

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

## **GUATEMALA**

### **EFFICIENT USE OF FIREWOOD AND ALTERNATIVE FUELS IN RURAL AND INDIGENOUS COMMUNITIES OF GUATEMALA**

**(GU-G1004 AND GU-T1305)**

#### **NONREIMBURSABLE FINANCING PROPOSAL**

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## **ABBREVIATIONS**

AA-GIZ	Administration Agreement signed between the IDB and GIZ
CV	Curriculum vitae
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GtCO <sub>2</sub> e	Gigatons of carbon dioxide equivalent
ICAP	Institutional Capacity Assessment Platform
LP	Liquefied petroleum
MRV	Monitoring, reporting and verification
NCB	National competitive bidding
NGOs	Nongovernmental organizations
NPV	Net present value
QCBS	Quality- and cost-based selection
SDGs	Sustainable Development Goals
SNICC	Sistema Nacional de Información sobre el Cambio Climático [National Climate Change Information System]
TC	Technical cooperation
tCO <sub>2</sub> e	Tons of carbon dioxide equivalent

## PROGRAM SUMMARY

### GUATEMALA EFFICIENT USE OF FIREWOOD AND ALTERNATIVE FUELS IN RURAL AND INDIGENOUS COMMUNITIES OF GUATEMALA (GU-G1004 and GU-T1305)

Financial Terms and Conditions					
Borrower and executing agency				Nonreimbursable financing	
Asociación Alterna ONG (Alterna)				<b>Disbursement period:</b>	5 years for GU-G1004 6 years for GU-T1305
Source	Amount (in €)	Equivalent (in US\$)	%	Programs	Amount in € (in US\$)
<b>IDB (NAMA Facility):<sup>(a)</sup></b>	11 million	12.98 million	100	<b>Investment grant: GU-G1004</b>	8,520,000 (10,053,600)
<b>Total:</b>	11 million	12.98 million	100	<b>Technical cooperation: GU-T1305</b>	2,480,000 (2,926,400)
Program at a Glance					
<b>Program objective/description:</b> The general objective of the program is to lower greenhouse gas emissions in Guatemala's energy sector by reducing the consumption and promoting the efficient use of firewood. The specific objectives are to: (i) lower barriers that limit the production and mass use of improved stoves; (ii) facilitate access to financing for the manufacture and procurement of improved stoves; and (iii) demonstrate the potential of improved stoves to reduce greenhouse gas emissions.					
<b>Special contractual conditions precedent to the first disbursement of the investment financing:</b> The executing agency will provide evidence, to the Bank's satisfaction, of: (i) the approval and entry into force of the <a href="#">program Operating Regulations</a> previously agreed upon with the Bank (paragraph 3.7); and (ii) the hiring or designation of, at a minimum, a program coordinator, an assistant, a financial specialist, and a procurement specialist to form the execution unit within Alterna (paragraph 3.7).					
<b>Special contractual conditions of execution:</b> See the special contractual conditions of a fiduciary nature in Annex III, Fiduciary Agreements and Requirements (paragraph 3.1).					
<b>Exceptions to Bank policies:</b> An exception to the Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (document GN-2765-4) is requested, so that firms included on the sanctions lists of the European Union and Federal Republic of Germany will not be eligible to receive program technical cooperation resources (paragraph 3.10).					
Strategic Alignment					
<b>Challenges:<sup>(b)</sup></b>	SI <input checked="" type="checkbox"/>		PI <input checked="" type="checkbox"/>		EI <input type="checkbox"/>
<b>Crosscutting themes:<sup>(c)</sup></b>	GE <input checked="" type="checkbox"/> and DI <input checked="" type="checkbox"/>		CC <input checked="" type="checkbox"/> and ES <input checked="" type="checkbox"/>		IC <input type="checkbox"/>

<sup>(a)</sup> The NAMA Facility will contribute €11,000,000, equivalent to US\$12,980,000 as of 30 October 2020. This project-specific grant will be administered by the IDB pursuant to document SC-114. The commitment of NAMA funds will be established through an administration agreement with Deutsche Gesellschaft für Internationale Zusammenarbeit (AA-GIZ). The NAMA Facility is a climate finance program that supports Nationally Appropriate Mitigation Actions established by the European Union and the governments of Germany, the United Kingdom, and Denmark. The [proposal](#) was presented on 21 December 2018, [clarifying questions were answered](#) on 15 February 2019, and approval was granted on 14 March 2019. Of this amount, €110,000 will be withheld for monitoring and evaluation activities to be carried out by GIZ. NAMA Facility resources will be available to the program once the AA-GIZ has been signed.

<sup>(b)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(c)</sup> GD (Gender Equality and Diversity) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of law).

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problem addressed, and rationale

- 1.1 Guatemala has the highest per capita consumption of firewood in Central America. Firewood accounts for 56% of the country's [energy matrix](#), with annual demand of 16 million tons, and generates approximately 40% of its total carbon dioxide emissions.<sup>1</sup> According to the [2018 census](#), roughly 1.78 million households (54.4%) throughout the country, and 1.16 million rural households (84%),<sup>2</sup> use firewood for cooking.<sup>3</sup>
- 1.2 Forty percent of homes that cook with firewood use highly inefficient “open-fire” stoves ([optional link 2](#)),<sup>4</sup> in which the fire is not contained in a combustion chamber. Forty eight percent use “unimproved stoves,” which do have a combustion chamber, as well as a chimney to redirect smoke out of the home. These have an 18% efficiency rate. And only 12% of households use “improved stoves,” which have efficiencies exceeding 40%. Improved stoves have smaller combustion chambers and insulating materials to conserve heat and direct it to the cooking area, which helps reduce firewood consumption and greenhouse gas emissions (Figure 1). They have a useful life of approximately seven years, which is the same as that of unimproved stoves.

**Figure 1. Difference between an open fire stove, an unimproved stove, and an improved stove**



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- <sup>1</sup> Taking firewood emissions into account, the energy sector alone produces 48.71 million tons of carbon dioxide equivalent ([United Nations Framework Convention on Climate Change, 2015; Climate Focus, 2015](#)).
  - <sup>2</sup> Where poverty and extreme poverty are prevalent, especially in indigenous communities. The poverty rate in rural areas is 82.5% [Guatemalan Multidimensional Poverty Index, 2019](#).
  - <sup>3</sup> In rural areas, 77.7% of the population has access to the power grid; out of this group, 80% cooks with firewood. Among the rural population without access to the power grid, 98% of households cook with firewood.
  - <sup>4</sup> Countrywide survey representative of potential improved stove users (664 households; segments C, D1, and D2; rural, periurban, and urban areas of 15 municipios in 8 departments). The findings are shown throughout the document.

- 1.3 Open-fire cooking consumes some nine tons of firewood per household annually, emitting approximately 15.66 tons of carbon dioxide equivalent per year (tCO<sub>2</sub>e/year). Cooking with solid fuels, such as firewood, produces global emissions of between 0.5 and 1.2 gigatons of carbon dioxide equivalent per year (GtCO<sub>2</sub>e/year) (between 1.5% and 3% of global carbon dioxide equivalent emissions ([optional link 28](#))). More efficient cooking, for example, with improved stoves, has the potential to reduce annual emissions by between 0.1 and 0.4 GtCO<sub>2</sub>e, some 10% of which would be achieved by projects implemented in the region ([United Nations Food and Agriculture Organization, 2010](#)).
- 1.4 Open fire stoves and unimproved stoves also cause serious health problems. Sixty-nine percent of people who cook with firewood on such stoves run a high risk of developing heart and respiratory diseases from exposure to air pollution, and the health care costs associated with this group are equivalent to 1% of GDP ([Global Alliance for Clean Cookstoves, 2013](#)). Guatemala has the region's second highest rate of illness caused by indoor air pollution. In 2016, there were 5,700 deaths (34 per 100,000 population) attributable to the use of firewood, of which 1,700 were children (World Health Organization, 2018).
- 1.5 Each year, 65,000 additional families will begin using it as their main source of energy. From 1990 to 2016, per capita consumption grew at a faster rate than the population itself (7% versus 3.4%, respectively). The Guatemalan government has prioritized the development of a national system to provide access to improved stoves and alternative fuels. The [2032 K'atun National Development Plan](#), the [2019-2050 Energy Policy](#), the [Strategy and Action Plan for the Sustainable Production and Efficient Use of Firewood](#), the [National Climate Change Action Plan](#), and the [2017-2032 National Energy Plan](#) envisage the installation of improved stoves, particularly in rural areas. Guatemala's Nationally Determined Contribution ([United Nations Framework Convention on Climate Change, 2015](#)) also prioritizes the sustainable and efficient use of firewood. While many initiatives have aimed to promote improved stoves, few have been successful in terms of scale and sustainability. Therefore, the program seeks to scale up the sustainable use of improved stoves owing to their efficiency, thereby reducing the use of firewood. Improved stoves represent a more feasible and culturally acceptable alternative ([Fast Track Carbon, 2016](#)) due to their low cost and affordability for the target population (rural and/or indigenous families living in poverty or extreme poverty) ([optional link 2](#)).
- 1.6 **Challenges.** The following factors limit the mass adoption of improved stoves in Guatemala:
  - a. **Users lack knowledge of the benefits.** Sixty percent of households are unfamiliar with improved stoves ([optional link 2](#)) and only 35% of people know where to buy them ([Fast Track Carbon, 2016](#)). Cookstove users are generally unaware of the health risks of smoke exposure for them and their families, and do not know how to properly operate and maintain improved stoves or what their potential financial benefits are. Each year, 70% of users spend roughly US\$276 on firewood or 8.9% of their income ([optional link 2](#)).
  - b. **Reliance on donations.** In all, 85% of improved stoves have been donated ([Fast Track Carbon, 2016](#)), thereby reducing incentives to purchase them. Moreover, their designs focus on what donors want (low costs), as opposed to



what users need (quality, durability, less smoke, greater efficiency, and attractive designs), thus hindering innovation. Existing stoves in this category lack cultural, social, and environmental relevance ([optional link 1](#)). When they are donated to households with no training or monitoring, recipients cease to use them as soon as the smallest inconvenience arises. All these factors are preventing the sustainability and scaling of the technology. Donors acknowledge the limitations of donations and have shown an interest in creating a market and removing subsidies, as those funds could have a greater impact in other areas, e.g. post-COVID-19 recovery.

