is not applicable since project do not involve any ecosystem conversion.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The project activity aims to distribute ICSs in provinces of Lao and during this monitoring period all 370,000 ICSs under project activity were distributed. All ICSs were transported and gathered in local district's temporary warehouses one week before the start distribution date. From 10 – March - 2023, SIPCO in conjunction with the local partner (Lao Red Cross) organized mass distributions in all villages within the district. Lao Red Cross has affiliates in every village in all over Lao, they can quickly identify the households who are using traditional cookstove to cook meal daily and they can select the households that meet the project criteria. The representative of households whose names were on the demand registration list which have been predetermined to be eligible to participate in the project were invited to the distribution's points to attend the communication session and receive ICS. All 370,000 ICSs under this grouped project were distributed during more than 01 years from 10 – March – 2023 to 17 June 2024, detail in following:

Table 02: Timeline of project activities (PAs)

Project activity	Steps	Timeline
Grouped project	Registration date	14/09/2023
PA 1	Start date of second crediting period	01/10/2023
	Inclusion date	14/09/2023
	Project start date (the first equipment distributed)	10/03/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 7,965 ICSs were distributed from March to June 2023
	Total of ICSs have been distributed as on 30/06/2024	7,965 ICSs
PA 2	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	03/04/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 11,461 ICSs were distributed in April 2023

	Total of ICSs have been distributed as on 30/06/2024	11,461 ICSs
PA 3	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	06/04/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 11,151 ICSs were distributed from April to May 2023
	Total of ICSs have been distributed as on 30/06/2024	11,151 ICSs
PA 4	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	08/04/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 12,380 ICSs were distributed from April to May 2023 •
	Total of ICSs have been distributed as on 30/06/2024	• 12,380 ICSs
PA 5	Start date of second crediting period	• 01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	• 03/05/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 13,029 ICSs were distributed from May to June 2023 •
	Total of ICSs have been distributed as on 30/06/2024	• 13,029 ICS
PA 6	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	08/06/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	10,149 ICSs were distributed in June 2023

	Total of ICSs have been distributed as on 30/06/2024	10,149 ICS
PA 7	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	03/07/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 7,270 ICSs were distributed in July 2023
	Total of ICSs have been distributed as on 30/06/2024	7,270 ICS
PA 8	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	05/07/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 12,042 ICSs were distributed in July 2023
	Total of ICSs have been distributed as on 30/06/2024	• 12,042 ICS
PA 9	Start date of second crediting period	• 01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	• 01/08/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	• 2,632 ICSs were distributed in August 2023 • 8,123 ICSs were distributed in February 2024
	Total of ICSs have been distributed as on 30/06/2024	• 10,755 ICS
PA 10	Start date of second crediting period	01/10/2023
	Inclusion date	• 04/04/2024
	Project start date (the first equipment distributed)	03/08/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	• 4,526 ICSs were distributed in August 2023 • 7,320 ICSs were distributed in February 2024

	Total of ICSs have been distributed as on 30/06/2024	11,846 ICSs
PA 11	Start date of second crediting period	01/10/2023
	Inclusion date	04/04/2024
	Project start date (the first equipment distributed)	04/09/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	11,319 ICSs were distributed in September 2023
	Total of ICSs have been distributed as on 30/06/2024	11,319 ICSs
PA12	Start date of second crediting period	01/10/2023
	Inclusion date	04/04/2024
	Project start date (the first equipment distributed)	07/08/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	9,342 ICSs were distributed in August 2023 2,278 ICSs were distributed in September 2023
	Total of ICSs have been distributed as on 30/06/2024	11,620 ICSs
PA13	Start date of second crediting period	01/10/2023
	Inclusion date	04/04/2024
	Project start date (the first equipment distributed)	03/09/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	11,482 ICSs were distributed in September 2023
	Total of ICSs have been distributed as on 30/06/2024	11,482 ICS
PA14	Start date of second crediting period	01/10/2023
	Inclusion date	04/04/2024
	Project start date (the first equipment distributed)	07/09/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	9,355 ICSs were distributed in September 2023

	Total of ICSs have been distributed as on 30/06/2024	9,355 ICSs
PA 15	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	02/10/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	10,524 ICSs were distributed from 02 to 05 October 2024
	Total of ICSs have been distributed as on 30/06/2024	10,524
PA 16	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	06/10/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	11,330 ICSs were distributed from 06 to 10 October
	Total of ICSs have been distributed as on 30/06/2024	11,330 ICSs
PA 17	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	01/11/2023
	Implementation status as on 30/06/2024 (number of ICSs distributed)	9,563 ICSs were distributed from 01 to 03 November 2023
	Total of ICSs have been distributed as on 30/06/2024	9,563 ICSs
PA 18	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	06/11/2023

	Implementation status as on 30/06/2024 (number of ICSs distributed)	14,555 ICSs were distributed from 06 to 10 November 2023
	Total of ICSs have been distributed as on 30/06/2024	14,555 ICSs
PA 19	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	02/01/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	17,970 ICSs were distributed from 02 to 09 January 2024
	Total of ICSs have been distributed as on 30/06/2024	17,970 ICSs
PA 20	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	01/03/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	12,273 ICSs were distributed from 01 to 06 March 2024
	Total of ICSs have been distributed as on 30/06/2024	12,273 ICSs
PA 21	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	02/04/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	14,961 ICSs were distributed from 02 to 10 April 2024
	Total of ICSs have been distributed as on 30/06/2024	14,961 ICSs
	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period

