

NAMA Support Project Proposal¹

To the Members of the NAMA Facility Board
NAMA Facility - Technical Support Unit (TSU)
contact@nama-facility.org
c/o Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Köthener Str. 2-3
10963 Berlin / GERMANY

Project Title:	Efficient use of fuelwood and alternative fuels in indigenous and rural communities in Guatemala
submitted by	The Inter-American Development Bank (IDB) and the Ministry of Economy (MINECO) through the National Competitiveness Programme (PRONACOM)

The following documents and annexes are enclosed:²

	General Part: General Information on the NAMA Support Project
	Specific Part: Technical Cooperation
	Specific Part: Financial Cooperation
	Annex 1: Assessment of Implementing Partners and Cooperation Structure
	Annex 2: Theory of Change
	Annex 3: Logframe
	Annex 4: Gantt Chart (incl. milestones)
	Annex 5: Detailed Budget
	Annex 6: Monitoring Plan
	Annex 7: GHG mitigation potential
	Annex 8: Business model and financial support mechanisms
	Annex 9: Environmental, Social Impact Assessment and Climate Proofing
	Annex 10: Minutes of Meeting Signed by National Government / Letter of Endorsement
	Annex 11: Analysis of the Market of Improved Wood Stoves and Biogas in Guatemala
	Annex 12: Analysis and development of financial products to facilitate access to clean cooking technologies to the target market under the NSP implementation
	Annex 13: Analysis and development of mechanisms for the distribution of clean cooking technologies in the selected territories for the NSP
	Annex 14: Analysis and proposal of minimum standards for ICS and biodigestors for the NSP implementation in Guatemala

¹ Latest version; 3rd call Status: final.

² All documents must be provided in English language. If necessary, please provide a translation.

	Annex 15: Initial design of the MRV system
	Annex 16: Analysis and proposal of synergies between the NSP and existing initiatives, programmes and projects in Guatemala
	Annex 17: Analysis and development of financial mechanisms for the NSP implementation
	Annex 18: Biodigestors: Results of the appraisal phase and recommendations for the NSP

Please delete the italic text passages after filling in the form.

Place, date

Legally binding signature –
Delivery Organisation

Place, date

Legally binding signature –
Delivery Organisation

List of abbreviations

AECID:	Spanish Agency for International Development Cooperation
AGG:	Association of Managers of Guatemala
BCC:	Behavioural Change Communication
BMUB:	German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
CADER:	Learning Centres for Rural Development
CCT:	Controlled Cooking Test
CHN:	National Mortgage Credit
COCODE	Community Development Commission
CODEDE:	Departmental Development Council
COFETARN:	Commission for Economic Development, Tourism, Environment & Natural Resources
COGUANOR:	Guatemalan Commission of Standards
COMUSAN:	Municipal Commission for Food and Nutrition Security
CONCYT:	National Council for Science and Technology
CSO:	Civil Society Organization
DECC:	UK Department of Energy and Climate Change
DICORER:	Direction of Regional Coordination and Rural Extension
DIGEFOSE:	General Direction for the Strengthening of the Education Community
DMM:	Municipal Direction of Women
DO:	Delivery Organization
DPP:	Direction of Livestock Production
EE:	Energy Efficiency
ECLAC:	United Nations Economic Commission for Latin America and the Caribbean
ER:	Emission Reduction
EU:	European Union
FAO:	Food and Agriculture Organization of the United Nations
FC:	Financial Cooperation
FI:	Financial Institution
FIP:	Forest Investment Plan
FLRM:	Forest & Landscape Restoration Mechanism
	Financial Cooperation

FOCAEP:	The Sustainable Energy Access Fund for Poverty Reduction in Central America
GACC:	Global Alliance For Clean Cookstoves
GEF:	Global Environment Facility
GHG:	Greenhouse gas
GDP:	Gross Domestic Product
G&T:	Continental Financial Group G&T
GID:	General Information Document
GIZ:	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GNG:	Good Neighbors Guatemala
ICS:	Improved Cook Stoves
IDB:	Inter-American Development Bank
INAB:	National Institute of Forests
INTECAP:	Technical Institute of Capacity and Productivity
ITYF:	Instituto Trabajo y Familia
JICA:	Japan International Cooperation Agency
KfW:	KfW Development Bank
KOICA:	Korea International Cooperation Agency
KPT:	Kitchen Performance Test
LEDs:	Low-Emission Development Strategies
LPG:	Liquefied petroleum gas
MAGA:	Ministry of Agriculture, Livestock and Food
MARN:	Ministry of Environment and Natural Resources
M&E:	Monitoring and Evaluation
MIDES:	Ministry of Social Development
MINECO:	Ministry of Economy
MINEDUC:	Ministry of Education
MINFIN:	Ministry of Finance
MRV:	Monitoring, Reporting, Verification
MSPAS:	Ministry of Health
NDC:	Nationally Determined Contributions
NGO:	Non-Governmental Organization
NSP:	NAMA Support Project
ODA:	Official Development Assistance
PRONACOM:	National Competitiveness Programme
RE:	Renewable Energy
REDD+:	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
R&D:	Research & Development
SNV:	Netherlands Development Organization
SACCO:	Saving and Credit Cooperative
S&L:	Standard & Labelling
SGCC:	Guatemala Climate Change Sciences System
SOSEP:	Secretary of Social Work of the President's Wife
SNICC:	National Information System on Climate Change
TC:	Technical Cooperation
ToC:	Theory of Change
ToT:	Training of Trainer
TPDDTEC:	Technologies and practices to displace decentralized thermal energy consumption
TSU:	Technical Support Unit
UNDP:	United Nations Development Programme
URL:	Rafael Landivar University
USAC:	San Carlos University
USAID:	United States Agency for International Development
UVG:	University Del Valle of Guatemala

VAT: Value Added Tax
WBT: Water Boiling Test
WHO: World Health Organization

A comprehensive glossary is available on the [website](#) of the NAMA Facility.

Please add the abbreviations specific to your project to the list!