- c. **Limited capacity of manufacturers.** Improved stove manufacturers have limited capacity to modernize production systems, and improve the quality, efficiency, and attractiveness of their products. The country's 19 manufacturers are micro, small, or medium-sized enterprises with annual production capacity of some 80,000 units (reflecting significant idle capacity). Cookstoves are made by hand using rudimentary designs and production methods that only vary slightly across manufacturers. Companies invest little to expand business capabilities such as marketing, innovation, growth of distribution channels, and equipment to boost productivity, lower costs, and enhance designs. Among the manufacturers, 47% reported offering after-sale services, and 52% said they offered replacements for the main parts of their stoves, but only out of their factories, thus hindering the sale of such parts to end users. Manufacturers also have limited knowledge of low-emission stove design and production, when there are models on the international market with efficiencies exceeding 80%. Most of the improved stoves they fabricate are heavy and made up of many parts, making them complicated to transport, store, display, and handle.
- d. **Certain aspects of the business are underdeveloped.** Improved stoves are primarily produced and sold in urban areas. Local governments, nongovernmental organizations, and international cooperators sell 53% of them (21% directly to end users, 13% through wholesale chains, and 13% through retail chains). Direct sales to customers are mostly made at the factories, though 17% take place at showrooms off-site, and another 17% are made door-to-door by salespersons ([optional link 2](#)). The big commercial appliance chains do not sell improved stoves due to low demand and the scant purchasing power of consumers. Lacking a strategy and proper channels, manufacturers must contend with high distribution costs.
- e. **Microloans to purchase improved stoves.** In a survey performed, 80% of respondents said they would be willing to purchase improved stoves with borrowing facilities ([optional link 2](#)). That said, geographic, social, ethnic, cultural, and linguistic barriers, as well as low levels of income, the lack of collateral, limited understanding of the rules involved in taking on credit, and the prevalence of high interest rates have all prevented the target population from accessing credit. Moreover, microfinance institutions have little interest in serving this population due to high transaction costs attributable to the low amount of each payment transaction, and the fact that customers lack credit histories and have difficulty obtaining information. Only three of them currently offer microloans for improved stove purchases, which make up less than 1% of their portfolios ([optional link 6](#)). They find it challenging to select models and

suppliers, and the tried-and-true models are not in high demand. Also, the absence of after-sale services increases delinquency, which discourages them from making loans.

- f. **Improved stove manufacturers' limited access to credit.** To expand the production of improved stoves, manufacturers must purchase inputs and invest in machinery to automate their operations. They depend on few donors for large sales volumes, which makes their revenues highly unstable and gives them limited guarantees, thereby increasing their market risk. Credit to expand production and business capabilities at competitive interest rates is difficult to come by. Finance entities offer few loans due to the high market risk. [Optional link 6](#) describes how trusts would be an ideal structure to foster access to credit, both for manufacturers and buyers.
  - g. **Lack of institutional structure with respect to monitoring, reporting, and verification (MRV) capacity of greenhouse gas emissions.** The National Climate Change Information System (SNICC) and Registry of Greenhouse Gas Removal or Reduction Projects have yet to incorporate emissions from firewood. Thus, MRV efforts should feed the aforementioned information system and help provide access to financing through the trading of emission reduction certificates on carbon markets.
- 1.7 **Evidence on the benefits of improved stoves.** Emissions reductions from the use of improved stoves have been shown internationally to produce environmental and socioeconomic benefits. Impact assessments conducted by Energising Development (EnDev) in Burkina Faso ([optional link 33](#)) and by SNV in Laos ([optional link 34](#)) show how savings in firewood consumption led to a decrease in emissions.
- 1.8 **Co-benefits.** The use of new technology and modern fuels helps lift households out of energy poverty and improves the family economy by reducing spending on firewood, saving time spent cooking, and generating health benefits ([Climate & Clean Air Coalition, 2018](#)). Families spend significant sums to treat illnesses caused by firewood use (23% of the household budget, [Ministry of Public Health and Welfare, 2017](#)). In terms of the environment, the use of improved stoves also helps reduce forest degradation.
- 1.9 Users feel more inclined to switch permanently to improved stoves if they are aware that smoke exposure can endanger their and their families' health ([optional link 3](#)).
- 1.10 **Alternative cooking technologies.** In all, 88.14% of Guatemala's population has access to the power grid. Yet, 49.2% cooks with liquefied petroleum (LP) gas, 48.8% with firewood, and 1.2% with electricity ([optional link 2](#)). Electric stove use is not reported in the target population, which presents an excellent opportunity to test electric induction stoves as a substitute for LP gas, conventional electric stoves, and even firewood in urban or rural areas that have two-phase electrical connections. Preliminary studies show that induction stoves can be more efficient, less costly overall, ([optional link 26](#)), and safer. However, access to quality electricity service is needed to use them. Induction stove use is very limited at present and there is no structured market for them. A pilot will be conducted under the program in areas with the necessary conditions for induction stove use, in order

to study their technical, cultural, financial, regulatory, and commercial viability, which will lay the foundation for a subsequent phase targeting households that use LP gas. The pilot program, whose implementation is expected to last one year, will focus on a population segment that does not use wood-burning stoves, and, thus, will not impact demand for improved stoves. In all, 4,000 vouchers will be issued for the equivalent of 50 euros, which will be used to purchase induction stoves on an installment plan, paid together with the consumer's electricity bills. Voucher recipients will be monitored to track their savings in terms of energy and money. The pilot will work together with appliance distribution chains.

- 1.11 **Gender.** In all, 51% of Guatemala's population lives in poverty, with women accounting for up 51.6% of that group. All told, 30.8% of households headed by women are impoverished.<sup>5</sup> In terms of time use, women spend between 1.5 and 2.2 hours per day [collecting firewood for consumption](#), and are more exposed to smoke during meal preparation. In all, 63.1% of women participate in household decision-making on health and large purchases. Information about, and access to, financial services is scarce, [especially among women](#), which adversely impacts purchases of improved stoves.<sup>6</sup> Women also perform [75% of unremunerated care work](#), including cooking, hence the importance of including them in decision-making and facilitating their access to financial resources.
- 1.12 **Diversity.** According to the Second National Survey on Disability ([ENDIS, 2016](#)), 10.2% of the population (approximately 1.6 million people) has some type of disability. Wood-fire stoves pose greater challenges for persons with reduced mobility or vision problems, given the effort required to obtain firewood—which is not always available at the market and must sometimes be chopped—and the logistics of burning it.<sup>7</sup> Additionally, the health risk posed by indoor air pollution is even greater for persons with disabilities, as they spend more time in the home and are therefore more exposed to that air. Alternative means of cooking (paragraph 1.17) targeting this population segment could be tested with program support.
- 1.13 **The Bank's experience and lessons learned.** This operation takes into account the IDB's previous experiences with improved stove programs, particularly "Promoting Sustainable Business Models for Clean Cookstoves Dissemination" (operations GRT/SX-14119-HO and ATN/ME-14118-HO), which facilitated the installation of 75,000 improved stoves in Honduras and found that users need to be monitored to ensure that they use stoves correctly and can obtain replacement parts should any break. This experience has been incorporated into the design of the program's financial instrument, and loan proceeds are specifically allocated for it. For execution, the following are some of the lessons learned that are being incorporated: (i) seek synergies with other similar organizations to maximize the program's capacity (paragraph 3.6); (ii) integrate strategies to strengthen

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<sup>5</sup> National Policy on Promoting the Comprehensive Development of Women and the Equal Opportunities Plan for 2008-2023.

<sup>6</sup> Sources: Municipal development plans, Secretariat of Planning and Programming of the Presidency (SEGEPLAN) (2010) and Indicators and Statistics by Peoples and Linguistic Communities of Guatemala (CODISRA, 2008).

<sup>7</sup> Levy, A., and L.C. Pérez (11 April 2019). "Cocinas limpias para mejorar la salud de mujeres y niños en Guatemala."

manufacturers (paragraph 1.32); and (iii) ensure that the executing agency has the key staff in place (paragraph 3.4).

