



Estufas Chispa is a social enterprise that manufactures and sells environmentally sustainable wood stoves to rural families in Guatemala. Known as “Estufas Ahorradoras de Leña” or improved wood stoves, these stoves help Guatemalan families save firewood and live in healthier homes by reducing indoor smoke exposure.

Since 2013, Estufas Chispa has sold 35,785 stoves throughout Guatemala and has grown into a profitable business. The stoves are sold to NGOs, government agencies, and retailers. Much of the company’s success was achieved by working closely with organizations such as Proyecto Mirador and Habitat for Humanity to implement improved wood stove projects. The company also ensures the availability of its products through its 20 points of sale across the country.

In July 2024, Estufas Chispa was awarded a contract by the Social Development Fund (FODES) of the Guatemala Ministry of Social Development to manufacture and deliver 20,000 stoves to rural Guatemalan communities primarily located in the western highlands of Guatemala, where more than 70% of the population belongs to indigenous communities.

This project represents a significant increase in Estufas Chispa's production volume, surpassing its combined output for the past four years, and will require additional working capital. Estufas Chispa approached The Reciprocity Fund for a \$100,000 working capital loan to fulfill this project, which will have an outsized impact on indigenous communities.

IMPACT OVERVIEW

Description: Improvement of the health and the quality of life of indigenous families in Guatemala through the conscious and efficient use of firewood for cooking. Reduction of greenhouse gas emissions and its impact on forests

No. of beneficiaries	20,000 families
% Women	40

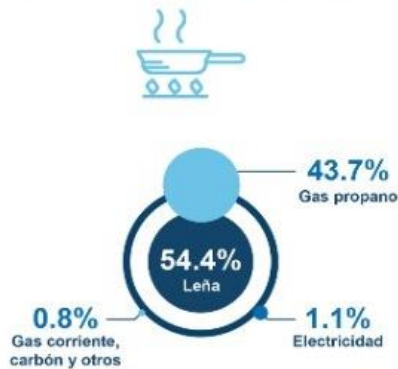
COMMUNITY



Country: Guatemala
Departments: Alta Verapaz, Chimaltenango, Huehuetenango, Quiché, San Marcos, Sololá, Totonicapán, Chiquimula

Impact Background

Fuente de energía para cocinar



Source: INE (National Institute of Statistics), Guatemala

Many Guatemalan families still cook with fire. In fact, according to the 2018 Guatemala Population and Housing Census, over half (54.4% of families), or 1.7 million households, still rely on firewood for cooking¹. This is true in rural areas, where women are mostly in charge of the kitchen. Families often use three-stone stoves to cook over an open flame in poorly ventilated kitchens.

This way of cooking has a serious impact on people's health. The typical cooking fire produces about 400 cigarettes worth of smoke an hour². Prolonged exposure to this smoke leads to respiratory infections and other severe health issues. Women and children, who spend more time in the kitchen, are particularly vulnerable to the harmful effects of inhaling this smoke.

Burning firewood also hurts the environment and puts pressure on Guatemala's forests. This continuous demand for firewood contributes to deforestation and has accelerated the effects of climate change, causing floods, droughts, thawing, and pests in crops in Guatemala.

However, for many indigenous communities in Guatemala, firewood is an essential natural resource for survival. It serves as the primary fuel source for cooking, lighting, heating, and protection against insects. Beyond its practical uses, fire holds deep cultural significance in these communities. In Mayan spirituality, sacred fire is a key element in nearly all festivities. Fire also represents the center of coexistence and family harmony for the Mayans, where elders impart their teachings and wisdom to younger generations. Given its vital role, eliminating the use of wood for cooking is difficult.

Impact Delivery

Estufas Chispa offers improved, sustainable cookstoves tailored to Guatemalan families. These stoves are designed for local cooking practices and feature a flat top surface ideal for making *tortillas*, a staple in Guatemalan cuisine. They also include a larger cooking area or multi-pot *planchas*, allowing families to cook for many people and continue gathering around the stove.

A key advantage of these cookstoves is efficiency. For a household that typically uses 17.1 kg of firewood daily in an open fire, the consumption drops to 7.2 kg using Estufas Chispa stoves³. This reduction in the use of firewood cuts down the time women spend gathering wood, saving approximately 2.33 hours per trip⁴, which can be spent on more important activities.

Using less firewood helps preserve Guatemala's forests. Since its inception, Estufas Chispa has sold 35,785 stoves, each capable of reducing 4.5 tons CO₂ per year⁵.



¹ [The wood still burns in Guatemalan kitchens and only employment will extinguish it - Con Criterio](#)

² [Three Billion People Cook Over Open Fires — With Deadly Consequences \(nationalgeographic.com\)](#)

³ [MY SPARK IN MY HOME - Improved Wood Burning Stoves Chispa \(estufaschispa.com\)](#)

⁴ [Guatemala Improved Cookstoves – Gold Standard Marketplace](#)

⁵ [Guatemala Improved Cookstoves – Gold Standard Marketplace](#)

Estufas Chispa’s stoves also include a chimney that effectively vents smoke out of the home to improve indoor air quality. This lessens exposure to harmful smoke inhalation, especially for women and children who spend most of their time in kitchens with open-fire cooking. With a 67% reduction in household air pollution, users have reported that using these stoves reduced the incidence of respiratory illnesses, irritated eyes, and children exposed to burns from open fires⁶.

Stoves sold to NGOs are typically delivered to a central location for distribution. Estufas Chispa provides on-site training to recipients on stove installation, usage, and maintenance, emphasizing the benefits of reduced firewood consumption. Volunteer groups often assist with installation. Most NGOs require some form of cost-sharing, where families contribute a nominal amount towards the project implementation or work equity, where families assist in other activities like tree planting. For the poorest families, the stoves may be donated.

The recent contract awarded to Estufas Chispa by FODES will enable the delivery of 20,000 improved cookstoves, primarily to the 8 departments in the western highlands, home to a significant portion of Guatemala’s indigenous population, including at least 14 indigenous groups. In 4 out of the 8 departments, over 90% of the population belongs to an indigenous community. This project will impact these communities by bringing more sustainable cookstoves that are still compatible with traditional cooking practices.

Department	Indigenous Population	Etnics
Alta Verapaz	94%	2 (Q'eqchi' & Poqomchi')
Chimaltenango	78%	1 (Kaqchiquel)
Huehuetenango	65%	9 (Akateko, Awakateko, Chuj, Jakalteco, Q'anjob'al, Mam, Tectiteco, K'iche & Q'eqchi)
Quiche	89%	1 (K'iché)
San Marcos	31%	1 (Mam)
Sololá	96%	3 (K'iche', Tz'utujil y Kaqchiquel.
Totonicapán	98%	1 (K'iche)
Chiquimula	27%	1 (Chorti)

Outcome

- Improvement of livelihood and health*
 - 87% reduction in the time spent gathering firewood per trip. This time can be redirected towards more valuable economic activities.
 - Estufas Chispa estimates that families save \$20 monthly from reduced firewood spending⁷.
 - Indoor pollution is significantly reduced, especially for women and children who spend the most time in kitchens.

- Environmental preservation*
 - Reduced firewood consumption contributes to preserving forests.
 - Emission reduction of 4.5 tons CO2 per year per unit

⁶ Guatemala Improved Cookstoves – Gold Standard Marketplace

⁷ CARBON CREDITS - MI CHISPA EN MI HOGAR (estufaschispa.com)