General Part

1. General Information on the NAMA Support Project		
1.1. Project data	Project signature	<i>As stated in the board decision mandating the project appraisal.</i>
	Project number TC	<i>To be assigned by GIZ.</i>
	Project number FC	<i>To be assigned by KfW.</i>
	Project title	Efficient use of fuelwood and alternative fuels in indigenous and rural communities in Guatemala
	Country of implementation	Guatemala
	Project start	[09/2018]
	Project termination	[08/2023]
	Sector	Energy efficiency
	Emission allowances	<p>Is NAMA Facility funding used directly for generating emission allowances, emission credits, or any other type of CO₂ compensation certificates (in the following: certificates) during the funding period?</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Will the tradable certificates generated by the project during the funding period be permanently cancelled: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>If certificates are generated during or after the NAMA Facility funding period, please specify the corresponding carbon market mechanism or emission trading system, the corresponding name of the certificates and the register where the cancellation is accounted:</p> <p>Gold Standard for voluntary market</p>
1.2. National Ministry / Entity 1	Name of national Ministry/Entity	National Competitiveness Program (PRONACOM) of the Ministry of Economy
	Department	National Agenda for Competitiveness
	Postal Address	13 Calle 3-40 zona 10, Edificio Atlantis, tercer nivel, oficina 302
	Country	Guatemala
	Contact Person	Francisca Cárdenas / Ana Calderón / Luis Carlos Orellana
	Telephone	+(502) 2421-2464
	E-mail	fcardenas@pronacom.org/acalderon@pronacom.org / lcorellana@pronacom.org
	Support	Cf. endorsement letter in Annex 10
	National Ministry	Name of national

/ Entity 2 – if applicable	Ministry/Entity	Resources (MARN)
	Department	Climate Change Directorate
	Postal Address	7 avenida 03-67, zona 13
	Country	Guatemala
	Contact Person	Silvia Zuñiga David Barrera
	Telephone	(502) 2423-0500
	Telefax	
	E-mail	sjorellana@marn.gob.gt debarrera@marn.gob.gt
	Support	Cf. endorsement letter in Annex 10
1.3. Delivery Organisation FC	Name	Inter-American Development Bank
	Type of institution	Development bank
	Department	Energy Division –INE/ENE- Climate Change and Sustainability Division –CSD/CCS-
	Postal address	3 avenida 13-78, zona 10 Edificio Citigroup Nivel 10, 01010
	Country	Guatemala
	Contact	Javier Cuervo / / Omar Samayoa.
	Telephone	+1 (202) 6232145 +(502) 2379-9393
	Telefax	
	Email	javiercu@iadb.org/ omars@iadb.org
	Website	www.iadb.org
1.4. Delivery Organisation TC	Name	Inter-American Development Bank
	Type of institution	Development Bank
	Department	Energy Division –INE/ENE- Climate Change and Sustainability Division –CSD/CCS-
	Postal address	3 avenida 13-78, zona 10 Edificio Citigroup Nivel 10, 01010
	Country	Guatemala
	Contact	Javier Cuervo / / Omar Samayoa.
	Telephone	+1 (202) 6232145 +(502) 2379-9393
	Telefax	
	Email	javiercu@iadb.org/ omars@iadb.org
	Website	www.iadb.org
1.5. Implementing partner(s)	<p><i>Please name implementing partners and at least one contact person for each partner (name and email contact). More details to be found in Annex 1.</i></p> <p>TC and FC: PRONACOM Contact: Francisca Cárdenas / Ana Calderón / Luis Carlos Orellana - fcardenas@pronacom.org; acalderon@pronacom.org;</p>	

	lcurellana@pronacom.org
--	----------------------------------------------------------------------

2. Project concept

Please provide information on the overall NSP.

Specific information on the two components (financial and technical cooperation) shall be given in sections 4-6.

2.1 Project abstract [approx. 2000 characters]

Please provide a summary description of the overall project that can be used for public presentations in four paragraphs:

- *Paragraph 1: Starting situation, context, main challenges regarding low-carbon development in the country and sector (see 2.3), embeddedness into the wider NAMA.*

According to the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), Guatemala is the country that reports the highest consumption of firewood in Central America³. The energy sector is the second highest emitting sector with 39% of total emissions and firewood represents 57% of the total energy matrix. A total of 1,992,430 households (69.6%) use firewood to meet energy needs. Total annual demand for firewood is estimated to 16 million tons of dry basis fuelwood, equivalent to approximately 39,994.9 annual thousand barrels of oil equivalent (kboe)⁴. Wood consumption assumes its greatest magnitude in rural households, which are also the poorest, representing approximately 86.5% of total demand. Firewood dry basis deficit was 5 million tons in 2010, generating approximately 8.7 million tCO₂e/year⁵. About 49% of fuelwood is extracted from natural forest for existing demand to be satisfied⁶.

Besides climate and environmental threats, the unsustainable use of fuelwood presents severe health challenges for their users. It is estimated that about 70% of Guatemalan households using fuelwood are at high risk of cardiac and respiratory diseases, mostly children and women, deriving losses equivalent to one percent of the GDP and more than 5,000 deaths per year.

According to population growth statistics for the next ten years, it is estimated that there will be an average increase of 65,000 new families per year using firewood as their main source of energy; a trend that is not foreseen to change over the next 30 years. This, combined with the increasing poverty and extreme poverty rates in Guatemala, will exacerbate the problem. Preliminary financial assessments done in Guatemala determined that the subsectors of energy efficiency (EE) and renewable energy (RE) represented a major opportunity to reduce emissions⁷.

The NSP proposal builds on the results of the seven studies conducted during the appraisal phase (2017) and the information generated by the five socialization workshops conducted in October 2017 in the target departments with the participation of 286 participants, among which 34% of women, from local governmental institutions, local authorities, municipalities, commonwealth, financial institutions, manufacturers, distributors, financial institutions, academia, civil society (including rural and indigenous associations), NGOs and international cooperation.

- *Paragraph 2: Project objectives and planned measures (concept).*

³ ECLAC (2007). Estrategia energética sustentable centroamericana 2020 <http://biblioteca.olade.org/opac-tmp/Documentos/cg00422.pdf>

⁴ INAB-URL/IARNA-FAO (2012) Oferta y demanda de leña en la República de Guatemala "Woodfuel Integrated Supply/Demand Overview Mapping" <http://recursosbiblio.url.edu.gt/publicig/IARNA/coediciones/58coe2012.pdf>

⁵ One ton of dry basis firewood=1,88 tCO₂

⁶ Opere citato in footnote 4, p.18

⁷ MARN (2015) Segunda Comunicación sobre cambio climático en Guatemala, <http://www.marn.gob.gt/Multimedios/2562.pdf>

The project aims at improving the efficient use of firewood and promoting alternative fuels in rural and indigenous communities in the five departments by strengthening access to ICS Improved Cook Stoves (ICS) as a way to reduce GHG emissions in the energy sector in Guatemala.