- 1.14 **Strategic alignment.** The program is aligned with the second Update to the Institutional Strategy 2020-2022 ([document AB-3190-2](#)) as it supports the following development challenges: (i) social inclusion and equality, inasmuch as it helps the poor and vulnerable population access financial instruments to purchase improved stoves and receive training on how to maintain them; and (ii) productivity and innovation, to the extent that it trains local manufacturers and provides them with access to finance. It is also consistent with the following crosscutting areas: (i) gender equality and diversity, as it promotes the empowerment of women and the indigenous population through training and employment, and incentivizes the creation of a market for improved stoves that consider some of the most common constraints for persons with disabilities; and (ii) climate change and environmental sustainability, inasmuch as it lowers carbon dioxide emissions by reducing firewood use. The program is aligned with the Bank's country strategy with Guatemala 2017-2020 (document GN-2899), approved by the Board of Executive Directors on 11 December 2017, and valid until the end of the transition period on 31 December 2021, as it contributes to the energy section of the 2016 National Climate Change Plan through initiatives that promote the efficient use of firewood for cooking. This should help reduce greenhouse gas emissions and negative impacts on the health of families and, particularly, indigenous and rural women and children.
- 1.15 The program is aligned with the Corporate Results Framework 2020-2023 (document GN-2727-12), particularly the following indicators *Beneficiaries of targeted anti-poverty programs*, *Women beneficiaries of economic empowerment initiatives*, *Micro, small, and medium enterprises financed*, *Micro, small, and medium enterprises provided with non-financial support*, *Poverty headcount ratio*, *Households with improved access to energy services*, and *Emissions avoided*. Additionally, it is consistent with the Energy Sector Framework Document (document GN-2830-8), inasmuch as it promotes modern cooking technology and the IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (document GN-2609-1). According to the [joint multilateral development bank methodology for tracking climate change finance](#), 100% of the operation's proceeds will be invested in climate change mitigation activities. These resources contribute to the IDB's target to allocate 30% of total annual approvals to climate-related financing. Insofar as it aims to reduce greenhouse gas emissions from the burning of firewood for cooking, the program is also consistent with Climate Change Sector Framework Document (document GN-2835-8). Lastly, it is consistent with the Gender and Diversity Sector Framework Document (document GN-2800-8), inasmuch as it promotes gender equity and the empowerment of women and indigenous peoples by supporting access to wood-saving technology and financing, as well as training in the use of improved stoves.
- 1.16 **Actions to support gender equity.** The program will help reduce gender inequalities in three ways: (i) it provides access to financial resources; (ii) it improves health conditions by decreasing the exposure of women and children to smoke through the use of modern cooking technologies; and (iii) it reduces the time required for food preparation and wood collection. To this end, it will promote

the following: (i) the participation of women and indigenous communities in the improved stove design process in partnership with women's groups in program areas, as well as household surveys and observation of cooking processes with and without improved technology; (ii) the preparation of a gender-sensitive communications campaign that explains the financial and health benefits of using improved stoves and the options for families at different income levels to purchase them. This will include appropriate wording and design that take into account culture, language, reading and writing abilities, and the appropriate means of dissemination; (iii) a technical training program for women and men on improved stove operation and maintenance; (iv) employment opportunities for women and men through a job creation pilot (expected to see 180,000 participants) that provides training in improved stove maintenance and installation (at least 60% of participants will be women<sup>8</sup>), in association with one of the companies participating in the program, in order to create local capabilities; and (v) awareness-raising for employees of participating companies to prevent ethnic and gender-based discrimination ([optional link 12](#)).

- 1.17 **Actions to support persons with disabilities.** The program will promote the design of improved stoves that take into account the needs of persons with disabilities, making them safer and easier to use. Persons with limited mobility should be able to adjust the height of the cooking surface, and place and store firewood in accessible areas.
- 1.18 **Productive development.** The program will assist small-scale manufacturers by offering technical support to: (i) evaluate new technologies and processes for improved stove manufacturing; (ii) develop their business plans so they can apply for loans from financial institutions; and (iii) offer financial support by guaranteeing loans<sup>9</sup> for them to purchase machinery and manufacture improved stoves. The program will promote local development by improving production processes in microenterprises and small businesses that are already operating in the country, some of which are headed by women. In this way, it will contribute to post-COVID-19 economic recovery by creating new jobs at manufacturing companies to cover the growth in demand. Manufacturers have said that approximately 20 new jobs would be created at each of their businesses. Moreover, far more processes would become automated, so higher-paying jobs would be required.
- 1.19 **Promoting improved stoves.** A communication and behavioral change program will be designed and implemented to raise awareness among the target population about the short-, medium-, and long-term benefits of improved stoves, the financing instruments that make them affordable, and the impact they will have on family budgets. This will be supplemented with community demonstrations held in rural areas together with the manufacturers participating in the program. Distribution chains will receive support to encourage them to include improved stoves in their product portfolios.

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<sup>8</sup> This activity will be designed with the support of a gender-focused technical cooperation operation in the Energy Division (operation RG-T2972) and implemented with program funds.

<sup>9</sup> The IDB has worked alongside Banco Industrial to design a guarantee instrument that covers 50% of undisbursed balances and helps program participants reduce their credit demands by making it easier for them to access loans with more favorable terms.



- 1.20 **Incentives for the adoption of improved stoves.** Improved stoves cost around US\$193, making them affordable for the population that lives below as well as above the poverty line, through a market approach. This means there is a potential market of between 700,000 and 1.12 million households that purchase firewood and can afford a stove, or could purchase one with the right financial incentives ([Global Alliance for Clean Cookstoves, 2013](#)). The potential market in rural areas would consist of between 500,000 and 840,000 households. The program will support stove users by removing barriers to financing that would enable them to purchase new stoves, and they have already shown an interest in doing so.<sup>10</sup> Their interest will be reinforced by the savings they will see from reducing firewood consumption,<sup>11</sup> which will benefit their household finances during the post-COVID-19 recovery.
- 1.21 **Innovation.** The program innovates by introducing new manufacturing technologies and culturally adapted improved stove designs that include features for persons with disabilities (paragraph 1.24).
- 1.22 The program has a comprehensive approach, impacting supply and demand. It also develops financial products designed specifically for improved stove manufacturers and users, and introduces improved stove quality and evaluation standards used internationally (including in Mexico and Honduras), which can serve as a foundation for the development of a regulatory framework for these stoves. Experience in Mexico has demonstrated the importance of evaluating the stoves to ensure that they are efficient, whereas experience in Honduras has demonstrated the importance of after-sale service. Accordingly, both of these innovations have been incorporated into the program.
- 1.23 **Alignment to national electrification efforts.** As part of the invest grant, the program will implement an induction stove pilot project and seek to have the connections they require included in building codes for rural power grids operated by distribution companies.

## **B. Objectives, components, and costs**

- 1.24 **Objective.** The general objective of the program is to lower greenhouse gas emissions in Guatemala's energy sector by reducing the consumption and promoting the efficient use of firewood. The specific objectives are to: (i) lower barriers that limit the production and mass use of improved stoves; (ii) facilitate access to financing for the manufacture and procurement of improved stoves; and (iii) demonstrate the potential of improved stoves to reduce greenhouse gas emissions. The program consists of three components, which are described below,

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<sup>10</sup> Ninety-six percent of individuals interviewed reported that they would like to have an improved stove. Moreover, 74% of the population would be willing to purchase an improved stove if credit were provided, and 90% would be willing to pay up to 90 quetzales, or around €12 per month ([Qenk, 2018](#)).

<sup>11</sup> Currently, families spend around US\$23 per month on firewood. Improved stoves consume at least 50% less firewood, so installing an improved stove would cut this expense by half (around US\$11.50 per month). Based on the experience of the MICOPE cooperative association, a guarantee has been designed for stove users that would allow them to buy an improved stove for around US\$7 per month starting from the first month. The only requirement MICOPE has is that they open an account for around US\$13 per month and provide proof of residence issued by a community authority. This means that, with an investment of US\$13 (that can be recovered once the loan is paid off), customers can avoid US\$4.50 per month in expenses over the 24-month life of the loan, and subsequently, US\$11.50 per month for the rest of the improved stove's useful life.

and is financed through two instruments: an investment grant (GU-G1004) and a nonreimbursable technical-cooperation operation (GU-T1305). Components I and II will be financed with the proceeds of the investment grant, and Component III, with funding from the technical cooperation component. Program administration, supervision, and audits will be financed with both instruments, as shown in Table 1 (paragraph 2.1).

- 1.25 **Component I. Promoting the manufacture and use of improved stoves (€2,302,236).** The objective of this component is to break down barriers that hinder the production and mass use of improved stoves by designing and implementing the following: (i) a strategy to promote improved stoves and raise awareness in the target population about the savings and environmental and health benefits associated with them; (ii) training in appropriate stove use and maintenance; (iii) a program to teach women how to make repairs to and maintain their improved stoves; (iv) a capacity building program for improved stove design, manufacture, and compliance with minimum performance standards, the use of innovative production practices and market development supported by experts, advisory services, training in industrial processes, business and financial planning, a marketing and distribution strategy, and after-sale customer service. Companies will prepare a business plan with these components to be submitted to financial institutions; and (v) a program to provide assistance to improved stove dealers, including a bonus plan for employees who sell more of them. Additional details on the development of these strategies and programs are provided in [optional link 16](#).
- 1.26 **Component II. Facilitating access to financing for the production and purchase of improved stoves (€5,489,492).** This component will design and implement two guarantee instruments for the purchase and manufacture of improved stoves: (i) loan guarantees enabling low-income families living in rural areas to voluntarily purchase 176,600 stoves (€3,900,000); and (ii) loan guarantees for local manufacturers that develop a business plan (€1,243,660). A consultant will be hired to design both instruments and determine the requirements and eligibility criteria for the loans. Subsequently, the entities that will administer these instruments will be contracted (paragraph 3.5). The consultant will also design and implement a pilot to create an induction stove market by implementing a voucher program<sup>12</sup> with power distribution companies (paragraph 1.10).
- 1.27 **Component III. Implementing a monitoring, reporting, and verification (MRV) system (€1,520,000).** This component, to be financed with resources from technical cooperation operation GU-T1305, will demonstrate the potential of improved stoves to reduce emissions. Under it, an improved stove evaluation consistent with international standards will be developed and promoted. The program will support the strengthening of a laboratory to assess whether the improved stoves financed with program resources meet these standards. An MRV system will also be developed to quantify the emissions reductions generated by the program based on the methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption” ([The Gold Standard, 2015](#)).

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<sup>12</sup> The vouchers are to be included in the electric utility bills for households with two-phase connections in urban areas. This will help finance some of the stoves needed to obtain information during the pilot run and design a large-scale program. Power distribution companies will be involved in the design, implementation, and monitoring of the pilot.