PA 22	Project start date (the first equipment distributed)	01/12/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	12,228 ICSs were distributed from 01 to 05 December 2023
	Total of ICSs have been distributed as on 30/06/2024	12,228 ICSs
PA 23	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	07/12/2023
	Implementation status as on 30/06/2024(number of ICSs distributed)	11,715 ICSs were distributed from 07 to 12 December 2023
	Total of ICSs have been distributed as on 30/06/2024	11,715 ICSs
PA 24	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	10/01/2024
	Implementation status as on 30/06/2024(number of ICSs distributed)	9,789 ICSs were distributed from 10 to 12 January 2024
	Total of ICSs have been distributed as on 30/06/2024	9,789 ICSs
PA 25	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	07/03/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	16,405 ICSs were distributed from 07 to 13 March 2024
	Total of ICSs have been distributed as on 30/06/2024	16,405 ICSs
	Start date of second crediting period	01/10/2023

PA 26	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	15/04/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	16,432 ICSs were distributed from 15 to 19 April 2024
	Total of ICSs have been distributed as on 30/06/2024	16,432 ICSs
PA 27	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	01/05/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	11,321 ICSs were distributed from 01 to 06 May 2024
	Total of ICSs have been distributed as on 30/06/2024	11,321 ICSs
PA 28	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	03/06/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	14,770 ICSs were distributed from 03 to 07 June 2024
	Total of ICSs have been distributed as on 30/06/2024	14,770 ICSs
PA 29	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	07/05/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	16,792 ICSs were distributed from 07 to 14 May 2024
	Total of ICSs have been distributed as on 30/06/2024	16,792 ICSs

PA 30	Start date of second crediting period	01/10/2023
	Inclusion date	To be included in this monitoring period
	Project start date (the first equipment distributed)	10/06/2024
	Implementation status as on 30/06/2024 (number of ICSs distributed)	17,548 ICSs were distributed from 10 to 17 June 2024
	Total of ICSs have been distributed as on 30/06/2024	17,548 ICSs

3.2 Deviations

3.2.1 Methodology Deviations

Not applicable. No methodology deviations were applied.

3.2.2 Project Description Deviations

Not applicable. No project description deviations were applied

3.3 Grouped Projects

New project activity instances included under this grouped project ensure that it meets the eligibility criteria below.

No.	Eligibility criterion - Category	How the new project activity instances to comply	Supporting evidence for inclusion
	Meet the applicability conditions set out in the methodology applied to the project.	The new project activity instance meet all applicability conditions of VMR0006: "Methodology for installation of high efficiency firewood cookstoves", version 1.1, set out in section 3.2 of this registered project description, detail below:	The new project activity instances including PA15, PA16, PA17, PA18, PA19, PA20, PA21, PA22, PA23, PA24, PA25, PA26, PA27, PA28, PA29, PA30 meet all applicability conditions listed in section 3.2 of the final PD

1		1.1.Project activities shall be implemented in domestic premises or in community-based kitchen	The new project activity instances involves distribution of ICS only in households in Laos.												
		1.2.The project stove shall have specified high power thermal efficiency of at least 25% per the manufacturer's specifications and shall exclusively use woody biomass and can be single pot or multi-pot;	These Ecozen stoves planned to be installed under new project activity instances are single pot that have an efficiency of 38.44% as per the manufacturer's specification.												
		1.3.Both 'Projects' and 'Large Projects' can use the methodology	Estimated average annual emission reductions of the grouped project in registered PD is 3,588,237 tonne CO2 per year which larger than 300,000 tonnes CO2e per year. Therefore, proposed project qualifies the "Larger Projects" criteria.												
		1.4.Non-renewable biomass has been used in the project region since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.	All of ICs under new project activity instances were installed in Laos. According to FAO data, the total forest cover in Laos has decreased since 1990. Global Forest Resources Assessment Country Report (2015) revealed that the total forest area has been declining, as indicated in the table below: Table: Trends in carbon stock in living forest biomass 1990 - 2015 ⁴												
		<table><tr><td>1990</td><td>2000</td><td>2005</td><td>2010</td><td>2015</td></tr><tr><td>1153</td><td>1130</td><td>1108</td><td>1086</td><td>1064</td></tr></table>						1990	2000	2005	2010	2015	1153	1130	1108
1990	2000	2005	2010	2015											
1153	1130	1108	1086	1064											
Based on the findings above, one															

⁴ FAO forest Resource Assessment 2015 Global Tables.

			can reasonably assume that Non-Renewable Biomass has been used before 1989 thereby hinting that fuelwood used across Laos comes from non-renewable sources.
		1.5. For the specific case of biomass residues processed as a fuel (e.g. briquettes, wood chips), it shall be demonstrated that: (a) It is produced using exclusively renewable biomass (more than one type of biomass may be used). (b) The consumption of the fuel should be monitored during the crediting period and (c) Energy use for renewable biomass processing (e.g., shredding and compacting in the case of briquetting) may be considered as equivalent to the upstream emissions associated with the processing of the displaced fossil fuel and hence disregarded.	Not applicable. These new project activity instances use of biomass is sourced from non-renewable sources.
		1.6. The PD shall explain the proposed method for distribution of project devices including the method to avoid double counting of emission reductions such as unique identifications of product and end-user locations (e.g. programme logo).	Each ICS in new project activities instances are identified by a unique combination of customer name and geographical location, as well as a serial number. The serial number are a unique number which allow for a clear distinction between the stoves. No individual serial number can be repeated within the project, thus ensuring that each stove is counted only once in the proposed project. In addition, the project has been cross-checked against other CDM project activity operating in the country using the UNFCCC, the Gold Standard, and other relevant