To that endeavour, the project focuses on the three strategic pillars defined by the Action Plan of the *National strategy for sustainable wood production and use in Guatemala*⁸: (i) improving access to efficient cooking technologies; (ii) increasing demand, and (iii) promoting an enabling environment.

- *Paragraph 3: Target group(s), beneficiaries and main stakeholders.*

The **target group** of this project are rural and indigenous communities –the main consumers of firewood in the country- living in poor and extremely poor living conditions in the municipalities prioritized by the Action Plan of the *National strategy for sustainable wood production and use in Guatemala* in the departments of Alta Verapaz, Quiché, Huehuetenango, San Marcos and Chiquimula, based on their firewood deficit, food insecurity and the presence of a Municipal Forest office, besides being part of PRONACOM's regional nodes of Cobán, Oriental Metropolis and Huehuetenango. Given its market-oriented approach, the NSP is likely to have a spill-over effect in other departments in terms of increased demand and the structuration of a market. In such case, the intervention in other departments could be considered if significantly contributing to the NSP objectives.

Beneficiaries: the project will benefit to 1.1 million people mostly indigenous women and children in rural areas and indigenous communities, living in poor and extremely poor conditions⁹. They will be direct beneficiaries of capacity development activities and increased access to funding, while also receiving indirect economic and health benefits derived from the adoption of ICS.

The project is also expected to directly benefit to 5,000 additional people (public officers, extension agents and technical staff from partner organizations, and community support agents) as recipients of capacity development activities implemented as part of the TC. Some 40 ICS manufacturers and distributors will also directly benefit from increased access to tailored funding under the FC and capacity development activities. 3,750 jobs will be created in the value-chain.

The main stakeholders are:

- TC: national governmental institutions (INAB, MARN, MINEDUC, MIDES, MSPAS, MAGA), the Sustainable Firewood Interinstitutional Commission, composed by government entities (hereinafter “The Firewood Commission”), the Cluster for Improved Cookstoves and Clean Fuels (hereinafter “the Cluster”), other manufacturers and distributors, local authorities, municipalities, commonwealth and governmental institutions, academia, civil society and international cooperation with coverage in the prioritized departments of the NSP.

- FC: Micro-finance institutions, savings and loans cooperatives, as well as national private banks with coverage in the prioritized departments of the NSP to design and implement financial products aimed at the market segment interested in acquiring technologies and manufacturers.

- *Paragraph 4: Ambition and expected impact of the project : Potential for transformational change, GHG mitigation potential, Financial ambition and Co-benefits*

⁸ INAB (2015) Estrategia Nacional de Producción Sostenible y Uso Eficiente de Leña 2013 - 2014 <http://www.usaid-cncg.org/wp-content/uploads/2015/07/Estrategia-produccion-y-uso-le%C3%B1a-v6.pdf>

⁹ The National Institute of Statistics of Guatemala (INE from its Spanish acronym: Instituto Nacional de Estadística Guatemala) defines people living in extreme poverty as those who are not able to cover their food needs, and population living in poverty, those who can cover their food needs, but not the additional minimum cost for others basic goods and services. In Guatemala, the poverty line is set at Q4,3 earning per day.

The main transformational change expected from the NSP is to have a fully operating ICS market (supply and demand) which will be achieved through the following main results:

- Enhanced regulatory framework (ICS norm) and incentives (S&L scheme) for manufacturers to adopt minimum standards of production and altering the behaviour of a greater number of consumers (scope and sustainability)
- A synergetic scheme of cooperation between the different value chain actors is in place to create new path dependencies and generate a sustained increase in demand for ICS (scope)
- Enhanced production and distribution capacity to meet demand.
- The creation of replicable, scalable and long-lasting financial instruments for consumers, manufacturers and distributors facilitating the production and uptake of the technology (scope and catalytic effect)
- Enhanced institutional capacities to implement and advocate for a low-carbon residential sector and to move the country towards low-carbon energy patterns (sustainability)

GHG mitigation potential:

- Mitigation potential from ICS: 1.3 MtCO₂e by the end of the project (225,000 ICS in 5 years).
- Indirect mitigation effect (beyond NSP): 7.1 MtCO₂e will have been accumulated by year 10.

Financial ambition:

- Leverage at least EUR (€) 16.4 million from the private sector for credits and micro credits for the production and purchase of ICS through corporations and private financial institutions and loans to manufacturers and distributors.
- Leverage of at least EUR (€) 1.3 million as in-kind contributions that will be provided across all proposed actions (experts, services, logistics, other expenses).

and

- Possibility to tap into carbon finance with the emission reductions generated by the project up to EUR (€) 5.5 million¹⁰. The corresponding resources could be used to ensure the proper use and maintenance of the stoves as well as ensuring the impact of the project over time in terms of continued emission reductions.

Co-benefits: The NSP co-benefits include:

- the reduction in forest degradation, avoiding the extraction of 998,000 tons of firewood;
- the creation of 3,750 jobs in the sector dynamizing local economies and improving the inclusiveness of ICS value-chain;
- health benefits for approximately 1.1 million people, mostly indigenous women and children living in rural areas and indigenous communities;
- Financial savings on the cost of purchasing firewood between 17% and 24% with a firewood ICS (cf Annex 8); or corresponding time reduction on firewood collection.
- improved capacity of 5,000 public officers, extension agents, technical staff from partner organizations and community support agents; and 40 ICS manufacturers and distributors.
-

¹⁰ Based on the current average price of 1t CO₂e of USD 5.