This methodology includes a field-based kitchen performance test and other variables to evaluate the program's impact in areas such as family income and health. The results of the MRV system will be shared with the National Climate Change Information System.

- 1.28 **Administration, supervision, and audits (€1,688,272).** This component will cover: (i) the costs of the program execution unit, which will reinforce the internal structure and, in so doing, the capacity of the executing agency, Asociación Alterna ONG (paragraph 3.4); (ii) annual audits of Asociación Alterna's financial reports, under the investment grant; (iii) consultants to conduct a midterm and final impact assessment, using a baseline determined at the beginning of the program (under the technical cooperation component); (iv) the IDB service fee of 5% of the program amount; and (v) the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) management fee: 1% of the program amount.

### C. Key results indicators

- 1.29 The program's expected impact is to reduce energy sector emissions by 585,000 tCO<sub>2</sub>e by installing 225,000 improved stoves (176,600 sold on credit and 48,400 paid in cash<sup>13</sup>). Improved stoves will be sold on credit thanks to the introduction of the guarantee instrument for users, and are expected to be purchased in cash at the initiative of some users as a result of the communication campaign focusing on their benefits, as well as the support provided to appliance chains.
- 1.30 **Beneficiaries.** The program will seek to create an improved stove market to serve rural and indigenous communities throughout the country. In rural areas, indigenous people account for 56.6% of the total population, 77.8% of whom live in poverty.
- 1.31 The benefits will reach 19.3% of rural households that use firewood for cooking (225,000), i.e. some 1.1 million people around the country, of which approximately 600,000 are women. Moreover, the program will prevent the extraction of more than 600,000 tons of firewood and help families save on the cost of firewood and health-related expenses.
- 1.32 Five manufacturers will benefit from technical assistance, two of which are expected to request loans for enhancing their production processes. These loans will be issued by financial institutions under the guarantee financed through Component II. The other three manufacturers, all nongovernmental organizations, will implement investment plans with their own funds in the form of contributions from their parent companies. The funds used to guarantee loans from financial institutions will incentivize them to issue loans to improved stove manufacturers and users who lack sufficient collateral and are new or unknown to these financial institutions.<sup>14</sup>

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<sup>13</sup> The program includes unfinanced stoves since they will be sold by beneficiary manufacturers through assisted distribution channels. These figures come from the survey ([optional link 2](#)).

<sup>14</sup> The financial institutions will contribute the funds for loans covered by these guarantees. The guarantees simply serve to reduce the business risk assumed by the institutions. As the market grows, this type of loan should become commonplace, and guarantees will no longer be needed. The program does not provide subsidies to either manufacturers or users.



- 1.33 Other direct beneficiaries—intermediaries working to ensure that the program's outcomes reach end beneficiaries—include manufacturers, distributors, financial institutions, standards agencies, and testing laboratories. These beneficiaries are also program stakeholders.
- 1.34 **Economic evaluation.** The economic evaluation conducted shows that the program is highly profitable with an economic net present value (NPV) of US\$376.3 million. This mainly consists of the net benefits attributable to reductions in carbon dioxide emissions which are valued at US\$236.1 million, and for end users, estimated at US\$180.9 million, resulting from the savings they will accrue from having to purchase less firewood. The positive externalities consist of a reduction in respiratory illnesses and time saved by families who collect firewood. The program maintains a net positive economic impact, with NPV of US\$136.3 million and an internal rate of return of 40.3%. It shows a strong dependence on the increased efficiency introduced by improved stoves, as compared to the conventional or open-fire stoves that exist in the scenario without the program: a variation of +/-15% in efficiency produces a variation of 15.5% and 16.2% in NPV and the internal rate of return, respectively ([optional link 11](#)).

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 The NAMA Facility will make a nonreimbursable contribution of €11 million (US\$12.98 million) to the program, based on an exchange rate of 1.18 euros to the U.S. dollar through 4 December 2021. Two financing instruments will be used: an investment grant and a technical cooperation operation. The final amount of funds in U.S. dollars will depend on the exchange rate in effect on the date the Bank receives the funds from the NAMA Facility in euros and converts them into U.S. dollars, in accordance with the Administration Agreement the Bank will sign with GIZ (AA-GIZ), which will serve as administrator of the NAMA Facility. In the event of a considerable negative variation in the exchange rate, and the amount in U.S. dollars of the contribution to the program budget is reduced, the program's activities will be cut back and the team will adjust the budget accordingly. The following table presents the costs per component. The temporal logic and timing of the activities can be viewed in [optional link 16](#).

**Table 1. Estimated program costs (technical cooperation and investment grant in euros)**

Investment category	Tech. coop. (GU-T1305)	Investment grant (GU-G1004)	Total	%
1. Component I. Promoting the manufacture and use of improved stoves		2,302,236	2,302,236	20.9
2. Component II. Facilitating access to financing for the production and purchase of improved stoves		5,489,492	5,489,492	49.9
3. Component III. Implementing an MRV system	1,520,000		1,520,000	13.8
4. Program management: administration, monitoring and evaluation, audits			1,628,272	15.3
o Consultants to reinforce the execution structure		628,272	628,272	
o Annual audits		100,000	100,000	
o Program evaluation	300,000		300,000	
o IDB fee (5%)	550,000		550,000	
o NAMA fee (1%)	110,000		110,000	
<b>Total</b>	<b>2,480,000</b>	<b>8,520,000</b>	<b>11,000,000</b>	<b>100%</b>

- 2.2 The IDB will charge and deduct a management fee of 5% from its contribution to cover management costs. Accordingly, the Board of Executive Directors is being asked to distribute the proceeds from the management fee among the departments that support the operation, in order to cover the costs of preparing and executing the NAMA Facility contribution.
- 2.3 The disbursement period will be five years for the investment grant, and six years for the technical cooperation operation in order to perform the impact evaluation once the investment grant has closed. The disbursement schedule is presented in the following table.

**Table 2. Disbursement schedule (in euros)**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
GU-T1305	213,960	427,466	283,270	300,344	869,293	385,667	2,480,000
GU-G1004	1,058,085	1,067,077	2,530,746	1,008,473	2,855,620	0.00	8,520,000
<b>Total</b>	<b>1,272,046</b>	<b>1,494,543</b>	<b>2,814,016</b>	<b>1,308,816</b>	<b>3,724,912</b>	<b>385,667</b>	<b>11,000,000</b>
	<b>11.6%</b>	<b>13.6%</b>	<b>25.6%</b>	<b>11.9%</b>	<b>33.9%</b>	<b>3.5%</b>	<b>100%</b>

## **B. Social and environmental risks**

- 2.4 No environmental risks were identified during the program evaluation. Minor social risks were identified related to the ensuring the participation of the beneficiary indigenous population. Thus, in accordance with the IDB's Environment and Safeguards Compliance Policy (Operational Policy OP-703), the program has been classified as a category "C" operation, and does not require an [environmental and social management report](#). The Indigenous Peoples Policy (Operational Policy OP-765) and Gender Policy (Operational Policy OP-761) apply to this program, since it will promote access to credit and incentives for women and indigenous families to purchase improved stoves. Pursuant to Operational Policy OP-703, all required documents related to social and environmental considerations will be disclosed. Awareness-raising and capacity-building activities, as well as the design of financial products and improved stoves, will be

socially and culturally appropriate. Improved stoves will be designed in a participatory fashion through pilot tests to ensure that they work properly and address the social and cultural needs of users. The project team will ensure that a representative number of women participate in these pilot tests. This will guarantee that any improved stove a family purchases with its own funds will work well and be a good investment of its limited resources. Indigenous communities will not be sanctioned for, or discouraged from, using firewood.

### **C. Other key risks and issues**

- 2.5 Program risks (sustainability).** During the risk management analysis conducted with the executing agency, the following risks were identified and classified as “high”:<sup>15</sup> (i) demand may be insufficient to attain the established sales targets, and the program fails to meet emissions reduction targets due to expectations created by the institutions that donate stoves in the program's area of influence. This risk is even greater due to the COVID-19 pandemic. It will be mitigated by implementing a strategy to promote a market approach among donors and encouraging them to channel their funds to activities that contribute to the program. As an additional mitigation measure, in the event that demand for improved stoves is lacking, the program will be extended to the urban population<sup>16</sup> (which also consumes a significant amount of firewood for cooking), so that it can access the program's financial benefits. This will expand the universe of potential improved stove buyers. If this action plan fails to generate sufficient demand, the approach will be modified, and the program's resources will be reoriented to strengthen and scale up the induction stove pilot; (ii) the program's guarantees are insufficient, as sales fall short of expectations, and manufacturers are unable to pay back their loans because consumers are not inclined to buy improved stoves with a quality certification. To mitigate this risk, a communication campaign will be launched to raise awareness of the program's benefits (i.e. savings, improved health, and energy efficiency) and the characteristics of improved stoves; and (iii) users receive limited information about the microloans at points of sale or in promotional material. This risk will be mitigated by implementing a promotional program in coordination with the entity that will execute the guarantee fund for end users and other private-sector actors. These measures also mitigate potential impacts on demand caused by the pandemic.
- 2.6 Technical viability.** With a more conscious population, greater production and distribution capacities, specific financial products for the purchase and production of improved stoves, and a stronger regulatory framework, a market for improved stoves is expected to develop and prosper. The relevance of these enabling factors to the creation of an improved stove market and the timing of related activities is presented in [optional link 16](#).
- 2.7** Based on the results of the program's preparation phase, it is feasible to create an improved stove market if access to financial incentives is provided and the global benefits of improved stoves are explained to the target population. These are the main challenges identified and addressed by the program. Furthermore, the

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<sup>15</sup> These risks were identified at a risk analysis workshop held on 24 and 25 September 2019, with the support of the Strategic Planning and Monitoring Division and the participation of Alterna.