			voluntary carbon schemes to ensure that the ICS is not included in any other CDM project activity or voluntary project activity.
		1.7.The PD shall also explain how the proposed procedures prevent double counting of emission reductions, for example to avoid that project stove manufacturers, wholesale providers or others claim credit for emission reductions from the project devices	All ICS users of new project activity instances signed a Beneficiary Agreement that cedes all rights to VRs to the project proponent. On the other hand, the cookstove purchased contract shall be signed between two parties for each project activity (project instance) in this grouped projects. Every contract will be attached with a statement or/and a beneficial agreement between the project owner (SIPCO) and the cookstove manufacturer, the statement or/and beneficial agreement is to confirm that all carbon credits right from the purchased cookstoves for the project activity shall be remained to the project owner without affected result with cookstove manufacturer. Therefore, only the project proponent is able to claim credit for emissions reductions from the project devices.
2	Use the technologies or measures specified in the project description	Each Instance under this Grouped project will consist of the distribution of ICS with a thermal efficiency of 38.44% to household users cooking with non-renewable biomass in the baseline scenario. The instance consists of replacement of conventional firewood cookstoves for biomass fired ICS as defined in the Grouped project.	Only Ecozen cookstoves which is conventional firewood stove for fire biomass with the efficiency is 38.44% to be adopted in the new project activity instances of the grouped project. It replaced the conventional firewood cookstove in the baseline as justified and confirmed in Criterion 8
3	Apply the technologies or measures in the same manner as specified in the project description	Each instance under this grouped project shall consist of the distribution of ICSs with efficiency improvements in thermal applications of non-renewable biomass. ICS shall	The Ecozen Cookstove with efficiency of 38.44% has been included in the new project activity instance of the grouped project and they will replace traditional cookstoves in household.

		have a thermal efficiency of 38.44%.	
4	Are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	Are installed within the geographic area specified in Section 1.12, thus subject to the same baseline scenario determined in Section 3.3	The new project activity instances have been implemented in the households of these provinces in Laos, detail below: • Xekong Province: PA15, PA16 • Salavan Province: PA17, PA18, PA19 • Attapeu Province: PA20, PA21 • Champasack Province: PA22, PA23, PA24, PA25, PA26, PA27, PA28 • Bokeo Province: PA29, PA30
5	Have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area.	All new project activity instances will use the activity method for demonstration of additionality. Step 1: Regulatory Surplus There is no mandated government programme or policy in host country of this project ensuring the distribution of new project activity instances. Step 2: Positive List The inclusion of new project activity instances will comply with positive list as it satisfies criterion 1 where it meets all the applicability conditions of the methodology. Step 3: Project method This step is not applicable under project activity because the stoves are provided at zero cost to the households (end user).	The new project activity instances eligible when the CME have provided the confirmation that the ICSs are distributed for free to the Users.
	Conditions that avoid double counting of emission reductions.	The new project activity instances will: 1. Apply a unique system (i.e. conformity letter) for ICS in each project instance,	Each ICS in project activity instances is uniquely identifiable and not part of any other CDM registered project or CPA of other PoA. The ICS will carry unique IDs

6		assigning a unique ID to each ICS and allowing to clearly identify each ICS and to which project instance it belongs. 2. Each ICS installed will include project instance assignment and will have corresponding end user details (i.e. name, address). This data will be recorded as part of the beneficiary agreement and Project database. The CME has an agreement in place with residents who use ICS in the project instance in which the owner transfers the rights to the emissions reductions exclusively to the CME as part of the Carbon Rights Waiver within the Beneficiary agreement..	comprised of the project instance number, ICS number and household subscribed to each ICS. The labels are below: PA015: LAO-015-ICS-00001 to LAO-015-ICS-10524 PA016: LAO-016-ICS-00001 to LAO-016-ICS-11330. PA017: LAO-017-ICS-00001 to LAO-017-ICS-09563. PA018: LAO-018-ICS-00001 to LAO-018-ICS-14555. PA019: LAO-019-ICS-00001 to LAO-019-ICS-17970. PA020: LAO-020-ICS-00001 to LAO-020-ICS-12273. PA021: LAO-021-ICS-00001 to LAO-021-ICS-14961. PA022: LAO-022-ICS-00001 to LAO-022-ICS-12228. PA023: LAO-023-ICS-00001 to LAO-023-ICS-11715. PA024: LAO-024-ICS-00001 to LAO-024-ICS-09789. PA025: LAO-025-ICS-00001 to LAO-025-ICS-16405. PA026: LAO-026-ICS-00001 to LAO-026-ICS-16432. PA027: LAO-027-ICS-00001 to LAO-027-ICS-11321. PA028: LAO-028-ICS-00001 to LAO-028-ICS-14770.
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			PA029: LAO-029-ICS-00001 to LAO-029-ICS-16792. PA030: LAO-030-ICS-00001 to LAO-030-ICS-17548.
7	Capacity Limit	Where a capacity limit applies to a project activity included in the project, no project activity instance shall exceed such limit. Further, no single cluster of project activity instances shall exceed the capacity limit, determined as follows: 1) Each project activity instance that exceeds one percent of the capacity limit shall be identified. 2) Such instances shall be divided into clusters, where by each cluster is comprised of any system of instances such that each instance is within one kilometer of at least one other instance in the cluster. Instances that are not within one kilometer of any other instance shall not be assigned to clusters. 3) None of the clusters shall exceed the capacity limit and no further project activity instances shall be added to the project that would cause any of the clusters to exceed the capacity limit	The project activity instances apply Verra VCS methodology VMR0006 ver 1.1 for both “project” and “large project”. Hence, this is not applicable.
8	Target group	Each project instance will target end users which includes households who use traditional cookstove to cook meal.	The new project activity instances satisfy the criteria. Each households in project activity instances must sign a beneficiary agreement to commit that they are

			using traditional cookstove to cook meal.
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3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☒ Yes

☒ No

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	η_{old}
Data unit	Percentage
Description	Efficiency of pre project device
Source of data	Default value as per applied methodology
Value applied	10
Justification of choice of data or description of measurement methods and procedures applied	The default value of 10% is used as the replaced system is a three stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, i.e. without a grate or a chimney.
Purpose of Data	Calculation of emission reduction
Comments	The value is fixed ex - ante

Data / Parameter	$f_{NRB,y}$
Data unit	%
Description	Fraction of woody biomass saved by the project activity in year y that can be established as non-renewable biomass
Source of data	Independent Report by third Party
Value applied	68.82
Justification of choice of data or description of measurement methods and procedures applied	Tool30 "Calculation of fraction of non- renewable biomass" version 04.0 was used to calculate f_{NRB} values. Project proponents considered the area where biomass is sourced and justify the selection of the area in project design documents.