2.2 Starting situation and embeddedness

- Please describe the starting situation that you want to address (i.e. the reference scenario / baseline).
- The development of an access system for ICS and alternative fuels is a growing priority for the Guatemalan government. To address the problem, a Strategy and an Action Plan for the sustainable production and efficient use of firewood use was developed and adopted in 2015¹¹.
- Although there is a need for 1.9 M ICS, this need has not converted into a demand- current sales are estimated to 22,900 per year¹²- therefore the manufacturers have not increased their production capacities. An increase in demand for these technologies would provide incentive for the manufacturers to seek financing to meet market demand.
- Characteristics of the market:
 - At national level: about 85% of firewood consumption is concentrated in rural areas, which are characterized by the increased prevalence of poverty and extreme poverty¹³, particularly among the indigenous population¹⁴. It is estimated that 34% of Guatemalan households using open fire are most likely to adopt cleaner cooking technologies in the near future. In particular, indigenous households may transition more easily to ICS than to adopt alternative fuels such as LPG because of 1) the traditional value of abundance attached to firewood cooking and 2) their colder habitat where wood stoves warm the home¹⁵.
 - In the five target departments: 98.4% of rural households still depend on the firewood to meet their energy needs, mainly for cooking. This represents 598,194 households, approximately 19% of households nationwide. Poverty is almost constant in this target group: 77.8% live below of the poverty line. Of these, 36.7% are found in extreme poverty.
 - The level of income affects the level of support that the population needs to acquire good and segments the population. The market study identified two main segments in the target market:
 - The segments with purchase capacity, which include: households that collect firewood (represents 8% of the target market), households that buy firewood (13%), poor households that collect firewood (21%), and poor households who buy firewood (20%). For this segment, the purchase of ICS could be facilitated by having access to micro-credit.
 - The segment with no purchase capacity includes firewood buyers in extreme poverty (12%) and households in extreme poverty that do not pay for firewood (the biggest segment: 25% of the target market). For this segment to access ICS, the provision of subsidies is indispensable,

¹¹ Opere citato in footnote 8.

¹² See distribution analysis, Annex 13.

¹³ Over the last 15 years, poverty and extreme poverty have increased from 56,4% in 2000 to 59,3% in 2014 and from 15.7 to 32,4% respectively, being highest in the rural areas.

¹⁴ "Indigenous households" are defined in the national census as having a head of household whose mother language is indigenous. The incidence of total poverty is higher within the indigenous population (79.2%) than for non-indigenous people. Cf. *National Living Conditions Survey -ENCOVI- 2014*, <https://www.ine.gob.gt/sistema/uploads/2015/12/11/vjNVdb4IZswOj0ZtuivPlcaAXet8LZqZ.pdf>

¹⁵ Fast-Track Carbon para la Alianza Global para Estufas Limpias (2016) Segmentación de Mercados para Estufas Mejoradas y Combustibles Limpios en Guatemala <https://cleancookstoves.org/binary-data/RESOURCE/file/000/000/454-1.pdf>

	<p>according to the analysis of financial instruments conducted in the appraisal phase¹⁶.</p> <ul style="list-style-type: none"> • There has been a multitude of initiatives aimed at promoting ICS but none has really succeeded in upscaling the use and sustainable adoption of ICS in Guatemala. • The development of the Firewood Commission has facilitated inter-institutional and multi-sectoral coordination, enabled the synergies between interested parties as well as raised the importance of increasing the efficient use of firewood and alternative fuels at a national scale. Yet, the capacities of the Commission need to be strengthened in order to increase the scale and impact of its actions. • There is a lack of articulation among supply actors in the ICS value chain, in particular in rural areas, and a lack of consumer focus. • While there is a consensus on the minimum initial parameters for the ICS to be promoted as part of the NSP, there still is a need to adopt regulations and standards, as well as programs of best practices and labelling at the national level to ensure the quality of the technologies on the market, while strengthening the capacities of all interested actors to comply with them. • On the demand side, the challenge is to reach scale in terms of potential users targeted by raising-awareness campaigns, to enable them to choose among a variety of models, to provide them with tailored financial mechanisms to facilitate the purchase, to strengthen their capacity to use and maintain them as well as to ensure their access to post-sales services. • The implementation of the national system of information on climate change (SNICC) developed by MARN has been limited, there is currently no methodology neither capacity at national level to run an MRV system and process. Counting with a solid MRV method to account for emissions generated by the efficient use of firewood is key because the firewood sub-sector was included as one of the main sectors to meet the NDC. • There is a need to complement national efforts with the sustainable production of firewood- the other axis of the national strategy of firewood. • <i>Please describe the national climate policy context. Include a description of the country's mitigation strategy and plans to address climate change. Specify whether/how national targets relate to international agreements, especially to emission reduction pledges, Intended Nationally Determined Contributions (INDC) and the 2°C limit.</i> • At the legal level, the “Ley Marco para Regular la Reducción de la Vulnerabilidad, la Adaptación Obligatoria ante los efectos del Cambio. Climático y la Mitigación de Gases de Efecto Invernadero” (<u>Framework Law to Regulate the Reduction of Vulnerability, Compulsory Adaptation to the Effects of Climate Change and the Mitigation of Greenhouse Gases</u>) adopted in 2013 through Decree 7-2013¹⁷, defines a set of instruments for mitigation and adaption to climate change, in particular Article 11 that mandates the formulation of a Plan de Acción Nacional de Cambio Climático- PANCC (National Climate Change Action Plan) which was adopted in 2016¹⁸; and Article 18 that mandates the formulation of a Plan Nacional
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

¹⁶ Annex 12: Analysis and development of financial products to facilitate access to clean cooking technologies to the target market under the NSP implementation

¹⁷ Ley Marco para Regular la Reducción de la Vulnerabilidad, la Adaptación Obligatoria ante los efectos del Cambio. Climático y la Mitigación de Gases de Efecto Invernadero https://conred.gob.gt/site/documentos/base_legal/ley_cambio_climatico.pdf

¹⁸ Consejo Nacional de Cambio Climático (2016) Plan de acción nacional de cambio climático . En cumplimiento del Decreto 7-2013 del Congreso de la Republica. Guatemala: Segeplán, 2016. <http://sgccc.org.gt/wp-content/uploads/2016/10/Plan-de-Accio%CC%81n-Nacional-de-Cambio-Clima%CC%81tico-ver-oct-2016-aprobado-1.pdf>

de Energía (National Energy Plan) which was adopted in 2017 . Its Decree 9 also establishes the National Information System on Climate Change (SNICC) and underscores the need for all public and private companies to provide information on their emissions and about reduction activities. The SNICC includes three subsystems that are: Climate Science, Vulnerability and Adaptation as well as Emissions and removals of Greenhouse Gases. Within the latter appear the "mitiga¹⁹ion strategies" and within it the CDM and also the NAMAs and the NDCs.