<sup>16</sup> According to the 2018 census, the urban population uses the following to cook: LP gas (64.77%), firewood (32.65%), and electricity (1.66%).

financial institutions expected to participate in the implementation of the investment grant have extensive experience with the target segment as well as large lending portfolios in the sector and in the areas selected for program activities. This means that it should be technically feasible to implement the financial products designed to assist with the purchase of improved stoves. Considering that these products are highly aligned with prevailing practices in the microfinance market, it should be relatively simple for the financial institutions participating in the program to adopt them. Moreover, these products are based on existing instruments in Guatemala's legal system (e.g. promissory notes, exchange bills, loan agreements, and trust agreements); thus, from the legal standpoint, their implementation is highly feasible. As for the financial products that rely on guarantee funds, their technical implementation is also considered highly feasible, given that the guarantee instrument proposed for these funds has been used widely by numerous entities in the country. This has led to the development of good practices that are considered in the proposal.

- 2.8 **Sustainability of investments.** Strategies will be developed to disincentivize improved stove donations and promote a market-based approach, with the goal of expanding coverage beyond the program's duration. By providing guarantees, the program will encourage financial institutions to continue offering products for the purchase and manufacture of improved stoves, which will also contribute to this goal. With its support, most of the current barriers will be removed, and improved stoves will continue to sell due to the newly created market dynamic. Through the MRV system, a platform to gain access to carbon market funds will be created. These funds will be used to scale up program coverage. As of the fourth year of the operation, thorough oversight and a detailed financial projection will be used to reorient resources to areas that need them to minimize undisbursed funds. This will be done based on the experience of the previous three years. Any unused funds will be returned to the IDB, which, in turn, will return them to the Donor, as stipulated in the Administration Agreement with GIZ (AA-GIZ).

### III. IMPLEMENTATION AND MANAGEMENT PLAN

#### A. Summary of implementation arrangements

- 3.1 **Executing agency.** [Asociación Alterna ONG](#), a nongovernmental organization established under Guatemalan law, will be the program's beneficiary and executing agency for the investment grant and technical cooperation operation. The Bank will sign a nonreimbursable investment financing agreement with Alterna for the investment grant, and Alterna will carry out the procurement planned for this instrument pursuant to Bank, and other, policies. Alterna has experience supporting social enterprises and promoting innovation within them. It successfully executed the program "Acceleration of Disruptive Ventures with Seed Capital" (operation ATN/ME-16143-GU) with IDB Lab. The institutional analysis of Alterna, performed using the Institutional Capacity Assessment Platform, identified a low-level fiduciary risk. Nonetheless, considering the expected method and magnitude of procurement and the findings of the independent audit report on the Alterna-executed program, the analysis has concluded that there are issues related to the entity's and operation's internal control that require Alterna's attention to ensure that the proposed program is managed appropriately.

- 3.2 At Alterna's request ([optional link 35](#)), the project team is proposing that the Bank contract the consulting services planned under the technical cooperation operation. The terms of reference for these procurement processes can be found in [optional link 29](#), [optional link 30](#), and [optional link 31](#). This is warranted because the Bank has the reputation, knowledge, and experience to attract global consulting firms that can perform activities that go beyond the scope of this program, such as: (i) proposing national technical standards for improved stoves; (ii) designing and implementing a strategy to disincentivize improved stove donations and promote a market-based approach to the main stakeholders in donation- or subsidy-related activities;<sup>17</sup> (iii) developing and implementing an accreditation strategy for improved stove evaluation laboratories; (iv) designing and implementing an exit strategy, so that improved stove use will continue to grow beyond the investment grant disbursement period; (v) designing and implementing a strategy to access and manage carbon financing, so it can be reinvested in the program; and (vi) designing and implementing an MRV system. The information produced by the MRV will be transferred to the Ministry of Environment and Natural Resources to feed the National Climate Change Information System.
- 3.3 **Execution arrangement.** Alterna will execute the investment grant in accordance with: (i) the nonreimbursable investment financing agreement it signs with the Bank; (ii) the [program Operating Regulations](#), which describe technical, financial, social and environmental, and fiduciary practices to be adopted by Alterna, including measures to strengthen capacities and management to supplement and monitor the implementation of the investment grant; (iii) the requirements established by the Donor in the AA-GIZ that apply to the investment grant; and (iv) the program's management tools, including the [multiyear execution plan](#), annual work plan, and [procurement plan](#).
- 3.4 Alterna will form a program execution unit. It will hire, at a minimum, a program coordinator, an assistant, a financial specialist, and a procurement specialist. It will also stand up a management committee consisting of Alterna's director and line managers, along with the program coordinator. The line managers will involve Alterna employees as required by the program, which will cover a share of their wages proportional to their participation in investment grant activities. A description of the Alterna operating expenses that will be covered by the program, including shares of employees' wages, can be found in the multiyear execution plan. These expenses are linked to the attainment of the targets and objectives set out in Components I and II. The program execution unit will issue monitoring reports and hold monthly meetings with the Bank to analyze progress and challenges, monitor proposed solutions, and consider expense justifications submitted by Alterna staff.
- 3.5 Through competitive processes, Alterna will contract financial institutions in Guatemala to manage the funds allocated to provide guarantees to the entities which, in turn, will issue the loans envisaged under the program. Alterna will sign services contracts that reflect the obligations of the parties, as well as the Bank's and the Donor's policies. The guarantee instruments will be designed using

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<sup>17</sup> The Donor requires that a strategy be designed to disincentivize donations, so this must be included in the program's activities. To do this, the project team will explain to the different donors the advantages of eliminating donations and refocusing efforts in other areas. This activity will be designed jointly between Alterna and the Bank, and Alterna will be in charge of executing it.

resources from the investment grant. The system for implementing them will be as follows: a global loss amount for the first year will be estimated on the basis of the historical loss rate. For guarantees issued to end users of improved stoves, sales on credit will be used as a basis for the estimate. In the second year, the program's real default rate will be determined and applied to estimated sales on credit to adjust the amount of funds allocated for guarantees (and so forth). For guarantees issued to manufacturers, the guaranteed amount will be calculated using a similar system based on loan repayment.

- 3.6 **Coordination with other donors.** Bilateral meetings will be held with other improved stove donors in Guatemala to coordinate joint efforts. The project team hopes to coordinate joint improved stove promotion activities, product packaging, support for improved stove distribution channels, and, for manufacturers that donate improved stoves, initiatives to increase their production capacity and participation in the financing arrangement for the guarantee program.
- 3.7 **Special contractual conditions precedent to the first disbursement of the investment grant. The executing agency will provide evidence, to the Bank's satisfaction, of: (i) the approval and entry into force of the program Operating Regulations previously agreed upon with the Bank.** To ensure effective implementation and minimize the risk of delays in executing the investment grant, the [program Operating Regulations](#) will cover the following: (a) Alterna's responsibilities and functions; (b) basic eligibility conditions for users and manufacturers to access the investment grant-financed guarantee; (c) procedures to issue guarantees and justify the funds allocated for them; (d) the preparation of operating plans, as well as financial and procurement programming for the investment grant; and (e) mechanisms for collaboration with other participating entities and institutions. These activities are necessary since the program Operating Regulations establish rules and procedures for activity programming, administrative and financial management, procurement, audits, and monitoring and evaluation. Alterna will make use of its existing systems and controls, in addition to specific procedures and mechanisms described in the Operating Regulations; **and (ii) the hiring or designation of, at a minimum, a program coordinator, an assistant, a financial specialist, and a procurement specialist to form the program execution unit in Alterna.** This staff is needed to manage the budget, and accounting and treasury entries, e.g. program payments, in accordance with the Financial Management Guidelines for IDB-financed Projects (document OP-273-12). This condition is required for the successful execution of the investment grant, as it will allow Alterna to have the necessary human resources, powers, functions, systems management capability, and autonomy.
- 3.8 **Procurement.** Procurement under the investment grant will be performed pursuant to the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15), as set forth in the procurement plan, which contains detailed information on the procurement that will take place during execution. Alterna's procurement guide will also be used. This will be the procedure included in the nonreimbursable financing agreement, in accordance with Appendix 4 of the Bank's procurement policies.



- 3.9 Under operation GU-T1305, which will be managed by the Bank at Alterna's request, procurement will be performed according to the procurement plan, which primarily envisages the contracting of three consulting firms. This will be done in accordance with the Bank's procurement policies and procedures: (i) AM-650 for individual consultants; and (ii) document GN-2765-4 and its operating guidelines (document OP-1155-4) for consulting firms for services of an intellectual nature.
- 3.10 **Exceptions to the Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work.** Since the program funds will be provided by the NAMA Facility through GIZ—which requires that the program comply with all laws of the Federal Republic of Germany and the European Union that seek to prevent the financing of activities associated with terrorism—an exception to the Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (document GN-2765-4) is requested, so that firms included on the sanctions lists of the Federal Republic of Germany and the European Union will not be eligible to receive technical cooperation funds. GIZ will perform a verification and have 10 days to answer. The AA-GIZ will stipulate that, in the event GIZ does not answer within that period, the process to contract the consulting firms may automatically proceed.
- 3.11 **Audits.** Each year, Alterna will submit financial reports on the investment grant resources, audited by an independent audit firm acceptable to the Bank, within 90 days of the close of the respective fiscal year. The final report will be submitted within 60 days of the end of the disbursement period in effect. Audit costs will be covered with resources from the investment grant. The terms of reference for the audit contract will have been previously agreed upon, and will have received the Bank's no objection.
- 3.12 The Bank will be responsible for preparing program reports and sending them to the Donor, as stipulated in the AA-GIZ.