	For this project, secondary data is used to determine the parameter as per the calculation of the fraction of non-renewable biomass, Version 04. The analysis was independently completed by third party. With regards to the calculations, the third party analyze the fNRB based on satellite data availability, Geographic Information System (GIS) and data modelling which provided the most reliable measuring method. The value is calculated as 0.93, however the uncertainty deduction for fnrb of 0.26 is applied as per the latest version of methodology, So, the value of 0.6882 is applied for ER calculations as a conservative approach
Purpose of Data	Calculation of baseline emission
Comments	This parameter shall remain fixed for the monitoring periods

Data / Parameter	NCV _{wood fuel}
Data unit	TJ/Tonne
Description	Net calorific value of the non-renewable woody biomass that is substituted or reduced
Source of data	2006 IPCC default for wood fuel
Value applied	0.0156
Justification of choice of data or description of measurement methods and procedures applied	IPCC Default value
Purpose of Data	Calculation of baseline emission
Comments	This parameter shall remain fixed for the monitoring periods

Data / Parameter	EF _{wf,CO2}
Data unit	tCO2/TJ
Description	CO2 emission factor for the use of wood fuel in baseline scenario.
Source of data	2006 IPCC
Value applied	112

Justification of choice of data or description of measurement methods and procedures applied	IPCC default value
Purpose of Data	Calculation of baseline emission
Comments	This parameter shall remain fixed for the monitoring periods

Data / Parameter	EF _{wf,nonCO2}
Data unit	tCO ₂ /TJ
Description	Non-CO ₂ emission factor for the use of wood fuel in baseline scenario.
Source of data	2006 IPCC
Value applied	26.23
Justification of choice of data or description of measurement methods and procedures applied	IPCC default value
Purpose of Data	Calculation of baseline emission
Comments	This parameter shall remain fixed for the monitoring periods

4.2 Data and Parameters Monitored

Data / Parameter	N _{y,i,j}
Data unit	Number
Description	Number of project devices of type i and batch j operating during year y.
Source of data	Monitoring
Description of measurement methods and procedures to be applied	Measured directly or based on a representative sample.
Frequency of monitoring/recording	At least once every two years

Value applied	370,000
Monitoring equipment	Monitoring survey
QA/QC procedures to be applied	Sampling standard shall be used for determining the sample size to achieve 95/10 confidence precision according to the latest version of Standard for sampling and surveys for project activities and programme of activities.
Purpose of data	Calculation of baseline emissions
Calculation method	Proportion of operational stoves obtained from the survey is multiplied by the total commissioned stoves to arrive at this value. Proportion of operational stoves: 100% $N_{y,i,j} = 100\% * 370,000 = 370,000$
Comments	Proportion of operational stoves obtained from the survey is multiplied by the total commissioned stoves to arrive at this value

Data / Parameter	$\eta_{new,y,i,j}$						
Data unit	Fraction						
Description	Efficiency of the device of each type <i>i</i> and batch <i>j</i> implemented as part of the project activity						
Source of data	Calculation						
Description of measurement methods and procedures to be applied	To adopt Option 5 given in the methodology: "Efficiency of the improved cookstoves to be estimated using equation 5 above where loss in efficiency per year is calculated, and therefore this parameter does not need to be monitored"						
Frequency of monitoring/recording	Annually						
Value applied	The value below is applied <table border="1"> <thead> <tr> <th>Year (y)</th><th>$\eta_{new,i,j}$</th></tr> </thead> <tbody> <tr> <td>1</td><td>0.3613</td></tr> <tr> <td>2</td><td>0.3577</td></tr> </tbody> </table>	Year (y)	$\eta_{new,i,j}$	1	0.3613	2	0.3577
Year (y)	$\eta_{new,i,j}$						
1	0.3613						
2	0.3577						
Monitoring equipment	Calculated value						

QA/QC procedures to be applied	-
Purpose of data	Calculation of baseline emission
Calculation method	-
Comments	Calculation to be performed using equation below: $\eta_{new,y,i,j} = \eta_p \times (DF_n)^{y-1} \times 0.94$ For Ecozen, age = 1, $\eta_{new,y,i,j} = 0.3844 \times 0.99^{1-1} \times 0.94 = 0.3613$ For Ecozen, age = 2, $\eta_{new,2,i,j} = 0.3844 \times 0.99^{2-1} \times 0.94 = 0.3577$

Data / Parameter	$B_{y=1,new,i,j,survey}$																
Data unit	Tonnes																
Description	Quantity of woody biomass used by project devices in tonnes per device of type i.																
Source of data	Monitoring survey																
Description of measurement methods and procedures to be applied	Sampling standard “sampling and surveys for CDM project activities and programme of activities” version 9 was used for determining the sample size This value was determined within the first year of the introduction of the devices through sample surveys which was conducted from 25 to 28 September 2023.																
Frequency of monitoring/recording	Determined in the first year of project implementation																
Value applied	1.479																
Monitoring equipment	Weighing scale <table border="1"> <tr> <td>Model</td><td>Electro-HY10-TD30</td></tr> <tr> <td>Manufactured</td><td>Kern – Germany</td></tr> <tr> <td>Max</td><td>15kg</td></tr> <tr> <td>Division</td><td>5g</td></tr> <tr> <td>Accuracy</td><td>Class III</td></tr> <tr> <td>Calibration stamp No.</td><td>A.02169</td></tr> <tr> <td>Date of calibration</td><td>13/02/2023</td></tr> <tr> <td>Until</td><td>12/02/2024</td></tr> </table>	Model	Electro-HY10-TD30	Manufactured	Kern – Germany	Max	15kg	Division	5g	Accuracy	Class III	Calibration stamp No.	A.02169	Date of calibration	13/02/2023	Until	12/02/2024
Model	Electro-HY10-TD30																
Manufactured	Kern – Germany																
Max	15kg																
Division	5g																
Accuracy	Class III																
Calibration stamp No.	A.02169																
Date of calibration	13/02/2023																
Until	12/02/2024																