- At the strategic level, the Política Nacional de Cambio Climático (National Climate Change Policy) approved in 2009²⁰ and Decree 7-2013 defines the areas of incidence as follows: I) strengthening national capacities, ii) reducing vulnerability, iii) risk management, iv) climate change adaptation and mitigation; iv) Inter-institutional coordination, especially through the National Council on Climate Change, v) Public awareness and participation, and vi) Financial resources, through the creation of the National Fund for Climate Change.
 - Guatemala presented its National Action Plan of Climate Change during the Conference of Parties -COP-and ratified by the Paris Agreement in 2016. In its Nationally Determined Contribution (NDC), Guatemala commits to an unconditional 11.2% emissions cut in 2030, relative to business as usual projections, or a conditional 22.6% reduction. These targets imply that the estimated emissions of 53.85 million tons of CO2 equivalent (CO2e) for the year 2030, based on business as usual projections, will be reduced to 47.81 million tons of CO2e in 2030 under the unconditional scenario; and to 41.66 million tons of CO2e under the conditional scenario. One of the prioritized sectors to achieve the NDC is the efficient use of firewood.
 - The Política Nacional de Desarrollo- Katún Nuestra Guatemala 2032 (National Development -Katún, Our Guatemala 2032) adopted in 2014²¹ defines as a target that by 2032, CO2 emissions be stabilized at 2.5 tons per capita. In addition, it states that policies, plans and budgets will be oriented towards results management, sectoral policies will be territorialized and public investment will be monitored and recorded with transparency, including the National Policy of Change Climate Change and the National Plans of Action for the Adaptation and Mitigation of Climate Change.
 - Currently, MARN, with the support of the United States Agency for International Development -USAID- is formulating the National Low Emission Development Strategy for the following sectors: change in land use and forestry, energy, industrial processes, transport and waste²².
- *Explain the role of the target sector(s) within the national emission reduction priorities and its(/their) contribution to the overall national GHG emissions scenario. Indicate future emission trends in the target sectors. Which are the main elements that are driving these trends?*

The energy sector is the second highest emitting sector with 39% of total emissions; firewood represents 57 percent of the total energy matrix. Firewood consumption is the highest (85%) in rural areas because of scarce economic resources that prevent them from having access to other energy sources. It is also worth noting that from

¹⁹ Ministerio de Energía y Minas, Ministerio de ambiente y recursos naturales (2017) Plan Nacional de Energía 2017-2032
<http://www.mem.gob.gt/wp-content/uploads/2017/11/Plan-nacional-de-energia.pdf>

²⁰ Ministerio de ambiente y recursos naturales (2009) Política Nacional de Cambio Climático
<http://www.marn.gob.gt/Multimedios/56.pdf>

²¹ Consejo Nacional de Desarrollo Urbano y Rural (2014)
http://www.segeplan.gob.gt/downloads/2015/SPOT/Mandatos_y_Normativas/Políticas/Politica_Nacional_de_Desarrollo.pdf

²² USAID (2016) Guatemala: Construcción de una Estrategia de Desarrollo con bajas emisiones con inclusión socia
http://genderandenvironment.org/wp-content/uploads/2017/05/LEDS-Inclusion-Social_Publicacion2016.pdf

1990 to 2005, emissions from energy in the residential sector have increased, particularly CO₂ and CO by 63 % and 28%, respectively. In this context, 1,992,430 million households annually consume 16 million tons of dry basis fuelwood, generating a deficit of 5 million tons and the emission of 8.7 MtCO₂e / year. Each year, an average of 65,000 new families will consume fuelwood; a trend that is not foreseen to change over the next 30 years.

- *Please describe the business as usual scenario without intervention and the expected effects of the NSP.*

The total annual demand for firewood is currently estimated to 16 million tons of dry basis fuelwood generating 8.7 million tCO₂e/year (INAB, 2015). Firewood consumption levels range from 2 (in Alta Verapaz) to 4.6 (in Huehuetenango) m³/year/capita. Quiché, Huehuetenango, San Marcos are the departments with the largest firewood deficit. About 62% of the national population²³ and 98.4% of rural households in the five target departments²⁴ cook over “open fires”, a highly inefficient cooking technique: it is estimated that of every 100 units of heat generated, 92 units are lost²⁵. Hereinafter, the term “open fire” refers to an in-house fire that is not contained by a fireplace or stove- generally in Guatemala, the open fire is only surrounded by three stones that support the *comal* (traditional round metallic stove) and pots. The open fire is associated with poorly controlled combustion and constant emissions that are inhaled by users.

With the NSP intervention, through the promotion of ICS, it is expected to reduce by i) minimum 40% the use of firewood in controlled laboratory conditions, and 35% in real households conditions with a, improved cookstoves, and enable the GEI mitigation of about 2.3 tCO₂e/year/ improved firewood stove²⁶, equivalent to accumulated 1.3 M tCO₂e by the end of the project (225,000 ICS in 5 years); and 7.1 M tCO₂e accumulated by year 10. About 988,000 tons of dry firewood extraction will be avoided, the NSP will therefore result in a reduction of firewood extraction by 6% based on 2014 figures (16 million tons of dry basis fuelwood extraction).

- *Please describe existing and planned mitigation strategies and activities in the sector. How does the NSP align with development goals, mitigation targets and strategies of the sector? Is the NSP embedded in a wider country-led NAMA? How does the NSP contribute to the wider NAMA?*

Guatemalan Nationally Determined Contribution (NDC)²⁷ defines energy and land use, land use change and forestry as the main sectors to reduce emissions by 2030 given their importance in the national GHG inventories. The sustainable and efficient use of firewood is recognized as a mitigation priority in the energy sector. The NSP will contribute to 11% of the NDC conditional targets by year 5 and to 58% by year 10.

Besides, the NSP directly contributes to the fourth strategic pillar of the National Development Plan Katún 2032 entitled “Natural resources today and for the future”, in its target of installing 70,000 clean cook stoves by 2032.

The NSP is embedded in the Climate Change Law and aligned with the National Climate Change Policy. Besides, it directly contributes to the operationalization of the

²³ Opere Citato in footnote 16.

²⁴ Fast Track Carbon, Market study for ICS in Guatemala (2017) in anex 11.

²⁵ MEM, cited in INAB 2015.

²⁶ These calculations are based on the use of the Gold Standard TPDDTEC methodology. Available in annex 7.