**B. Summary of arrangements for results monitoring**

- 3.13 **Monitoring.** The Bank will hold monthly meetings with Alterna to analyze progress and any challenges encountered, as well as monitor proposed solutions. Alterna will also send the Bank: (i) quarterly reports on, at a minimum, the distributors' sales performance, the units produced by manufacturers, and the loans issued by the financial institutions participating in the program; and (ii) semiannual reports, which will cover both the program's technical and financial progress, and a monitoring and progress report (see details in [required link 2](#)).
- 3.14 **Evaluation ([required link 2](#)).** The Bank will contract consultants to perform: (i) a midterm evaluation, when 50% of the investment grant funds have been committed, or 50% of the investment grant disbursement period has elapsed, whichever occurs first; and (ii) a final program evaluation, once 90% of the investment grant funds have been disbursed. Both evaluations will measure the program's outcomes in terms of its relevance, effectiveness, efficiency, sustainability, and performance. Lastly, an impact evaluation will be performed based on the MRV outcomes, including the reduction of indoor emissions that contribute to respiratory diseases, such as particulate matter from carbon monoxide and nitrogen and sulfur oxides.

Development Effectiveness Matrix		
Summary		GU-G1004
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Social Inclusion and Equality -Productivity and Innovation -Gender Equality and Diversity -Climate Change	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Beneficiaries of targeted anti-poverty programs (#) -Households with improved access to energy services (#) -Micro / small / medium enterprises financed (#) -Enterprises provided with technical assistance (#) -Women beneficiaries of economic empowerment initiatives (#) -Emissions avoided (annual tons CO2 equivalent)	
2. Country Development Objectives		
Country Strategy Results Matrix		
Country Program Results Matrix	GU-O0005	The intervention is included in the 2020 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		See ¶1.21 and ¶1.22 in the Loan Proposal
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution	6.9	
3.1 Program Diagnosis	2.5	
3.2 Proposed Interventions or Solutions	3.2	
3.3 Results Matrix Quality	1.2	
4. Ex ante Economic Analysis	10.0	
4.1 Program has an ERR/NPV, or key outcomes identified for CEA	1.5	
4.2 Identified and Quantified Benefits and Costs	3.0	
4.3 Reasonable Assumptions	2.5	
4.4 Sensitivity Analysis	2.0	
4.5 Consistency with results matrix	1.0	
5. Monitoring and Evaluation	10.0	
5.1 Monitoring Mechanisms	4.0	
5.2 Evaluation Plan	6.0	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Medium High	
Environmental & social risk classification	C	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)		
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		

This is a non-reimbursable loan of US \$ 13 million (EUR 11 million) funded by the NAMA Facility. The general objective of the program is to reduce greenhouse gas emissions in the energy sector in Guatemala, through the reduction of consumption and efficient use of firewood. The specific objectives are: (i) to reduce the barriers that limit the production and massive use of improved stoves (IS); (ii) to facilitate access-to-financing for the manufacture and purchase of IS; and (iii) to demonstrate the greenhouse emission reduction potential of IS. There is no result indicator associated with objective (iii) in the Results Matrix, which resulted in a reduction of 2.8 points in the evaluability score. The vertical logic is consistent with the diagnostic, the magnitude of the problems, and the proposed interventions. The affected population is clearly identified. In Guatemala, 40% of households cook with firewood in open stoves, which is very inefficient in terms of energy consumption. Households to be benefited by the program are in rural areas. Guatemala has the highest per-capita firewood consumption in Central America, causing approximately 40% of the country's total CO2 emissions. The replacement of traditional cooking methods using IS should significantly lower the country's firewood consumption and therefore CO2 emissions. Among the positive externalities are the reduction of respiratory diseases and the time gained that families now spend collecting the firewood they use. The operation seeks to reduce the barriers that limit the production and massive use of IS with awareness campaigns for their use as well as innovative support and financing schemes for their production and purchase. The operation builds on the experience of similar programs on the African continent. Impact evaluations of these programs indicate that the interventions have high potential for success.

An ex-ante economic evaluation was developed under reasonable assumptions. It is estimated that the program will generate a positive net economic effect of US \$ 136.3 million in present value and an IRR of 40.3% (without including the effects of the reduction of CO2 emissions). The sensitivity analysis is appropriate and indicates that the results remain robust after a variation of +/- 15% in its main parameters. The results show a strong dependence on the improvement in efficiency introduced by IS when compared to the conventional and open-hearth stoves currently in use. The main risk of the operation is that the projections for the production and sale of IS will not materialize due to insufficient demand. There are also risks associated with insufficient guarantees that might negatively affect sales and limitations in information to users regarding the availability of microcredit. Appropriate mitigation measures for these risks are indicated. The Loan Proposal provides for monitoring at the household level of the objectives of the program, carrying out an ex-post economic evaluation and an effectiveness analysis at the program's conclusion.



## RESULTS MATRIX

<b>Program objective:</b>	The specific objectives are to: (i) lower barriers that limit the production and mass use of improved stoves; (ii) facilitate access to financing for the manufacture and procurement of improved stoves; and (iii) demonstrate the potential of improved stoves to reduce greenhouse gas emissions. The achievement of these objectives will contribute to the general objective of the program, which is to lower greenhouse gas emissions in Guatemala's energy sector by reducing the consumption and promoting the efficient use of firewood.
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### GENERAL DEVELOPMENT OBJECTIVE

Indicators	Unit of measure	Baseline	Expected year achieved	Target	Means of verification	Comments
General development objective: To reduce greenhouse gas emissions in Guatemala's energy sector through the adoption of improved stoves.						
Tons of carbon dioxide equivalent (CO <sub>2</sub> e) reduced	Quantity of emissions avoided (thousands of tons of CO <sub>2</sub> e annually)	0	2026	585	KPT <sup>1</sup> measurement report from the monitoring, reporting and verification (MRV) system	Measurements will be taken in years 3 and 5 from previously installed stoves

### SPECIFIC DEVELOPMENT GOALS

Indicators	Unit of measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of program	Means of verification	Comments
Specific objective 1: Reduce barriers to the production and mass use of improved stoves										
Households <sup>2</sup> using improved stoves	Number of households using improved stoves	0	5,000	25,000	50,000	70,000	75,000	225,000	Executing agency semiannual report	Contributes to Sustainable Development Goals (SDGs) 7 and 11

<sup>1</sup> Kitchen Performance Test, which measures the program's impact on emissions reductions by using the Gold Standard, as requested by the donor. The KPT is part of the program's monitoring activities under the MRV component. This methodology is used to determine the quantity of firewood saved and establish the parametric calculation to link reduced firewood consumption to reduced emissions. Emissions reductions will be calculated using the measurements taken, and will not be projected based on the date of stove installation.

<sup>2</sup> For Corporate Results Framework accounting purposes, it will be assumed that this outcome also contributes to the indicator *Households with improved access to energy services* (#).

Indicators	Unit of measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of program	Means of verification	Comments
Disaggregation of specific development objective 1:										
Households using improved stoves purchased in cash	Number of households using improved stoves	0	5,000	5,000	10,000	13,700	14,700	48,400	Executing agency semiannual report	Contributes to SDGs 7 and 11
Households using improved stoves purchased on credit	Number of households using improved stoves	0	0	20,000	40,000	56,300	60,300	176,600	Executing agency semiannual report	Contributes to SDGs 7 and 11
Specific development objective 2: Facilitate access to financing for the manufacture and procurement of improved stoves										
Loans issued to improved stove manufacturers for business plan implementation	Number of microenterprises or small businesses financed	0	0	2	0	0	0	2	Executing agency semiannual report	
Loans issued for users to purchase improved stoves	Number of households <sup>3</sup> that have received loans	0	0	20,000	40,000	56,300	60,300	176,600	Executing agency semiannual report	
Specific development objective 3: Demonstrate the potential of improved stoves to reduce greenhouse gas emissions										
Technical performance of stoves in participating household evaluated	Number of households evaluated	0	3,000 <sup>4</sup>	0	3,000	0	3,000	9,000	Evaluation report	Performance will be evaluated using the Gold Standard methodology (optional link 28), taking into account the different technologies, ages of the stoves, attrition (or loss of study subjects),

<sup>3</sup> Households are considered a better unit of measure than families or users (though one person will be responsible for repaying the loan), since only one improved stove is expected to be installed per household, even though more than one family may live there and the number of people per family may vary considerably.

<sup>4</sup> As no field-based emissions evaluation is conducted in Guatemala, the program will develop the baseline during the first year.

Indicators	Unit of measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of program	Means of verification	Comments
										and target population categories.

### OUTPUTS

Indicators	Unit of measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of program	Means of verification	Comments
<b>Component I: Promoting the manufacture and use of improved stoves</b>										
Output 1. Campaign to raise awareness about and promote improved stove use tailored to women and indigenous peoples developed and implemented <sup>5</sup>	Number of campaigns	0	1	1	1	1	1	1	Annual media survey performed by a consulting firm under executing agency supervision	Recurring indicator: the campaign will be designed in the first year and executed over the life of the program. It will use traditional media such as radio and television, and social and other modern media. Product demonstrations will also be provided directly to users.
Output 2. Training program on improved stove operation and maintenance developed and implemented	Number of programs	0	0	2	0	2	0	4	Executing agency semiannual report and awareness-raising program	Two training programs will be developed: (i) one for trainers of trainers; and (ii) another for salespeople and representatives of financial institutions and distributors. At least 60% of trainees, totaling 180,000, will be women. Training sessions will have a gender and diversity focus, ensuring that they are tailored to women and indigenous peoples.

<sup>5</sup> Some 300,000 people will be influenced by the campaign. Campaign materials will be translated into the different indigenous languages. Advertising and promotional strategies will be different for each region. Messages will contain inclusive language and be disseminated through the media preferred by the population.