QA/QC procedures to be applied	Calibration of weighing scales used for measuring the fuel wood was done in house before start using on site. If multiple devices are used in the project, it is possible from the results of the survey question to clearly differentiate the quantity of firewood being used by each device. In other words, if more than one device or another device that consumes firewood, are in use in project households then the sample survey needs to distinguish the quantity of firewood used by the project device and the other devices that use firewood. The weighing process is below: Make a pile for total wood required for cooking in a day for project stove and other stove (if any), weigh the pile of wood before using for each stove. After one day, weigh the remaining wood for each stove. From this, we can calculate the daily use of wood and estimate the total of wood in a month by the project device and the other devices that use firewood.
Purpose of data	Calculation of baseline emissions
Calculation method	-
Comments	At the time of first monitoring survey, the surveyor enquired for firewood consumption for each stove installed in the household. During the first monitoring period, sampling survey has been conducted across all batches available during the monitoring period. The value, sampling method, etc has been provided & approved in the first MR. This is already the third years of project implementation so there is no requirement to conduct the monitoring survey again for this parameter as per applied methodology & registered VCS PD.
Data / Parameter	Life span
Data unit	Number of years
Description	The operating lifetime of the project device. The life span should be reported if the methodology equation 5 is adopted to determine the project stove efficiency
Source of data	Manufacture's specification
Description of measurement methods and procedures to be applied	PP conduct periodic audits and surveillance of the stoves that is distributed under the project activity to ensure their proper functioning throughout the project lifetime. This along with spot audits and after installation maintenance services, ensure that the project stoves continue to work at efficiencies as specified by the manufacturer.

Frequency of monitoring/recording	Once at the time of project stove installation
Value applied	10
Monitoring equipment	
QA/QC procedures to be applied	
Purpose of data	For calculation of baseline emission
Calculation method	-
Comments	

4.3 Monitoring Plan

(a) Sampling Methodology

Representative sampling was undertaken that is designed in line with the requirements of the VMRO006 methodology applied and the “Standard for sampling and surveys for CDM project activities and programme of activities”, version 09.0. This sampling plan follows the recommended outline as contained in “Guidelines for sampling and surveys for CDM project activities and programme of activities”, version 04.0.

Monitoring Parameters

Parameter	Description	Parameter type /frequency	Methods to be applied
$N_{y,i,j}$	Number of commissioned project devices of type i and batch j operating during year y	Proportion/biennially	Visits to the premises, visual inspection and interview with ICS end-user

To monitor the required parameters data was collected from a statistically valid sample of ICS in the database for the monitoring period, as per this sampling plan. The method of collecting data was field surveys and the frequency of data collection is as per the frequency defined for each parameter in the above section. Data was collected from the field surveys, entered in the database and included in the monitoring report.

As per approved methodology, the following guidance is being used for the representative sampling method:

“A statistically valid sample of the locations where the devices are deployed, with consideration, in the sampling design, of occupancy and demographic differences can be used to determine parameter values used to calculate emission reductions, as per the relevant requirements for sampling in the “Standard for sampling and surveys for CDM project activities and programmes of activities”. When biennial inspection is chosen a 95 per cent confidence interval and a 10 per cent margin of error shall be achieved for the sampling parameter. On the other hand, when the project proponent chooses to inspect annually, a 90 per cent confidence interval and a 10 per cent margin of error shall be achieved for the sampled parameters. In cases where survey results indicate that 90/10 precision or 95/10 precision are not achieved, the lower bound of the 90 per cent or 95 per cent confidence interval of the parameter value may be chosen as an alternative to repeating the survey efforts to achieve the 90/10 or 95/10 precision.”

As per para 3 of “Standard: Sampling and Surveys for CDM project activities and programme of activities”, version 09” The general requirements of sampling methods shall be applicable to PoAs with any requirement specified in the applicable methodologies having precedence”.

Additional requirement for grouped project as per sampling standard, version 09, para 21 to 23, EB 110 is followed:

In case a single sampling plan for more than one instance is used, “parameter values shall be estimated by sampling in accordance with the requirements in the applied methodology separately and independently for each of the instance project activity included in the grouped project except when a single sampling plan covering a grouped project is undertaken applying 95/10 confidence/precision for the sample size calculation”.

(b) Sample Frame

The sampling frame refers to all the information in the database. The grouped project is open to different instance Implementers and different models of ICS. As explained below, to take the different characteristics of different project proponent and ICS models and other factors that may affect estimates into consideration, the instances shall be either sampled separately and independently, or grouped together under a single sampling plan across instances, in each case using strata that have unique combinations of these factors.

(c) Target Population

The target population is total ICS population served under the project instance in the monitoring database. The ICS to be sampled was drawn from the list of individual ICS serial ID numbers contained in the sales record database, which is maintained by the distributor

(d) Sampling method

Sampling was conducted using Stratified random sampling techniques, and detailed calculations are provided within the monitoring plan as per CDM guidelines “Sampling and surveys for CDM project activities and programmes of activities”. Optionally, other sampling approaches may be used in accordance with “Sampling and surveys for CDM project activities and programmes of

activities” and Guideline for Sampling and Surveys for CDM Project. Activities when sampling techniques or statistical analysis necessitates it.