²⁷ Guatemala First NDC (same as INDC)

<http://www4.unfccc.int/ndcregistry/PublishedDocuments/Guatemala%20First/Gobierno%20de%20Guatemala%20INDC-UNFCCC%20Sept%202015.pdf>

National Action Plan of Climate Change, supporting the implementation of mitigation strategies and activities aimed at reducing the emissions of GEI derived from the consumption of firewood at the national level and in particular in rural areas with the highest rate of firewood consumption.

The NSP directly contributes to the implementation of the fifth strategic pillar ("Reducing firewood use in the country") of The Energy Policy (2013-2027), and related targets: installing 100,000 clean cookstoves and building the capacities of users on how to use firewood in an efficient way; substituting firewood by alternative fuel in at least 25% of households..

The NSP will directly contribute to operationalize this policy framework, by supporting the implementation of the following mitigation strategies and activities aimed at improving the sustainable and efficient use of firewood:

- The National Strategy for Sustainable Production and Efficient Use of Firewood 2013-2024, which seeks the installation of 100,000 ICS.
- The National Action Plan for Clean Cookstoves and Fuels developed by the GACC which pursues the same targets.
- The National Policy for Cleaner Production, together with its the Production and Clean Consumption Strategy and its Norm aimed at institutionalizing Cleaner Production as well as generating incentives for the implementation of the strategy in coordination with public and private sectors.
- the Low Carbon Emissions Development Strategy in the energy sector.

By doing so, the NSP will complement the strategies, plans and actions related to sustainable firewood production, sustainable forest management as well as forest restoration- in line with the General Government Policy 2016-2020 target to maintain forest cover at 33.7% by 2019 aligned with SDG 15, and the National Integrated Rural Development Policy (PNDRI) target to Promote the establishment, management and use of energy forests for the sustainable use and production of firewood. The major planned strategies and activities the NSP complements are: 1) The National Strategy for Sustainable Production and Efficient Use of Firewood 2013-2024, which aims at establishing at least 48,000 hectares of energetic plantations and agroforestry systems and reduce the deficit supply of firewood at the national level by 25% by 2024; 2) the National REDD+ Strategy for the reduction of emissions through avoided forest degradation and increased carbon stocks; 3) The Forest Investment Plan (FIP) that prioritizes the restoration of deforested and degraded areas and sustainable forest management. 4) Emissions Reduction (ER) Program of the Forest Carbon Partnership Facility (FCPF)-Carbon Fund is a result-based payment programme for emission reductions that aims to capitalize on the emission reductions generated under the implementation of the REDD+ strategy which includes three projects (Guatecarbon, Lacandón Bosques para la Vida, Red Caribe), existing national forest incentives programmes, and the FIP in Guatemala²⁸. A letter of intention was signed between Guatemala and the Carbon fund in April 2016 for an amount of up to 10.2 M tCO₂e for up to 5 years starting from the year 2020 - among which 1.3 M tCO₂e in the firewood sector through avoided deforestation and degradation, and enhancements of carbon stocks. The payment will take place when the emissions reductions are demonstrated, through an Emission Reduction Purchase Agreement (ERPA). The ER programme is managed by the World Bank, the national implementing partners are MARN, INAB, MAGA, CONAP and MINFIN. IDB is a key stakeholder of the ER programme, for being an implementing partner of the REDD+ strategy and the FIP.

There will be a strong articulation and close coordination with the REDD+ Strategy to

²⁸ Emissions Reduction Program Idea Note (ER-PIN) Country: GUATEMALA (2014), Emissions reduction through strengthening forest governance in vulnerable communities in Guatemala, Executive Summary <https://www.forestcarbonpartnership.org/sites/fcp/files/2014/september/Executive%20summary%20Guatemala%20ER%20PIN%20September%202014.pdf>

	<p>ensure that REDD+ does not account for the emission reductions generated by the NSP. The simplest way found to date is to discount the reductions of the NSP from the reductions generated by REDD+, in other words, adding it to the baseline.</p> <p>The NSP will increase mitigation ambitions in the residential energy sub sector by exceeding all the targets set at national level while enabling mitigation actions to be easily scaled up and replicated beyond NSP duration due to greater national ownership as well as public and private financing of mitigation actions, thereby contributing, on the impact level, to the wider NAMA goal to facilitate a paradigm shift towards low-emission society in line with the Paris Agreement's objective to limit the increase in global average temperature to 1.5/2°C above pre-industrial levels.</p> <ul style="list-style-type: none"> • <i>Please describe the synergies of the NSP with other development goals of the partner country (e.g. sustainable development, economic growth or others).</i> <p>The NSP contributes to the following development goals:</p> <ul style="list-style-type: none"> ○ Economic Growth: the National Agenda of Competitiveness 2016-2032 aims at increasing the economic growth rate by more than 6% per year through the generation of productive jobs by 2032. The NSP also responds to the competitiveness pillars: innovation; efficiency in the financial market; efficiency in the goods market; transversal pillar of environmental sustainability. Finally, synergies will be established with the Plan of the Alliance for Prosperity in the Northern Triangle, a plan focused on promoting development programs that create optimal conditions for Guatemalans, in order to reduce migration to the United States and improve the lifestyle of the Guatemalan population, implemented with the public, private and civil society sectors, supported by the Government of the United States, and led by PRONACOM. ○ "Promotion of MSMEs, tourism, housing and decent and decent work" axis of the Government Policy 2016-2020: the NSP is in line with the following targets: <ul style="list-style-type: none"> ◦ Reducing the qualitative housing deficit by 4% by 2019 as a result of the implementation of land-use planning instruments and regulations that ensure the quality of housing and its sustainability (aligned with SDG 11- Sustainable cities and communities). ◦ By 2019, microcredits increased by 3%; the loan portfolio of the banking system for smaller entrepreneurs increased by 4%; the unemployment rate is reduced; the proportion of women in non-farm paid employment increased (aligned with SDG 5 Gender equality and empowerment of women); the rate of informality in employment is progressively reduced; the underemployment rate decreased (Aligned with SDG 8 Decent work and economic growth). ○ "Food security, comprehensive health and quality education" axis of the Government Policy 2016-2020 (Aligned with SDG 13- Ensuring healthy lives and promote wellbeing for all at all ages): the NSP responds to the target of reducing by half the HDI gap between indigenous and non-indigenous population groups by 2019.
<p>2.3 Barriers for mitigation action</p>	<ul style="list-style-type: none"> • <i>Please provide an analysis and prioritization of the key barriers, which are preventing GHG mitigation in the specific sector (e.g. economic and financial barriers, technical barriers, regulatory and structural barriers, market failures, etc.).</i> <p>According to the diagnosis made by INAB²⁹, and the market, distribution and technology studies study studies realised during the appraisal phase³⁰, there are 3 main barrier groups:</p> <p>Limitations to increase supply:</p>

²⁹ Opere citato in footnote 4 and 8.

