



# Sustainable Development Verified Impact Standard

## TUIK RUCH LEW IMPROVED COOKSTOVE PROJECT FOR LAKE ATITLAN, GUATEMALA

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<b>Project Title</b>	<i>Tuik Ruch Lew Improved Cookstove Project</i>
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<b>Project Location</b>	<i>Sololá, Guatemala</i>
<b>Project Proponent(s)</b>	<i>Tuik Ruch Lew, Cameron Krummel, <a href="mailto:programdevelopment@trilearth.org">programdevelopment@trilearth.org</a>, +502 7933 - 3061.</i>
<b>Assessor Contact</b>	<i>AENOR</i>
<b>Project Lifetime</b>	<i>01 September 2018 – 01 September 2025; 7-year lifetime</i>
<b>Monitoring Period of this Report</b>	<i>1 Sep 2018 – 1 Jan 2020</i>
<b>History of SD VISTA Status</b>	<i>2018 Pilot Project Selection</i>
<b>Other Certification Programs</b>	<i>None currently in use. Currently applying for Verified Carbon Standard.</i>
<b>Expected Future Assessment Schedule</b>	<i>Initial verification and validation to be completed early 2020.</i>

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# 1 SUMMARY OF SDG CONTRIBUTIONS

**Table 1: Summary of SDG Contributions**

Row number	Quantitative Project Contributions during Monitoring Period	Contributions during Project Lifetime	SDG Target	SDG Indicator	Net Impact on SDG Indicator	Section Reference	Claim, Asset or Label
1)	78 inefficient open cooking fires with ONIL stoves.	With the installation of 800 new ONIL stoves the project will:	7.1	7.1.2 proportion of population with primary reliance on clean fuels and technology	Increased	3.1 #1	Claim
		Provide 800 additional families with access to improved cookstove technology  Reduce the amount of non-renewable woody biomass consumed per family  Maintain all stoves for optimal performance	7.2	7.2.1 renewable energy share in the total final energy consumption	Increased	3.1 #1	Claim
2)	3 incandescent light bulbs replaced with LEDs.	With the installation of 2000 led light bulbs to replace incandescent light bulbs, the project will improve energy efficiency in beneficiary homes.	7.3	Number of light fixtures that undergo improvements in energy efficiency	Increased	3.1 #3	Claim
3)	4544.48 USD achieved in savings on firewood, made possible by access to ONIL stove technology.  2459 days saved in time that would otherwise be used to collect wood, made possible by access to ONIL stove technology.	Implement activities to promote income increases through money and time saved using the onil stove. The project will:  Increase monthly income of families who purchase wood	1.1	1.1.1 proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	Decreased	3.1 #3	Claim

	78 additional families with greater access to basic services (clean cooking technology).	fuel by an estimated of q1560/yr or \$200/yr.	1.2	1.2.1 proportion of population living below the national poverty line, by sex and age	Decreased	3.1 #3	Claim
		Save an average of 2 days/ week in time for families who collect firewood.		1.2.2 proportion of men, women and children of all ages living in poverty	Decreased		
		Provide families with greater access to basic services in the form of appropriate new technology	1.4	1.4.1 proportion of population living in households with access to basic services	Increased	3.1 #1 ?	Claim
4)	78 additional households experienced a 99% reduction in household air pollution and the associated health benefits.	<p>Implement activities to decrease deaths associated with household air pollution (hap) and burns from open cooking fires. The project will:</p> <p>Reduce hap by 99% in 800 homes through use of onil stove, leading to:</p> <p>Reduced instance of acute lower respiratory infection</p> <p>Improved respiratory function</p> <p>Reduced risk of child/infant death by eliminating open fire</p>	3.2	3.2.1 under-five mortality rate	Implement activities to decrease	3.1 #1, #2	
				3.2.2 neonatal mortality rate	Implement activities to decrease		
			3.4	3.4.1 mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease	Implement activities to decrease	3.1 #1, #2	
			3.9	3.9.1 mortality rate attributed to household and ambient air pollution	Implement activities to decrease	3.1 #1, #2	