Indicators	Unit of measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of program	Means of verification	Comments
Output 3. Training program for women who will repair stoves under warranty <sup>6</sup> developed and implemented	Number of programs	0	0	1	0	0	0	1	Executing agency semiannual report and awareness-raising program	
Output 4. Improved stove manufacturers provided with advisory services under the technical assistance program with business plans implemented	Number of manufacturers assisted	0	0	5	5	5	5	5	Executing agency semiannual report and business plans from assisted companies	Recurring indicator that will support manufacturers throughout the life of the program. Manufacturers will design stoves that take into account the needs of persons with disabilities
Output 5. Improved stove distributors supported by an assistance program <sup>6</sup>	Number of improved stove distributors assisted	0	0	1	2	0	0	3	Executing agency semiannual report	
<b>Component II: Facilitating access to financing for the production and purchase of improved stoves</b>										
Output 6. Guarantee instruments to facilitate access to financing for improved stove manufacturing created and implemented	Number of instruments	0	1	1	1	1	1	1	Executing agency and finance entity semiannual reports	Recurring indicator under the guarantee. Manufacturers are expected to receive loans. The guarantee will cover default risk.

<sup>6</sup> “Meet and greets” will be held to encourage the development of partnerships with manufacturers. Salespeople will be trained to give stove demonstrations so they can assist buyers and support advertising and promotional campaigns. This will help increase sales and expand the market. Bonuses will be paid for improved stove sales.

Indicators	Unit of measure	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	End of program	Means of verification	Comments
Output 7. Guarantee instruments to facilitate access to financing for improved stove purchases created and implemented	Number of instruments	0	1	1	1	1	1	1	Executing agency and financial institution semiannual reports	Recurring indicator under the guarantee. End users are expected to receive loans. The guarantee will cover default risk.
Output 8. Incentive programs to facilitate the adoption of alternative-fuel stoves created and implemented	Number of programs	0	0	1	0	0	0	1	Executing agency semiannual report	Electric induction stove voucher program that directly affects the program's impact
<b>Component III: Implementing a monitoring, reporting, and verification (MRV) system<sup>7</sup></b>										
Output 9. Greenhouse gas monitoring, reporting, and verification system designed and implemented <sup>8</sup>	Number of systems	0	0	1	1	1	1	1	MRV implementation report	Recurring indicator

<sup>7</sup> Component III is the only one to be executed by the IDB, and will be financed with resources from operation GU-T1305.

<sup>8</sup> This output includes other complementary aspects (laboratory, technical standards, strategy to coordinate the MRV with the SNICC, carbon bond sales strategy, and exit strategy).

## FIDUCIARY AGREEMENTS AND REQUIREMENTS

<b>Country:</b>	Republic of Guatemala
<b>Operation:</b>	Efficient Use of Firewood and Alternative Fuels in Rural and Indigenous Communities of Guatemala (GU-G1004)
<b>Executing agency:</b>	Inter-American Development Bank (IDB) and Asociación Alterna ONG
<b>Prepared by:</b>	Marcela Hidrovo and Rodrigo Castro (FMP/CGU)

### I. EXECUTIVE SUMMARY

- 1.1 Asociación Alterna ONG (Alterna) is a not-for-profit organization created through public deed 75 of 16 December 2010, entered into book 1, folio 31,871, entry 31,871 of the Guatemalan Unified System for the Electronic Registry of Legal Entities on 18 January 2011. This deed states that Alterna is an apolitical, nongovernmental, nonreligious nonprofit entity domiciled in the Guatemalan department of Quetzaltenango, and established for an indefinite period of time. Alterna's objective is to create a healthier environment through the use of renewable technologies and environmental education at every level. By doing this, it seeks to improve the quality of life for Guatemalans and foster the sustainable use of natural resources. One of its goals as a nonprofit is to plan environmentally focused productive projects and manage financial resources as donations both nationally and internationally.
- 1.2 These fiduciary agreements and requirements apply to the procurement and financial management of the investment grant funds to be executed by Alterna.<sup>1</sup> An analysis of Alterna's institutional capacity was conducted using the Institutional Capacity Assessment Platform (ICAP) methodology. Accordingly, it was concluded that Alterna has achieved a certain level of development that enables it to execute projects financed with external resources, specifically from IDB Lab, with which it is currently executing operation ATN/ME-16143-GU (US\$748,400). While the fiduciary risk identified is low, based on the most recent review of procurement and disbursements performed by an independent audit firm, it was determined that there are issues related to the internal control of both the entity and the operation that have been, and continue to be, resolved by Alterna to ensure that the proposed program is managed appropriately (paragraph 3.1).
- 1.3 For financial management, the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) will be applied, as will Alterna's operating and administration regulations and manuals for financial management, and

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<sup>1</sup> The fiduciary management procedures to be implemented by the executing agency for the investment grant funds will fulfill the requirements set forth in this document, as well as the agreement to be signed between IDB and the Donor, related to procurement, disbursements, external audits, unaudited financial reports, and submission deadlines.

specific aspects of the program Operating Regulations. Procurement under the investment grant will be executed pursuant to the Bank's procurement policies (documents GN-2349-15 and GN-2350-15), and any of the methods described therein, including Appendix 4, may be used provided that they are identified in the procurement plan approved by the Bank.

- 1.4 Alterna will be responsible for executing the investment grant funds, and will have the appropriate organizational structure, systems, functions, control environment, and staff in place to effectively implement the program. The program Operating Regulations will establish specific mechanisms and procedures.

## **II. THE EXECUTING AGENCY'S FIDUCIARY CONTEXT**

- 2.1 The Nongovernmental Organizations (NGOs) for the Development of Guatemala Act was issued through Legislative Decree 02-2003 of 22 January 2003, and seeks to regulate the creation and operation of nongovernmental organizations in the country. It states that NGOs may register as not-for-profit entities, foundations, or strictly as NGOs, and will do so through a public deed entered into the civil registry in the municipal seat of government where they declare domicile and become their own legal entity separate from any affiliates.
- 2.2 Alterna is a not-for-profit, nongovernmental organization created through public deed 75 of 16 December 2010, entered into book 1, folio 31,871, entry 31,871 of the Guatemalan Unified System for the Electronic Registry of Legal Entities on 18 January 2011. An institutional capacity analysis found that, while its fiduciary risk is considered low, there are issues related to the entity's and operation's internal control that require its attention to ensure that the proposed program is managed appropriately.

## **III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS**

- 3.1 The program's fiduciary and procurement risk was assessed by conducting an institutional analysis of Alterna using the ICAP methodology. The analysis considered Alterna's regulatory framework, the quality of its accounting information and control system, institutional processes, procurement methods, and experience executing operations financed by international organizations. The conclusion was that its fiduciary risk was low. Nonetheless, taking into account the expected method and magnitude of procurement and the most recent review of procurement and disbursements performed by an independent audit firm on operation ATN/ME-16143-GU, executed by Alterna, the analysis found that there were issues related to the internal control of the entity and operation that required its attention to ensure that the proposed program would be managed appropriately. The internal control issues identified in the audit report were as follows: (i) a procurement specialist had not been hired; (ii) there was only one signature on Alterna's checks; (iii) no date was recorded on bank reconciliation statements; and (iv) there were no copies of paid checks. Alterna is deemed to have resolved these issues through mitigation measures (in the case of the procurement specialist) and the implementation of recommendations (for items (ii), (iii) and (iv)). The findings related to institutional aspects, such as registration with the Special Verification Office of the Superintendency of Banks, and compliance on the part of

international consultants with the Migration Act, are being rectified by the entity and should be resolved before the program begins. The following mitigation measures were identified: (i) designating a full-time financial specialist; (ii) hiring a consultant specializing in procurement with experience applying the Bank's policies; (iii) implementing actions contained in the action plan to address the recommendations of the independent audit firm; (iv) executing a training, assistance, support, and financial and procurement oversight plan; (v) updating and supplementing Alterna's procurement procedures manual developed under operation ATN/ME-16143-GU, taking into account the nature of the processes planned for the program; and (vi) incorporating specific procurement and financial management procedures, with a focus on managing guarantee funds, into the program Operating Regulations.

#### **IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE AGREEMENT**

- 4.1 The exchange rate used for program fund accountability will be the one reported by Banco de Guatemala the day on which the payment transaction is carried out. Any profits derived from exchange rate differentials and interest will be used to cover expenses relevant to the program's objectives.

#### **V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION**

- 5.1 All procurement will be executed in accordance with the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15). Any methods described in the above policies, including Appendix 4, and Alterna's procurement procedures manual, may be used, provided that: (i) they are identified in the procurement plan approved by the Bank; (ii) individuals, enterprises, and goods and services from the Bank's member countries, and any countries that are eligible according to the agreement to be signed between the Bank and the Donor, be allowed to participate; and (iii) individuals and enterprises sanctioned by the IDB Group, and any mentioned in the aforementioned agreement, be prohibited from participating, in accordance with the following:
  - a. **Procurement of goods and nonconsulting services.** The procurement of goods and nonconsulting services will be executed using the methods and documents found in Alterna's procurement procedures manual. In the event that procurement takes place in amounts that, according to the program's thresholds, require competitive bidding, calls for proposals will be made through widely viewed media. Deadlines for the preparation and submission of proposals will be appropriate, and the procedures implemented will ensure that there is sufficient competition to achieve reasonable prices. The following is also required: (i) the methods used to evaluate and select proposals will be transparent and made available to all participants; and (ii) proposals will be opened, and the results released publicly, and grievances or challenges from participants will be accepted. The program's sector specialist will be responsible for reviewing technical specifications and procurement processes.



- b. **Selection and contracting of consulting firms.** Consulting services will be contracted using the methods and documents found in Alterna's procurement procedures manual. For contracting that, according to the program's thresholds, falls into the international bidding category, calls for proposals will be publicized internationally. The program's sector specialist will be responsible for reviewing terms of reference and contracting processes.
- c. **Selection of individual consultants.** Individual consultants may be selected by comparing the qualifications of at least three candidates.