³⁰ Cf Annexes 11, 13 and 14.

- There is no consumer focus, evidenced by the lack of structures and services to meet the needs of end users. This is a legacy of the donations of stoves: the donor is the client, not the end user.
- Manufacturers have poor knowledge on the design and manufacture of ICS that meet international standards to reduce emissions. Stoves with a chimney feature a massive penetration in Guatemala, in the target departments 43% of rural households have a stove with chimney, but these stoves do not necessarily save wood, posing competition to more efficient and cleaner cookstoves.
- Manufacturers have limited investment, business and financial planning capacities required to upscale production. There is crucial lack of funding programs and support to facilitate this effort. Manufacturers also lack marketing capacities to trigger demand. Most of them do not provide warranties nor post-sale service.
- Most of ICS are heavy, which limits transport, storage and handling issues. Manufacturers face high distribution costs, often reflected in the final price of ICS. They are often unable to deliver on planned schedule causing stock disruption and affecting demand.
- Weak organization of the industry: the existing ICS cluster lacks representativeness and functionality to make and understand their potential impact.
- ICS are sold primarily in the urban environment and not easily available in rural areas.

Limitations to increase demand:

- Of a total of 598,194 households who cook with firewood in the five departments analyzed by the market study, 54% do not buy firewood but collect it, which means that there is a significant number of households that would not have an economic stimulus to purchase an ICS, but only a time saving stimulus for households where women have an job and less time to dedicate to household duties.
- In all household categories identified by the market study, there is a significant number of families (43% of target market) who have already taken the initiative to acquire a stove with chimney (which does not necessarily imply that these stoves are efficient), meaning that there is a good propensity of the target groups to use improved technologies. On the other hand, this factor also implies that the potential demand for ICS will be affected by the percentage of users who have already purchased a stove with chimney.
- Financial barriers:
 - The average price of ICS is Q1,500 (USD~ 200) which determines a very low demand (10%) for the product in rural areas.
 - Lack of financial products to purchase cooking technologies tailored to the different market segments.
 - The relatively long payback periods (>8 months) of ICS erode the sense of financial savings.
 - ICS have long been a donation product in Guatemala (> 85% of ICS installed/ year are donated) reducing the incentive to pay for them.
- Low willingness to pay:
 - In rural areas, there are other more pressing needs
 - People feel that ICS can be built locally for cheaper by bricklayers.
- Lack of consumer awareness: 1) There is very little effort to promote the benefits of using ICS and alternative fuels. 2) Only 35% of potential customers know where to purchase ICS 3) People are confused about which stoves are energy-efficient.
- Housewives have very little decision-making power over expensive purchases like ICS, yet men prefer traditional stoves. Only 13% of women in rural areas in the target areas count with a paid job enabling them discretionary spending.
- Lack of cultural, environmental and social relevance of ICS and low innovation capacities of manufacturers to meet local needs. Indigenous and rural communities reinforce preference of open-fire with the following arguments:

flavour, tradition, social and heating function (in the highlands), repelling insects, protecting thatch roofs (in coastal areas), waterproofing and quick cooking.

Lack of a proper enabling environment:

- The lack of regulations, standards and labelling requirements for ICS, as well as the lack of political will and capacity to adopt and enforce such requirements, leads to the commercialization of stoves that do not meet international standards of emission reductions.
 - Lack of capacity of laboratories to perform tests for ICS and other technologies for alternative fuels.
 - Lack of research and development efforts that could trigger innovation and demand.
 - Weak monitoring, knowledge management and coordination between initiatives promoting ICS.
 - The SNICC hasn't established MRV methodologies and processes, making difficult the evaluation of emission reductions achieved by ICS projects.
 - Lack of articulation with sustainable wood production
- Are there any initiatives in the targeted sector that tackle these barriers and worked out or failed? If so, for what reasons?*

Historically, the largest project for the promotion of ICS was led by the Social Investment Fund and resulted in the installation of 154,000 stoves between 1996 and 2005. Over the past 4 years, more than 9 million USD have been invested by the Government, international cooperation, civil society and the private sector in ICS projects, resulting in the installation of an estimated 80,000 to 100,000 ICS. Most of these programs have encountered similar barriers to success, and generally failed in enabling the creation of a thriving market for ICS and their sustainable adoption due to following main reasons:

- Most of past and existing initiatives have been based on short term donation strategies, reducing the incentive to pay for ICS and encouraging the production of ICS that do not meet consumer needs. More recently, some market-oriented initiatives have emerged, such as individual and collective micro-credit schemes run by Financial Institutions (FIs) or by NGOs; and installed payment modalities offered by manufacturers and NGOs. Nevertheless they have not allowed a massive increase in demand in rural areas yet, as they still don't meet the needs of the different market segments.
- Users have often not seen sufficient benefits from the use of ICS and lacked technical support or market solutions for their use, maintenance and repair, often returning to the open fire technique and questioning the quality of ICS.
- The vast majority of initiatives have lacked MRV and knowledge management, which has made difficult the assessment of results and the identification of lessons learnt to improve the quality of interventions.
- *Please provide a detailed description of how the NSP seeks to overcome these barriers also referring to the theory of change.*

The NSP seeks to overcome these barriers by facilitating the creation of a thriving market for CCT and alternative fuels in Guatemala, using a mix of financial and technical support interventions, and building on the strategic pillars defined by the National Firewood Strategy:

1. Enhancing Supply: the NSP will facilitate tailored access to funding to upscale ICS production and distribution, as well as carbon finance or other compensation mechanisms (FC), while creating innovative distribution models to reach all consumers, improving production processes, strengthening business and innovation capacities as well as creating inclusive value chains (TC). With these activities, options and availability of funding will increase.