5)	18 additional British Berkefeld water filters were installed.	By enabling access to British Berkefeld water filters, the project will lower exposure to unsafe water for 100 families	3.9	3.9.2 mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe water, sanitation and hygiene for all (wash) services)	Implement activities to decrease	3.1 #2	
			6.1	6.1.1 proportion of population using safely managed drinking water services	Increase	3.1 #2	
6)	No change yet monitored	By providing onil stoves that save money, time, and health costs, the project will decrease the amount of time that women spend on unpaid domestic and care work.	5.4	5.4.1 proportion of time spent on unpaid domestic and care work, by sex, age and location	Decrease	NA	Claim
7)	12 beneficiaries enrolled in TRL's savings program.	Implement activities to increase access to financial institutions. The project will:  Enable access to community-savings, micro-finance, or similar opportunities, enrolling 10% of families (approximately 700 families) over the lifetime of the project in said programs.	8.10	8.10.2 proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider	Increase	3.1 #3	Claim
8)	By replacing inefficient open cooking fires with 78 ONIL stoves and performing energy efficiency improvements in 66 existing biomass cookstoves, the project	By replacing inefficient open cooking fires with 800 ONIL stoves and performing energy efficiency improvements in 700 existing biomass cookstoves,	13	Tonnes of greenhouse gas emissions avoided or removed	Decreased	VCS verification report for the first	SD vista-labeled VCU

	will generate approximately 641.418 tco2e of emission reductions during the monitoring period	the project will generate approximately 12,000 tco2e of emission reductions.				monitoring period	
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## 2 PROJECT DESIGN

### 2.1 Project Objectives, Context and Long-term Viability

#### 2.1.1 Summary of Project Sustainable Development Objective(s)

- Install a minimum of 800 ONIL high-efficiency, clean burning ONIL cookstoves to benefit approximately 3,920 individuals. (SDI 7.1.2)
- Provide 700 energy efficiency improvements to existing ONIL cookstoves to benefit approximately 3,430 individuals. (SDI 1.1.1, 1.3)
- Increase Tz'utujil Maya families' disposable income by reducing the amount of wood fuel purchased monthly. (SDI 1.1.1, 1.1.2, 1.2.1)
- Reduce total wood fuel usage in the project area to generate approximately 12,000 tco2e of emission reductions. (SDG 13)
- Increase Tz'utujil Maya families' disposable income by reducing the amount of time spent monthly collecting firewood, thus increasing time for income producing activities. (SDI 1.1.1, 1.1.2, 1.2.1)
- Reduce Household Air Pollution (HAP) by 99% in 800 households. (SDI 3.4.1, 3.91)
- Reduce instance of non-communicable respiratory disease, such as Chronic Obstructive Pulmonary Disease (COPD) among adult family members, particularly women and the elderly. (SDI 3.4.1)
- Reduce risk of mortality among infants and children under five years of age due to (1) acute lower respiratory illnesses (ALRI), such as pneumonia and bronchitis, the cause of mortality in 12% of children under five, and (2) burns resulting from children falling into open cooking fires. (SDI 3.2.1, 3.2.2)
- Increase the number of individuals with an account at a bank or other financial institution and increase financial literacy by referring beneficiaries and prospective beneficiaries to local microcredit and or community savings programs. (SDI 8.10.2).
- Decrease the proportion of time Tz'utujil women spend on unpaid domestic and care work. (SDI 5.4.1).

#### 2.1.2 Description of the Project Activity

The TRL Improved Cookstove (ICS) Project promotes 4 project activities: (1) introduction of high-efficiency, biomass-fired project devices to replace open cooking fires; (2) provision of energy efficiency improvements in existing biomass-fired cookstoves; (3) distribution of British Berkefeld water filters; and (4) replacement of incandescent light bulbs with LEDs. With over 30 years of experience, the TRL Improved Cookstove Outreach Team has enabled greater access to ONIL stoves in the Lake Atitlán basin, mainly serving Tz'utujil



Maya communities. In 2016 Tuik Ruch Lew (TRL) absorbed the ONIL stove project and installation team from the Cojolya Association of Maya Women Weavers. A new, registered Guatemalan not-for-profit association was formed to focus on the environmental, health, and development challenges that threaten indigenous livelihoods in the Lake Atitlán drainage basin. In September of 2018, the commencement of project activities one through three, below, marked the start of the SD VISTA pilot project: TRL's Improved Cookstove (ICS) Project.

TRL uses an innovative digital platform to execute the ICS Project, including its educational program, and to monitor and evaluate the project's success. Using Samsung tablets, TRL's Outreach Team administers various surveys and questionnaires built in KoboToolbox to track project objectives and beneficiary information (see section 3.3).

### 2.1.3 Implementation Schedule

Indicate key dates and milestones in the project's development and implementation since the beginning of the project lifetime, making note of where these dates have changed since the last SD VISTA assessment. Add rows to the table below as necessary.