(e) Sample size

The sample size was calculated using the EB 86, “Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities”, version 04.0.

According to the “Standard for sampling and surveys for CDM project activities and programme of activities”, if there is more than one parameter to be estimated, then a sample size calculation should be done for each of them. Then either the largest number for the sample size is chosen as sampling effort with one common survey, or separate sampling efforts and surveys are undertaken for each parameter.

In order to calculate the required sample size estimates, values for the proportions, mean values, and standard deviations are required. As per Guidelines for Sampling and surveys for CDM project activities and programmes of activities (version 04.0) Appendix 1 paragraph 5, there are different ways available to obtain the estimates of the parameter of interest:

- (a) Refer to the result of previous studies and use these results;
- (b) In a situation where information from previous studies is not available, a preliminary sample as a pilot could be conducted and use that sample is used to provide the estimates;
- (c) Use best guesses based on the researcher’s own experiences.

For the registration/inclusion purpose of instance, option C shall be applied. Thus, there are different equations to calculate a required sample size for different situations. Different equation that is used, depends on the type of parameter of interest, that is either:

- (a) A percentage –retention rate of improved cookstoves
- (b) A numeric value –the mean value of operating efficiency of improved cookstoves.

For all of the parameters 95% confidence is required that the margin of error in the estimate is not more than $\pm 10\%$ in relative terms.

Parameter $N_{y,i,j}$

For population who use improved cookstove serviced by the project activity in year y ($N_{y,i,j}$), the equation that is used is:

$$n \geq \frac{1.96^2 N \times p(1-p)}{(N-1) \times 0.1^2 \times p^2 + 1.96^2 p(1-p)}$$

Where:

- n : Sample size
 N=N_y : Population who consumes the improved cookstove serviced by the project activity in year y
 p : Our expected proportion of the installed improved cookstove will be in use and operating at the specified efficiency)
 1.96 : Represents the 95 % confidence required
 0.1 : Represents the 10 % relative precision

Based on the above assumptions, the resulting sampling size for a 95/10 confidence/precision is calculated for total population size, the result below:

Monitoring parameter(s)			Stove Operating Fraction for determination of N _y			
Sampling frame(s)			Given stove model, region and age population			
Sampling approach			Stratified random sampling across stove model, region and age			
Region	Type of stove	Age	Stove population	Expected operational proportion	Calculated Sample Size (n)	Actual Monitored sample size
Houaphanh	Ecozen	2	55,986	0.9	7	8
Bolikhamxay	Ecozen	1	19,312	0.9	2	3
Bolikhamxay	Ecozen	2	10,149	0.9	1	2
Xaysomboun	Ecozen	1	10,755	0.9	1	2
Khammounan	Ecozen	1	11,846	0.9	1	2
Xiengkhoang	Ecozen	1	43,776	0.9	5	6
XeKong	Ecozen	1	21,854	0.9	3	4
Salavan	Ecozen	1	42,088	0.9	5	6
Atapeu	Ecozen	1	27,234	0.9	3	4
Champasack	Ecozen	1	92,660	0.9	11	12
Bokeo	Ecozen	1	34,340	0.9	4	5
Sample size determination						
Estimated Operation (p)					0.9000	
V _{operation} = p(1-p)/p ²					0.111	
Sample Size required (SOF)					43	

Additionally, as per registered sampling plan, it's recommended that the CME may choose to use the same samples to monitor more than one parameter, where parameters have same units. Sampling more than one parameter within the same sample (household) helps reduce travel needs for monitoring and the associated costs. At the same time this approach ensures the random selection of samples for every parameter. Also, oversampling is strongly encouraged, not only to compensate for any attrition, outliers or nonresponse associated with the sample, but also to prevent a situation at the analysis stage where the required reliability is not achieved and additional sampling efforts would be required. We expect the response rate from the sampled households to be 80%. Thus, we would decide to sample $43/0.8 = 54$ samples. A total of 54 samples were selected.

Therefore the sample size for parameters $N_{y,i}$, is 54 samples.

The improved cookstoves (ICSs) were selected randomly after arranging them in chronological order of date of distribution (age of ICS) and assigning a sampling number to each ICS in each strata (each project region). To ensure a random selection of ICS, samples will be drawn by using the random number generator. The populations of each strata will be combined together, the sample size is determined, and a single survey will be undertaken across the project activities to collect data. To ensure the survey result is representative of the entire population, the dissimilarity (such as ICS type, ICS age, project region) among the strata's will be taken into account in the sample size calculation. The ICS of same type, ICS age and project region in which they are operating will be grouped in the same strata.

(a) Analysis of data collected and confidence/precision achieved

Analysis of the data monitored through sampling revealed the following results

Parameter $N_{y,i}$

ANALYSIS for parameter N_y	
Samples Monitored	54
Survey result	1.000
Standard Error of operation	0.000
Upper Boundary Level	100.00%
Lower Boundary Level	100.00%
Relative precision (Margin of error)	0.00%

Check precision	0.00%
Result	Ok, reliability level met
Lower Bound confidence value	Not applicable

For detailed calculations refer ER calculator sheet.

(b) Implementation plan

Survey Implementation Schedule:

The survey for collecting the details of monitoring parameters was conducted from 24th to 30th June 2024 for this crediting monitoring period.

The overall monitoring and the implementation of the sampling was co-ordinated by the project proponent and the management staff. They ensured successful monitoring of the emission reductions of the proposed project during its crediting period. Furthermore, the survey of the representative sample for the parameters was carried out by the distributor together with the project proponent.

The survey method has been used by project proponent include:

- (a) Hard-copy questionnaires
- (b) Face to face interview

All sampling efforts was conducted by qualified personnel who have undergone training on 10 May 2024 for conduct survey as part of the grouped project. Any samplers required to speak the native language(s) in which improved cookstoves have been implemented, allowing for full understanding of any responses given by users, and any questions therein.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

In accordance with the applied methodology, the baseline scenario is continued use of non-renewable wood fuel (firewood) by the target population to meet similar thermal energy needs as provided by project cookstoves in absence of project activity

The actual baseline scenario is the use of non- renewable biomass. The quantity of biomass used in absence of the project activity for target consumers are determined at the Instance level.