5.2 **Program thresholds.** The thresholds recommended for the program are as follows:

Thresholds (US\$)		
Competitive bidding <sup>2</sup>	Shopping <sup>1</sup>	Consulting services <sup>3</sup>
≥ US\$25,000	< US\$25,000	≥ US\$200,000

5.3 **Main procurement items.** These will be apply for consulting firms, individual consultants, and nonconsulting services. Alterna will be responsible for preparing the procurement plan,<sup>4</sup> and the project team leader will ensure that the plan is appropriate and meets quality requirements.

Main procurement items (€)			
Activity	Selection method	Estimated date of call for proposals/ invitation	Estimated amount
<b>Nonconsulting services</b>			
Services and logistics for workshops (10 bidding processes)	Shopping	06/2021	139,339
Services of a financial entity to manage the funds allocated for guarantees (two processes)	NCB	12/2021	60,080
<b>Consulting services (firms)</b>			
Design of communication and training strategy	QCBS	05/2021	1,380,000
Consulting firm for technological innovation	QCBS	07/2021	200,000
Audit	QCBS	08/2021	100,000
<b>Individual consultants</b>			
Consultants for program execution (nine processes)	3 CVs	06/2021	759,272

(\*) To access the 18-month procurement plan, [click here](#).

<sup>2</sup> Includes goods and nonconsulting services.

<sup>3</sup> International shortlist.

<sup>4</sup> Documents GN-2349-15 (paragraph 1.18) and GN-2350-15 (paragraph 1.25). The Beneficiary will prepare and, prior to negotiating the nonreimbursable investment financing agreement, submit an acceptable procurement plan for an initial period of at least 18 months to the Bank for its approval.

- 5.4 **Procurement supervision.** The procurement supervision method will be ex ante. The audit entity will issue a mandatory technical or expert opinion on the findings in procurement-related audit reports. It will also offer the project team leader technical guidance on complex or large-scale processes, or in situations of risk that could affect the program's execution.
- 5.5 **Records and files.** Alterna will be responsible for maintaining the program's records and files. The program's reports will be prepared and filed using the agreed upon formats and procedures, which will be described in the program Operating Regulations.

## **VI. FIDUCIARY AGREEMENTS AND REQUIREMENTS FOR FINANCIAL EXECUTION**

- 6.1 **Programming and budget.** Budgetary management under the investment grant will be the responsibility of Alterna's Administrative Office, which will have a financial specialist in charge of monitoring the availability of funds from the Bank.
- 6.2 **Accounting and information systems.** Accounting and records for the investment grant will be managed with Nescer StarConta, a software program used by Alterna that facilitates multicurrency transactions. As Alterna performs all of its transactions in quetzales, it does not use this feature, so records will be kept in Excel in order to justify expenses in the operation's currency.
- 6.3 **Disbursement and cash flow.** The Bank will disburse investment grant resources to a dollar-denominated bank account used by Alterna specifically for the program as advances of funds. The reimbursement-for-expenses modality will be used to pay Alterna staff who support the program part time. Advances of funds under the investment grant will be made on the basis of a financial plan for the following six months, or other reasonable period considering the Donor's disbursement schedule for these funds, once the payments are duly issued and documented. Subsequent disbursements may be made when 80% of the previous advances have been justified. If necessary, the use of the exceptions set forth in document OP-273-12 may be analyzed. Disbursements will be reviewed on an ex post basis. Other disbursement arrangements may be established at the request of the executing agency, which will be responsible for returning any unused or unexecuted funds to the IDB.
- 6.4 **Internal control and audit.** Alterna does not have internal audit staff within its structure. It does, however, possess an organizational structure, manuals, and regulations that describe the functions and minimum levels of responsibility for internal control of transactions. Financial management and internal control systems will need to be established in the program Operating Regulations specifically for the investment grant.
- 6.5 **External control and reporting.** Alterna will submit annual financial reports, audited by an independent audit firm acceptable to the Bank, for investment grant funds to the Bank within 90 days of the close of the respective fiscal year. The final report will be submitted within 60 days of the end of the disbursement period in effect. The costs of the audit will be financed with program funds, and the terms of reference for the audit contract will have been previously agreed upon, and will have received the Bank's no objection. The Bank may request unaudited financial reports from Alterna, as well as documents and reports with the level of detail required by the Donor.

- 6.6 **Financial supervision plan.** At least one supervisory visit should be conducted each year. Unaudited financial information prepared by the executing agency should be reviewed, and any observations, findings, and recommendations provided in external audit reports should be monitored.
- 6.7 **Execution mechanism.** Alterna will be responsible for executing the investment grant through its Administrative Office, which will manage budget, accounting, and treasure entries, including payments. The Cultivation Department will grant final approval for transactions with the Bank and third-party payments.
- 6.8 **Other financial management agreements and requirements.** The program Operating Regulations will establish criteria and other conditions to manage the funds allocated for the guarantee.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/21

Guatemala. Nonreimbursable Investment Financing GRT/ \_\_\_/-GU  
and Nonreimbursable Technical Cooperation ATN/\_\_\_-GU  
for the project “Efficient Use of Firewood and Alternative Fuels in Rural and  
Indigenous Communities of Guatemala”

The Board of Executive Directors

RESOLVES:

1. Authorize the President of the Inter-American Development Bank (“Bank”), or such representative as he shall designate, in the name and on behalf of the Bank, to enter into such agreement or agreements as may be necessary with Asociación Alterna, for the purpose of granting it a nonreimbursable financing for the project “Efficient Use of Firewood and Alternative Fuels in Rural and Indigenous Communities of Guatemala”, in the terms of the project proposal contained in document \_\_\_\_\_, and in accordance with the agreement or agreements indicated in paragraph 3 below, and adopt any other measures as may be pertinent for the execution of the aforementioned project proposal.

2. Such nonreimbursable financing corresponds to: a sum of up to €8,520,000 for investment, and a sum of up to €2,480,000 for technical cooperation; both chargeable to the resources granted by the NAMA Facility, through the Deutsche Gesellschaft Für Internationale Zusammenarbeit GmbH (GIZ) in its capacity as administrator of the NAMA Facility.

3. Authorize the President of the Bank, or such representative as he shall designate, in the name and on behalf of the Bank, to enter into such agreement or agreements with GIZ as may be necessary to receive and administer the resources for the purposes described in the project proposal specified in paragraph 1 above, and to adopt any other measures as may be pertinent for the execution of said agreement or agreements.

4. That the authorization granted in paragraph 1 above will be effective once the Bank and GIZ have entered into the corresponding agreement or agreements to which reference is made in paragraph 3.

(Adopted on \_\_\_, 2021)

**EFFICIENT USE OF FIREWOOD AND ALTERNATIVE FUELS IN INDIGENOUS AND RURAL  
COMMUNITIES IN GUATEMALA**

**GU-G1004**

**CERTIFICATION**

The Grants and Co-Financing Management Unit (ORP/GCM) certifies that the referenced operation<sup>1</sup> will be financed through:

<b>Funding Source</b>	<b>Fund Code</b>	<b>Currency</b>	<b>Amount Up to</b>
Cofinancing Special Grants	COF	USD	10,053,600

The agreement with the executing agency or the commitments to be entered into by the Bank of the resources corresponding to this certification must be made in the currency of the fund that finances each budget line. No resources of the fund may be used to cover amounts greater than the certified amount for the implementation of this operation. Amounts greater than the certified may originate from commitments stipulated in contracts that are denominated in a currency other than the currency of the fund, which may result in losses due to currency exchange rate fluctuations, representing a risk that will not be absorbed by the fund.

Certified by:

**\*Original signed\***

February 4, 2021

\_\_\_\_\_  
Maria Fernanda García  
Chief  
Grants and Co-Financing Management Unit  
ORP/GCM

\_\_\_\_\_  
Date

<sup>1</sup> In case of Project Specific Grants (PSG) or Financial Intermediary Fund (FIF), the availability of resources is contingent upon the signature of the agreement between the Donor and the Bank and the receipt of the resources.

**EFFICIENT USE OF FIREWOOD AND ALTERNATIVE FUELS IN INDIGENOUS AND RURAL COMMUNITIES  
IN GUATEMALA**

**GU-T1305**

**CERTIFICATION**

The Grants and Co-Financing Management Unit (ORP/GCM) certifies that the referenced operation<sup>1</sup> will be financed through:

<b>Funding Source</b>	<b>Fund Code</b>	<b>Currency</b>	<b>Amount Up to</b>
CofinancingSpecial Grants	COF	EUR (USD eq)	2,480,000 (2,926,400)

The agreement with the executing agency or the commitments to be entered into by the Bank of the resources corresponding to this certification must be made in the currency of the fund that finances each budget line. No resources of the fund may be used to cover amounts greater than the certified amount for the implementation of this operation. Amounts greater than the certified may originate from commitments stipulated in contracts that are denominated in a currency other than the currency of the fund, which may result in losses due to currency exchange rate fluctuations, representing a risk that will not be absorbed by the fund.

Certified by:	<b>*Original signed*</b>	April 19, 2021
	<hr/> Maria Fernanda García Chief Grants and Co-Financing Management Unit ORP/GCM	<hr/> Date

<sup>1</sup> For operations financed by funds where the Inter-American Development Bank (IDB) does not control liquidity, the availability of resources is contingent upon the request and the receipt of the resources from the donors. Additionally, in case of operations financed by funds that require a post-approval agreement with the donor, the availability of resources is contingent upon the signature of the agreement between the Donor and the IDB. (i.e.: Project Specific Grants (PSG), Financial Intermediary Funds (FIF), and single donor trust funds).