Date	Milestone(s) in the Project's Development and Implementation
21 September 2015	TRL files to become a registered Guatemalan nonprofit dedicated to the implementation of sustainable solutions to the environmental, health, and development challenges that threaten indigenous livelihoods in the Lake Atitlán drainage basin.
30 May 2016	TRL as an organization installs its first ONIL stove while assuming responsibility for the maintenance of 1,355 legacy stoves, installed under the Cojolya Association of Maya Women Weavers.
June 2016	TRL applies and is approved for collaboration with Princeton in Latin America, set to receive Fellows on a yearly basis.
October 2017	TRL sends final grant report to Journey Latin America detailing project activities concluding five-year grant cycle.

January 2018	A \$14,000 unrestricted donation is made to support operating costs of TRL.
February 2018	TRL is accepted into Verra's Sustainable Development Verified Impact Standard (SD VISta) pilot project.
July 2018	TRL accepts first Princeton in Latin America (PiLA) fellow for 2018-2019 cycle.
1 September 2018	Project Start Date: Project Activities commence with a new series of ONIL stove installations and energy efficiency improvements in existing biomass-fired cookstoves under the new, Improved Cookstove Project. TRL also begins the distribution of British Berkefeld water filters as an additional project activity.
November 2018	Implementation of digital survey system begins with mobile platform KoboToolbox.
19 February 2019	A \$30,000 unrestricted donation is made to TRL to benefit stove project.
March 2019	A \$10,000 unrestricted donation is made to support operating costs of TRL.
March 2019	Seattle International Foundation (SEAIF) and TRL begin coordinated partnership enabling TRL to use SEAIF as a fiscal agent, thus expanding institutional funding access.
October 24 2019	TRL receives an in-kind donation of 100 LED light bulbs and completes its first installation in a beneficiary's home, commencing the start of a 4th project activity.
January 2, 2020	Project begins 30-day public comment period.
February 2, 2020	30-day public comment period ends with no public comments received.

#### 2.1.4 Project Proponent

<b>Organization Name</b>	Tuik Ruch Lew/Helping the Earth
<b>Role in the Project</b>	Primary Project Proponent
<b>Contact Person</b>	Cameron Krummel
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### 2.1.5 Other Entities Involved in the Project

No other entity is involved with the TRL Improved Cookstove Project.

### 2.1.6 Project Location

The project takes place within the Sololá Department (14.70°N, 91.25°W), which includes the Área de Uso Múltiple Cuenca del Lago Atitlán. 14.6424° N, 91.2278° W are the coordinates of Santiago Atitlán, headquarters of the project. See KML file. The photo situates Lago Atitlán in the Sololá Department outlines the project area. The project office is located in the town of Santiago Atitlan at the south end of the lake.

### 2.1.7 Project Description Deviations

No project description deviations were applied during this monitoring period.

### 2.1.8 Threats to the Project

#### **Human-Induced threats**

Threat: Cultural worldview limits reception of ONIL stove as a larger fire is seen as superior.

Solution: Continue to employ Tz'utujil educators to explain the depth of the project in participants' native language and from their cultural perspective.

Threat: Stove owners alter the stove itself so that it no longer functions as designed, or owners refuse to maintain their stoves to function properly.

Solution: (1) Improve our screening process as to who receives an ONIL stove, i.e., people who are committed to using the ONIL stove to accomplish the SDGs. (2) Educate stove recipients about best use practices and environmental and economic benefits and share tips to help families adapt more quickly to the change in technology. (3) Foster feelings of responsibility for stoves through Q350 charge. (4) Maintain an intensive schedule of information dissemination about the importance of the ONIL stoves and how they must be used to achieve the benefits, both for people and the planet, using social media outlets.

Threat: U.S. trade-war reduces availability of stove supplies, increasing price for the foreseeable future.

Solution: These impacts have already been seen (e.g., local fabricators cannot get quality metal to make replacement parts). Price changes have not, and will not, be passed on to TRL beneficiaries because TRL's financial structure enables the organization to offset these costs using a mix of private donations and institutional funding.

### **Natural threats**

Threat: Climate change and deforestation make firewood an untenable source of fuel.

Solution: Although scarcity would seem to support the use of the ONIL stove, at some point the economy of obtaining firewood could make other fuels a more sustainable option. TRL is continuing to grow, growth that will be accompanied by new project activities designed to introduce additional sustainable innovations to the region. One example is biogas digesters. Biogas digesters convert human waste into methane gas and a safe-to-use fertilizer. The methane will be a complimentary fuel to further reduce the need to cut trees to meet thermal energy needs.