Assessments, information used in initial instances may be used in subsequent instances in lieu of conducting fresh assessments at each instance level.

The methodology does not account for baseline emissions separately, but instead quantifies net emission reductions achieved by the project. Please refer to Section 5.4

5.2 Project Emissions

The operation of project stove does not involve consumption of fossil fuels and electricity, So, there is no project emissions considered.

5.3 Leakage Emissions

As detailed in section 8.3 of the methodology VMR0006, Version 1.1, leakage shall be considered as default 0.95

5.4 GHG Emission Reductions and Carbon Dioxide Removals

Emission reductions are calculated as:

$$ER_y = \sum_i \sum_j ER_{y,i,j}$$

Where:

i	Indices for the situation where more than one type/model of improved cookstove is introduced to replace three stone fire.
j	Indices for the situation where there is more than one batch of improved cookstove of type i
ER _y	Emission reductions during year y in t CO ₂ e
ER _{y,i,j}	Emission reductions by improved cookstove of type i and batch j during year y in t CO ₂ e

Since the project activity instance involves the deployment of improved cookstove, the following equation is applicable as per VMR0006, Version 1.1:

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,CO_2} + EF_{wf,non\ CO_2}) \times N_{y,i,j} \times 0.95$$

- **Quantity of woody biomass $B_{y,savings,i,j}$**

$B_{y,savings,i,j}$ is calculated using the following formula in accordance with equation 4 of the approved methodology VMRO006 Version 1.1:

$$B_{y,savings,i,j} = B_{y=1,new,i,survey} \times (\eta_{new,i,j} / \eta_{old} - 1)$$

Where:

$B_{y=1,new,i,survey}$: Annual quantity of woody biomass used by improved cookstoves in tonnes per device of type i and batch j, determined in the first year of the implementation of the project through a sample survey, the value is 4.051 kg/day = 1.479 tons/year.

η_{old} : Efficiency of baseline cookstove, the value is 10%

$\eta_{new,i,j}$: Efficiency of the improved cookstove type i and batch j determined through water boiling test (WBT) during year y

- For Ecozen stove:
- $\eta_{new,Ecozen.1} = 36.13\%$, So, $B_{Ecozen,savings,1,j} = 1.479 \times (36.13/10 - 1) = 3.865$ tons
- $\eta_{new,Ecozen.2} = 35.477\%$, So, $B_{Ecozen,savings,2,j} = 1.479 \times (35.77/10 - 1) = 3.811$ tons

- **Number of operating improved cookstoves $N_{y,i,j}$**

Number of operating improved cookstove is calculated by the proportion of operational stoves obtained from the survey is multiplied by the total commissioned stoves to arrive at this value.

The proportion of operational stoves: 100%. Therefore, $N_{y,i,j} = 100\% \times 370,000 = 370,000$ ICSs

Example for PA001,

- Total 7,965 Ecozen stoves are operation in last monitoring period. For this crediting period, the age of Ecozen stove of PA 001 is 2 so $B_{Ecozen, savings,2,j} = 3.865$ tons.

The proportion of operational stoves is 100% so $N_{y,i,j}$ of PA 001 = $7,965 \times 100\% = 7,965$ ICSs.

The 2nd crediting period is from 01/10/2023 to 30/06/2024 so the equivalent operational year of this monitoring period is 0.75068 year

Therefore, the ER of PA001 is calculated by

$$ER_{y,i,j} = B_{y,savings,i,j} \times NCV_{wood\ fuel} \times f_{NRB,y} \times (EF_{wf,CO2} + EF_{wf,non\ CO2}) \times N_{y,i,j} \times 0.95$$

$$ER = 3,811 \times 0.0156 \times 0.6882 \times (112 + 26.23) \times 7,965 \times 0.750685 \times 0.95 = 32,127 \text{ tCO}_2$$

Detail below (refer to ER sheet)