### **2.1.9 Benefit Permanence**

The ICS Project focuses on a program of education and supports a system of maintenance that helps extend the lifespan of the environmental technologies deployed. Through the first five home visits made to families that receive an ONIL stove, beneficiaries learn how to extend the life of the ICS technology life, which parts will need scheduled maintenance, how to clean stoves to ensure proper airflow, and what cooking

techniques can be used to protect and preserve stove components. Since TRL's founding, the organization has outsourced manufacture of custom stove parts to increase quality and reduce beneficiary costs. TRL's dedication to free maintenance while selling replacement parts at-cost has increased demand for maintenance from not only TRL beneficiaries, but beneficiaries of other ONIL stove projects in the region. As a result, our project is helping ensure that stoves installed over 15 years ago continue to function efficiently ensuring benefit permanence.

To ensure the project's long-term viability and the permanence of ICS and other program benefits, TRL has embraced the following long-term aims:

- 1) Open a factory from which stoves and replacement parts are sold and maintenance visits scheduled.
- 2) Begin a financial literacy program to empower female stove owners to increase savings.

Beneficiaries will be encouraged to save money to be able to buy their replacement parts and new stoves. High poverty rates have kept many families from considering savings plans. TRL directs beneficiaries to local microfinance and community savings groups. These programs will enable families to contribute small amounts of money, without the minimum balance required by larger financial institutions. The goal of this program is to instill financial planning capacities in beneficiaries, enabling them to transition to larger savings institutions and begin saving and purchasing independently.

Preliminary testing of this concept has proven the idea to be eagerly accepted. The idea was conceived when TRL noticed that very poor beneficiaries never had enough money on hand to purchase their replacement parts. Our TAS learned that the concept of saving money was not viewed as possible by the owners because the amount needed seemed overwhelming. By explaining the idea of saving small amounts periodically, the goal of purchasing repair parts suddenly seemed possible, provided that the money was not saved within the house.

- 3) Enable access to other environmental technologies that provide for financial savings among beneficiaries.

By providing water filters and LED light bulbs to beneficiaries, TRL can educate the community on other opportunities to lower household expenses. This will enable lower and middle-class residents to save, facilitating the opportunity to purchase a stove outright and ultimately reducing TRL's reliance on grants and private donations.

- 4) Target grants and other institutional funding sources to address costs associated with the most vulnerable beneficiaries.

While micro-financing will enable some beneficiaries to purchase stoves outright, due to high rates of poverty and extreme poverty, TRL plans to continue sourcing institutional funds. These funds will go directly to enhancing project inclusivity among the project area's most vulnerable stakeholders.

- 5) Provide digital training materials via online sources to educate beneficiaries in both Spanish and Tz'utujil, empowering beneficiaries to conduct maintenance without TRL staff present.

TRL can harness the growing prevalence of Facebook and other online social media platforms in the community by providing written and spoken materials online to educate beneficiaries in maintenance and repair techniques. Videos will promote independence of beneficiaries and ensure that a knowledge source exists for continued use and upkeep of the ONIL stove.

## 2.2 Stakeholder Engagement

### 2.2.1 Stakeholder Consultation and Adaptive Management

Continuing on the formal stakeholder consultations executed prior to the project start date and current monitoring period (see SD VISTA Project Description V1, section 2.28), TRL has expanded its informal consultation activities to reach marginalized groups among the affected parties with limited access to formal meetings. Various relevant socio-economic and cultural barriers in the project area could impede the participation of vulnerable and/or marginalized members of the local community (e.g., registration fees, transportation fees, lack of free time or childcare services). Consequently, TRL has sought and continues to seek consultation from these groups through direct community engagement during the current monitoring period. Consultation activities have been undertaken on an informal basis, using participatory methods with previous, current, and prospective project beneficiaries.

The formalized consultation process described in SD VISTA Project Description V1, section 2.28 has been executed during the monitoring period. Before and after installations, beneficiaries are continually consulted through a digital survey platform to gauge successes and challenges associated with technology adoption. This survey platform has been continuously revised during the monitoring period to reflect stakeholder input.

In September of 2019, TRL solicited feedback from the local community as part of an ICS technology exposition held in the central park. TRL conducts meetings and demonstrations designed to educate and promote the project several times a year. As this project does not require the approval of any governing body, we have not conducted any town-hall seminars requesting feedback. However, this does not mean that the local community is removed from the process. Our team's integration into the community has enabled them to gain valuable feedback in an unofficial capacity, through casual conversations with community members. Feedback gathered through expositions such as these inform project design.

TRL also conducts semi-structured stakeholder interviews with affected or otherwise interested individuals and groups when piloting new project activities. This consultation process was used when piloting the fourth and most recent project activity: the replacement of incandescent light fixtures with LEDs.

TRL solicited direct feedback from various other NGOs in Santiago during the monitoring period as detailed in section 2.2 of the SD VISTA Project Description.

### 2.2.2 Anti-Discrimination

See SD VISTA Project Description 2.2.10. No deviations have been made from the procedures and regulations described

### 2.2.3 Worker Training

See SD VISTA Project Description 2.2.11. No deviations have been made from the procedures and regulations described

### 2.2.4 Equal Work Opportunities

See SD VISTA Project Description 2.2.12. No deviations have been made from the procedures and regulations described

### 2.2.5 Workers' Rights

See SD VISTA Project Description 2.2.13. No deviations have been made from the procedures and regulations described

### 2.2.6 Occupational Safety Assessment

See SD VISTA Project Description 2.2.14. No deviations have been made from the procedures and regulations described

### 2.2.7 Feedback and Grievance Redress Procedure

Beneficiaries and stakeholders have TRL's contact information and the understanding that they should contact the organization with any problems, questions, or grievances. Each beneficiary receives business card with the office phone number and location. All issues that arose during the monitoring period were resolved via phone calls on in-person visits to the office.

### 2.2.8 Stakeholder Access to Project Documentation

Describe how full project documentation, including the results of monitoring for the monitoring period under assessment, has been made accessible to all stakeholders.

### 2.2.9 Information to Stakeholders on Assessment Process

In addition to an enhanced focus on verbal communication among staff and local community members, TRL has included direct links to the project documentation on our website. The link to this monitoring report will be published on the website once public.

## 2.3 Project Management

### 2.3.1 Avoidance of Corruption

See SD VISta Project Description 2.3.1. No deviations have been made from the procedures and regulations described.

### 2.3.2 Recognition of Property Rights

See SD VISta Project Description 2.3.8. No deviations have been made from the procedures and regulations described.

### 2.3.3 Free, Prior and Informed Consent

FPIC does not apply to the project activities since they do not infringe on or otherwise concern land rights.

#### 2.3.3.1 Restitution and/or Compensation for Affected Resources

Our project does not affect any party's access to resources or their lands.

### 2.3.4 Property Rights Removal/Relocation of Property Rights Holders

See SD VISta Project Description 2.3.10. No deviations have been made from the procedures and regulations described.



### 2.3.5 Identification of Illegal Activities

No cases of illegal activities have implicated TRL during the monitoring period. See SD VISTA Project Description 2.3.12. No deviations have been made from the procedures and regulations described.

### 2.3.6 Ongoing Conflicts or Disputes

This issue is not applicable to our project as the installation of ICS technology does not affect property rights or property disputes.

#### 2.3.6.1 National and Local Laws and Regulations

See SD VISTA Project Description 2.3.14. No deviations have been made from the procedures and regulations described.

## 2.4 Grouped Projects

The project has ensured that the inclusion of all new project activity instances have abide by the following eligibility criteria.<sup>1</sup>

Project Activity One: Introduction of high-efficiency biomass fired project devices to replace open cooking fires		
Criterion		Achieved by:
(1)	Adopt and implement the project activities in the same manner as specified in the project description.	Forecasted instances (e.g., ONIL stove installs) will be implemented in the manner described in the SD VISTA Project Description Section 2.1.2. At this time and for forecasted instances, no other project device type will be used, other than ONIL stove technology.
(2)	Meet the applicability conditions as defined in CDM AMS-II.G. Small-scale Methodology: Energy efficiency measures in thermal applications of non-renewable biomass (Version 10.0, Section 2.2).	New instances will meet all applicability conditions listed in VCS Project Description,

<sup>1</sup> Developed per requirements detailed in the SD VISTA Standard, v1.0

		Section 3.2.
	Are subject to the same processes for stakeholder engagement described in the project description.	New instances will be installed only when the same stakeholder engagement processes detailed in the SD VISTA Project Description Section 2.2 have been executed. Every beneficiary will participate in the same consultation process described.
	Are subject to the same processes for respect for rights to lands, territories and resources – including free, prior and informed consent.	All new instances will be installed only when TRL has performed the processes required per the SD VISTA Standard, v1.0 section, Section 2.4.
	Have similar monitoring elements to those set out in the project description.	All new instances will undergo equivalent monitoring procedures as described in the SD VISTA Project Description Section 2.1.2.