Name of CPA	Age	Distribution quantity	Operational Quantity	Start date of improved cookstove in a month	End date of distribution improved cookstove in a month	Vintage 2023 (From 01/10/2023 - 31/12/2023)				Vintage 2024 (From 01/01/2024 - 30/06/2024)			
						Start date of vintage	End date of vintage	Equivalent Operational year	VCUs	Start date of vintage	End date of Vintage	Equivalent Operational year	VCUs
PA 001	2	7,965	7,965	10-Mar-23	6-Jun-23	1-Oct-23	31-Dec-23	0.2521	10,787	1-Jan-24	30-Jun-24	0.4986	21,340
PA 002	2	11,461	11,461	3-Apr-23	5-Apr-23	1-Oct-23	31-Dec-23	0.2521	15,522	1-Jan-24	30-Jun-24	0.4986	30,707
PA 003	2	11,151	11,151	6-Apr-23	9-May-23	1-Oct-23	31-Dec-23	0.2521	15,102	1-Jan-24	30-Jun-24	0.4986	29,877
PA 004	2	12,380	12,380	8-Apr-23	6-May-23	1-Oct-23	31-Dec-23	0.2521	16,767	1-Jan-24	30-Jun-24	0.4986	33,170
PA 005	2	13,029	13,029	3-May-23	2-Jun-23	1-Oct-23	31-Dec-23	0.2521	17,646	1-Jan-24	30-Jun-24	0.4986	34,908
PA 006	2	10,149	10,149	8-Jun-23	10-Jun-23	1-Oct-23	31-Dec-23	0.2521	13,745	1-Jan-24	30-Jun-24	0.4986	27,192
PA 007	1	7,270	7,270	3-Jul-23	4-Jul-23	1-Oct-23	31-Dec-23	0.2521	9,983	1-Jan-24	30-Jun-24	0.4986	19,750
PA 008	1	12,042	12,042	5-Jul-23	7-Jul-23	1-Oct-23	31-Dec-23	0.2521	16,537	1-Jan-24	30-Jun-24	0.4986	32,715
PA 009	1	2,632	2,632	1-Aug-23	1-Aug-23	1-Oct-23	31-Dec-23	0.2521	3,614	1-Jan-24	30-Jun-24	0.4986	7,150
PA 009	1	8,123	8,123	1-Feb-24	5-Feb-24	-	-	-	-	6-Feb-24	30-Jun-24	0.4000	17,703
PA 010	1	4,526	4,526	3-Aug-23	3-Aug-23	1-Oct-23	31-Dec-23	0.2521	6,215	1-Jan-24	30-Jun-24	0.4986	12,296
PA 010	1	7,320	7,320	5-Feb-24	8-Feb-24	-	-	-	-	9-Feb-24	30-Jun-24	0.3918	15,625
PA 011	1	11,319	11,319	4-Aug-23	6-Aug-23	1-Oct-23	31-Dec-23	0.2521	15,544	1-Jan-24	30-Jun-24	0.4986	30,751
PA 012	1	11,620	11,620	7-Aug-23	2-Sep-23	1-Oct-23	31-Dec-23	0.2521	15,957	1-Jan-24	30-Jun-24	0.4986	31,568
PA 013	1	11,482	11,482	3-Sep-23	6-Sep-23	1-Oct-23	31-Dec-23	0.2521	15,768	1-Jan-24	30-Jun-24	0.4986	31,193
PA 014	1	9,355	9,355	7-Sep-23	10-Sep-23	1-Oct-23	31-Dec-23	0.2521	12,847	1-Jan-24	30-Jun-24	0.4986	25,415
PA 015	1	10,524	10,524	2-Oct-23	5-Oct-23	6-Oct-23	31-Dec-23	0.2384	13,667	1-Jan-24	30-Jun-24	0.4986	28,591
PA 016	1	11,330	11,330	6-Oct-23	10-Oct-23	11-Oct-23	31-Dec-23	0.2247	13,868	1-Jan-24	30-Jun-24	0.4986	30,780
PA 017	1	9,563	9,563	1-Nov-23	3-Nov-23	4-Nov-23	31-Dec-23	0.1589	8,279	1-Jan-24	30-Jun-24	0.4986	25,980
PA 018	1	14,555	14,555	6-Nov-23	10-Nov-23	11-Nov-23	31-Dec-23	0.1397	11,080	1-Jan-24	30-Jun-24	0.4986	39,542
PA 019	1	17,970	17,970	2-Jan-24	9-Jan-24	-	-	-	-	10-Jan-24	30-Jun-24	0.4740	46,405
PA 020	1	12,273	12,273	1-Mar-24	6-Mar-24				-	7-Mar-24	30-Jun-24	0.3178	21,251
PA 021	1	14,961	14,961	2-Apr-24	10-Apr-24				-	11-Apr-24	30-Jun-24	0.2219	18,089

PA 022	1	12,228	12,228	1-Dec-23	5-Dec-23	6-Dec-23	31-Dec-23	0.0712	4,745	1-Jan-24	30-Jun-24	0.4986	33,220
PA 023	1	11,715	11,715	7-Dec-23	12-Dec-23	13-Dec-23	31-Dec-23	0.0521	3,322	1-Jan-24	30-Jun-24	0.4986	31,826
PA 024	1	9,789	9,789	10-Jan-24	12-Jan-24				-	13-Jan-24	30-Jun-24	0.4658	24,840
PA 025	1	16,405	16,405	7-Mar-24	13-Mar-24				-	14-Mar-24	30-Jun-24	0.2986	26,692
PA 026	1	16,432	16,432	15-Apr-24	19-Apr-24				-	20-Apr-24	30-Jun-24	0.1973	17,660
PA 027	1	11,321	11,321	1-May-24	6-May-24				-	7-May-24	30-Jun-24	0.1507	9,294
PA 028	1	14,770	14,770	3-Jun-24	7-Jun-24				-	8-Jun-24	30-Jun-24	0.0630	5,070
PA 029	1	16,792	16,792	7-May-24	14-May-24					15-May-24	30-Jun-24	0.1288	11,780
PA 030	1	17,548	17,548	10-Jun-24	17-Jun-24					18-Jun-24	30-Jun-24	0.0356	3,405

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
10 Oct 2023 to 31 Dec 2023	240,995	0	0	240,995	0	240,995
01 Jan 2024 to 30 Jun 2024	775,785			775,785		775,785
Total	1,016,780	0	0	1,016,780	0	1,016,780

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
10 Oct 2023 to 31 Dec 2023	904,432	240,995	-73.35%	- The actual parameter $B_{y=1,new,i,j,survey}$ is 4.051kg, decrease of 18.99% compare with the value of 5kg in registered PD. - The number of stoves distributed in many months, not fully distributed on the first day of distribution. - The project activity has not having fully been implemented and ICSs distribution is still ongoing. Total 370,000 ICSs were distributed till end of this monitoring period, lower than of 38.33% compare with 600,000 ICSs will distributed in registered PD in whole of lifetime of grouped project.
01 Jan 2024 to 30 Jun 2024	1,789,203	775,785	-56.64%	
Total	2,693,635	1,016,780	-62.25%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

The project involves distribution ICSs to individual households, there are no commercially sensitive information so this section is not applicable.

APPENDIX 2: SUPPLY CHAIN

1. <https://intracocarbon.com/public-announcement-on-grouped-projects-for-laos-cookstove-program-project-id-2924>

Public statement has been posted on SIPCO's website.