Project Activity Two: Energy efficiency improvements in existing biomass-fired cookstoves <sup>2</sup>		
Criterion		Achieved by:
(1)	Adopt and implement the project activities in the same manner as specified in the project description.	Forecasted instances (e.g. energy efficiency improvements in existing ONIL stoves) will be implemented in the manner described in the SD VISTA Project

<sup>2</sup> Project Activity Two will generate only SD VISTA-labeled VCUs and does not seek to claim additional sustainable development benefits

		Description Section 2.1.2. At this time and for forecasted instances, no other project device type will be used, other than ONIL stove technology.
(2)	Meet the applicability conditions as defined in CDM AMS-II.G. Small-scale Methodology: Energy efficiency measures in thermal applications of non-renewable biomass (Version 10.0, Section 2.2).	New instances will meet all applicability conditions listed in VCS Project Description, Section 3.2.
	Are subject to the same scenarios at project start with respect to stakeholders' well-being as determined for initial project instance(s).	The project shall add new instances only within the Sololá Department thus subject to the baseline scenario described in the SD VISTA Project Description Section 2.1.8 and causal chain outlined in the SD VISTA Project Description section 2.1.9. Thus all new instances will affect stakeholder's well-being in a manner equivalent to those approved at the time of validation, per the SD VISTA Standard, v1.0 Section 3.1.
	Are subject to the same processes for stakeholder engagement described in the project description.	New instances will be installed only when the same stakeholder engagement processes detailed in the SD VISTA Project Description Section 2.2 have been executed. Every beneficiary will participate in the same consultation process described.
	Are subject to the same processes for respect for rights to lands, territories and resources – including free, prior and informed consent.	All new instances will be installed only when TRL has performed the processes required per

		the SD VISTA Standard, v1.0 section, Section 2.4.
	Have similar monitoring elements to those set out in the project description.	All new instances will undergo equivalent monitoring procedures as described in the SD VISTA Project Description Section 2.1.2.

Project Activity Three: Distribution of British Berkefeld Water Filters		
Criterion		Achieved by:
(1)	Adopt and implement the project activities in the same manner as specified in the project description.	Forecasted instances (additional water filters) will be distributed in the same manner specified in the SD VISTA Project Description Section 2.12
(2)	Are subject to the same scenarios at project start with respect to stakeholders' well-being as determined for initial project instance(s).	The project will add new instances only within the Sololá Department thus subject to the baseline scenario described in the SD VISTA Project Description Section 2.1.8 and causal chain outlined in the SD VISTA Project Description section 2.1.9. Thus, all new instances will affect stakeholder's well-being in a manner equivalent to those approved at the time of validation, per the SD VISTA Standard, v1.0 Section 3.1.

	Are subject to the same processes for stakeholder engagement described in the project description	New instances will be added only when the same stakeholder engagement processes detailed in the SD VISTA Project Description Section 2.2 have been executed. Every beneficiary will participate in the same consultation process described.
	Are subject to the same processes for respect for rights to lands, territories and resources – including free, prior and informed consent.	All new instances will be distributed only when TRL has performed the processes required per the SD VISTA Standard, v1.0 section, Section 2.4.
	Have similar monitoring elements to those set out in the project description.	All new instances will undergo equivalent monitoring procedures as described in the SD VISTA Project Description Section 2.1.2.

Project Activity Four: Replacement of Incandescent Light Bulbs with LEDs		
Criterion		Achieved by:
(1)	Adopt and implement the project activities in the same manner as specified in the project description.	Forecasted instances (additional LEDs/CFLs) will be distributed only in the same manner specified in the SD VISTA Project Description Section 2.12.
	Are subject to the same scenarios at project start with respect to stakeholders' well-being as determined for initial project instance(s).	The project will add new instances only within the Sololá Department thus subject to the baseline scenario described in the SD VISTA Project

		<p>Description Section 2.1.8 and causal chain outlined in section the SD VISTA Project Description 2.1.9. Thus, all new instances will affect stakeholder's well-being in a manner equivalent to those approved at the time of validation, per the SD VISTA Standard, v1.0 Section 3.1.</p>
	<p>Are subject to the same processes for stakeholder engagement described in the project description.</p>	<p>New instances will be added only when the same stakeholder engagement processes detailed in the SD VISTA Project Description Section 2.2 have been executed. Every beneficiary will participate in the same consultation process described.</p>
	<p>Are subject to the same processes for respect for rights to lands, territories and resources – including free, prior and informed consent.</p>	<p>All new instances will be distributed only when TRL has performed the processes required per the SD VISTA Standard, v1.0 section, Section 2.4.</p>
	<p>Have similar monitoring elements to those set out in the project description.</p>	<p>All new instances will undergo equivalent monitoring procedures as described in the SD VISTA Project Description Section 2.1.2.</p>

# 3 BENEFITS FOR PEOPLE AND PROSPERITY

## 3.1 Impacts on Stakeholders

<b>Impact #1</b>	Access to ONIL ICS
<b>Type of Impact</b>	Positive, actual, direct
<b>Affected Stakeholder Group(s)</b>	Beneficiaries, beneficiaries' families
<b>Resulting Change in Well-being</b>	Less reliance on wood fuel to meet equivalent thermal energy needs for cooking purposes, freeing up time/money for other economic activities (see impact #3), health benefits from reduced smoke in home (see impact #2), traditional tortilla making preserved.

<b>Impact #2</b>	Improved health outcomes
<b>Type of Impact</b>	positive, predicted, direct
<b>Affected Stakeholder Group(s)</b>	beneficiaries, beneficiaries' families,
<b>Resulting Change in Well-being</b>	Lower risk of developing COPD, less instance of acute lower respiratory illness, improved overall respiratory health. Lower risk of burns. Lower risk of deaths of children under five from falling into open cooking fires. Lower risk of neonatal deaths resulting from dangerous levels of exposure HAP for pregnant women. Increased access to safe drinking water.

<b>Impact #3</b>	Improved Economic outcomes
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<b>Type of Impact</b>	Positive, predicted, direct
<b>Affected Stakeholder Group(s)</b>	Beneficiaries, beneficiaries' families
<b>Resulting Change in Well-being</b>	Money saved for families that regularly purchase their wood fuel, time saved for other economic activities for families that collect their wood. Money saved on energy bills, made possible by transitioning from incandescent light bulbs to LEDs. Financial savings encouraged and made possible by increased access to TRL's savings program.

### 3.2 Stakeholder Impact Monitoring

- By replacing inefficient open cooking fires with 78 ONIL stoves and performing energy efficiency improvements in 66 existing biomass cookstoves. **Monitored by: TAS completed the corresponding questionnaire. Data uploaded to cloud based server.**
- 3 incandescent light bulbs replaced with LEDs. **Monitored by: Direct reporting from TAS. To be monitored via digital survey platform during next monitoring period.**
- 4544.48 USD achieved in savings on firewood, made possible by access to ONIL stove technology. 2459 days saved in time that would otherwise be used to collect wood, made possible by access to ONIL stove technology. **Monitored by: TAS administered digital surveys that collected data on whether clients collected or purchased firewood. Values calculated by Program Development Team using average firewood prices and estimated savings in time.**
- 18 additional British Berkefeld water filters were installed. **Monitored by: Direct reporting from TAS. To be monitored via digital survey platform during next monitoring period.**



- 12 beneficiaries enrolled in TRL's savings program. **Monitored by: Direct reporting from TAS. To be monitored via digital survey platform during next monitoring period.**

### 3.3 Net Positive Stakeholder Well-being Impacts

<b>Impact #1</b>	78 additional families with access to ONIL ICS
<b>Type of Impact</b>	Positive, actual, direct
<b>Affected Stakeholder Group(s)</b>	Beneficiaries, beneficiaries' families
<b>Resulting Change in Well-being</b>	Less reliance on wood fuel to meet equivalent thermal energy needs for cooking purposes, freeing up time/money for other economic activities (see impact #3), health benefits from reduced smoke in home (see impact #2), traditional tortilla making preserved.

<b>Impact #2</b>	78 additional homes with 99% less HAP and thus a lower likelihood of experiencing negative health outcomes associated with indoor open cooking fires. 18 additional British Berkefeld water filters providing access to safe drinking water.
<b>Type of Impact</b>	positive, actual, direct
<b>Affected Stakeholder Group(s)</b>	beneficiaries, beneficiaries' families,
<b>Resulting Change in Well-being</b>	Lower risk of developing COPD, less instance of acute lower respiratory illness, improved overall respiratory health. Lower risk of burns. Lower risk of deaths of children under five from falling into open cooking fires. Lower risk of neonatal deaths

	resulting from dangerous levels of exposure HAP for pregnant women. Increased access to safe drinking water.
<b>Impact #3</b>	Improved Economic outcomes among 78 families. Combined total of 4544.48 USD achieved in savings on firewood, and 2459 days saved in time that would otherwise be used to collect wood, made possible by access to ONIL stove technology. Savings in energy bills made possible for 3 households that received LEDs to replace incandescent light bulbs. Financial savings encouraged among 12 beneficiaries enrolled in TRL's savings program.
<b>Type of Impact</b>	Positive, actual, direct
<b>Affected Stakeholder Group(s)</b>	Beneficiaries, beneficiaries' families
<b>Resulting Change in Well-being</b>	Money saved for families that regularly purchase their wood fuel, time saved for other economic activities for families that collect their wood. Money saved on energy bills, made possible by transitioning from incandescent light bulbs to LEDs. Financial savings encouraged and made possible by increased access to TRL's savings program.

## 4 BENEFITS FOR THE PLANET

### 4.1 Impacts on Natural Capital and Ecosystem Services

This section is not applicable according to the Sustainable Development Verified Impact Standard, v.1.0 section 3.2 "Impacts on the Planet."

### 4.2 Natural Capital and Ecosystem Services Impact Monitoring

This section is not applicable according to the Sustainable Development Verified Impact Standard, v.1.0 section 3.2 "Impacts on the Planet."

#### 4.3 Net Positive Natural Capital and Ecosystem Services Impacts

By replacing open cooking fires with ICS technology and performing energy efficiency improvements in existing biomass-fired cookstoves, the project reduces energy demand in the form of wood fuel use, thus generating net GHG reductions. Together, the two project activities generated an estimated 641.418 tCO<sub>2</sub>e GHG emission reductions during the monitoring period.

## 5 OPTIONAL: CLIMATE MODULE

### 5.1 Monitoring

#### 5.1.1 Results of Monitoring

See VCS Monitoring Report for the first monitoring period, Section 3.

#### 5.1.2 Monitoring Plan

See VCS Monitoring Report for the first monitoring period, Section 3.

#### 5.1.3 Dissemination of Monitoring Plans and Results

In addition to an enhancing focus on verbal communication among staff and local community members on the content and findings of project documentation, TRL will include the direct links to the VCS Monitoring Report monitoring report on our website once made public.

### 5.2 Net Emission Reductions and Removals

#### 5.2.1 Baseline Emissions

“Not applicable. Project is applying the “deemed estimates” approach.”

#### 5.2.2 Project Emissions

See VCS Monitoring Report for the first monitoring period, Section 4.

#### 5.2.3 Leakage

The project uses a net gross adjustment factor of 95% to account for leakage.<sup>3</sup>

#### 5.2.4 Net GHG Emission Reductions and Removals

The TRL ICS Project replaces traditional open cooking fires with energy efficient ONIL stoves and performs energy efficiency improvements in existing ONIL stoves. By driving down energy demand in the form of wood fuel use, the TRL ICS Project generates net GHG emission reductions and/or removals, as measured in tCO<sub>2</sub>e. The project uses the CDM AMS-II.G. Small-scale Methodology: Energy efficiency

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<sup>3</sup> Per section 5.4 paragraph 34 of CDM AMS-II.G. Small-scale Methodology: Energy efficiency measures in thermal applications of non-renewable biomass, Version 10.0.

measures in thermal applications of non-renewable biomass, Version 10.0, Sectoral scope(s): 03, which includes the introduction of high-efficiency biomass-fired project devices to replace the existing devices and/or energy efficiency improvements in existing biomass fired cookstoves or ovens or dryers to quantify Net GHG Emission Reductions and Removals. Project activities one and two will generate approximately 641.418 tCO<sub>2</sub>E of emission reductions. See VCS Monitoring Report for the first monitoring period Section 4 for calculations.

## 6 OPTIONAL: SD VISTA ASSETS

### 6.1 SD VISTA Asset

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISTA) Asset.

#### 6.1.1 Title and Reference of Methodology

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISTA) Asset.

#### 6.1.2 Methodology Deviations

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISTA) Asset.

#### 6.1.3 Data and Parameters Available at Validation

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISTA) Asset.

#### 6.1.4 Data and Parameters Monitored

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISTA) Asset.

#### 6.1.5 Monitoring Plan

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISTA) Asset.

#### 6.1.6 Net Benefit Quantification

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISta) Asset.

## 6.2 Assets from Other Programs

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISta) Asset.

### 6.2.1 Participation under Other Programs

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) is not generating or claiming a Sustainable Development Verified Impact Standard (SD VISta) Asset.

### 6.2.2 Projects Rejected by Other GHG Programs

At this time in project development Tuik Ruch Lew/Helping the Earth (TRL) has not sought accreditation under any other social or environmental accounting/crediting programs.