2. Increase Demand: the NSP will strengthen communication and promotional mechanisms for massive raising awareness campaigns on the benefits of using

	<p>ICSthrough articulating efforts of all interested parties. It will enable potential users to know in greater depth the range of available technologies through innovative demonstration and sales stores while also ensuring availability of the technology at the point of need through the consolidation of distribution systems. The NSP will build users' capacities on the installation, use and maintenance of ICS; facilitate repair of ICS or replacement of spare parts prioritizing technical and financial synergies with existing and successful initiatives³¹ (TC), and provide tailored financial products that meet consumer needs (FC). In this way, it is expected to create a higher consumer concern and capacity to access and use ICS, leading the sustainable adoption of ICS and clean fuels.</p> <p>3. Fostering an enabling environment: The NSP will consolidate a platform of inter-institutional coordination to generate synergies and harmonization of public policies, public and private sector initiatives, promote standards and strict evaluations of ICS, attract national and local stakeholders, develop scientific arguments supporting the benefits of ICS and clean fuels, improve monitoring and evaluation as well as MRV, and promote the transition towards a low-carbon sector. These activities will generate greater efficiency in resources; avoid duplication of interventions and will create more attractive conditions for investors. The activities will also contribute to the creation of a thriving market for ICS.</p>
2.4 Impact	<ul style="list-style-type: none"> • <i>Please describe the expected impacts of the NSP according to your Theory of Change (ToC to be provided in Annex 2)</i> • <i>Please refer to the four ambition criteria of the NAMA Facility</i> <ul style="list-style-type: none"> ○ <i>Potential for transformational change (embeddedness, catalytic effect, replicability, scalability and sustainability)</i> <p>The NSP, through the combination of the TC and FC activities aimed at enhancing supply, increasing demand and fostering an enabling environment for ICS and alternative fuels in Guatemala, will allow for transformational change towards a low carbon residential energy sub-sector in Guatemala that will become evident by the following:</p> <ul style="list-style-type: none"> • Mitigation ambitions of Guatemala are increased: <p>1) in the residential energy sub-sector the NSP outperforms the mitigation targets set by the Energy Policy (2013-2027) as relates to the installation of 100,000 ICS. The energy sector contributes 39 percent of the national emissions³². In 2014 it is estimated that about 35 MtCO₂e were generated, of which 8.7 M tCO₂e corresponding to firewood. By year 5, the NSP will have reduced 1.3 M tCO₂e (0.5 million tCO₂e/ year) which represents 11 percent of the emissions generated by the energysubsector. The emission reductions will continue during the life of the technologies proposed to be used. As a result of the NSP actions, it is expected that the end users will be able to repair or replace the technologies, which make the reductions more permanent. As a result, by the tenth year, it is expected that the NSP will have reduce an accumulated 7.1 M tCO₂e which represents 20.5 percent of the subsector emissions (assuming that the annual deficit is not increased).</p> <p>2) in the context of international climate negotiations: The emission reductions will continue beyond the NSP duration to substantially contribute to the NDC. At year 10, the accumulated GHG emission reductions will reach 7.1 M tCO₂e thereby contributing to 58% of NDC (conditional scenario).</p> <ul style="list-style-type: none"> • Enhanced national ownership and capacities to overcome barriers that had previously hindered market dynamics will facilitate the replication and scaling up of activities to other regions. • The creation of news path dependencies combined with the creation of

³¹ GNG: <http://www.goodneighbors.us/support/business.gn?tab=2>; Habitat: <https://www.habitatquate.org/que-hacemos-2/> ; HELPS International: <https://helpsintl.org/programs/onil-products/>

³² MARN (2001) First national climate change communication <http://www.marn.gob.gt/Multimedios/581.pdf>

	<p>replicable, scalable and long-lasting financial instruments to facilitate funding for ICS access and production, will enable the adoption of ICSs to reach an estimated 100,000 ICS annually by year 10: by year 10, the market would be operating with 100,000 ICS bought and installed every year year.</p> <ul style="list-style-type: none"> ○ <i>Co-benefits (social, economic and environmental)</i> <ul style="list-style-type: none"> • Forest degradation is reduced, by avoiding the extraction of 998,000 tons of firewood • 3,750 jobs are created in the sector dynamizing local economies and improving the inclusiveness of ICS value-chain; • Health benefits for approximately 1.1 million people, mostly indigenous women and children living in rural areas and indigenous communities; • Financial savings on the cost of purchasing firewood or time savings on firewood collection. Based on NSP business scenario (cf Annex 8) it is estimated that with an ICS, families within the segments of firewood purchasers, will save between 17% and 24% of the expenses on firewood over the life-cycle of an improved cookstoves. • improved capacity of 5,000 public officers, extension agents, community support agents and technical staff from partner organizations, 40 ICS producers and distributors. • improved enabling environment: a certification and labelling programme in place and operating; improved regulatory framework through the adoption of a norm for improved cookstoves; the adoption of a new national firewood strategy, and the mainstreaming of ICS in municipal and commonwealth planning. ○ <i>Financial ambition (leverage, market creation) – direct and indirect effects</i> <ul style="list-style-type: none"> • Creation of a thriving market for ICS • Direct Funding: EUR (€) 16.4 million from the private sector in the form of credits and microcredits from private financial institutions for the production and purchase clean cookstoves.³³ • Indirect Funding: EUR (€) 1.3 million from the public sector; contribution that will be provided through ministerial and other institutional actions (experts, services, logistics other expenses). ○ <i>GHG mitigation potential (direct and indirect)-direct and indirect effects – details in Annex 7</i> <ul style="list-style-type: none"> • Direct Mitigation effect (by the end of NSP): 1.3 M tCO₂e (225,000 clean cookstoves in 5 years); • Indirect mitigation effect (beyond NSP): 7.1 M tCO₂e will have been accumulated by year 10.
2.5 Overarching project goal (outcome)	<ul style="list-style-type: none"> • <i>Please define the overarching goal of the project (valid for TC and FC component).How the NSP changes the situation after implementation, (preferably in one sentence).</i> • <i>Please refer to the mandatory core indicators of the NAMA Facility, (note that the core indicators can also be placed at outcome level):</i> • <i>M1: Reduced GHG emissions (direct reductions) – details to be provided in</i>

³³ Based on the following assumptions: target: 5,500 ha; 1000 USD per ha.

	<p><i>Annex 7.</i></p> <ul style="list-style-type: none"> • <i>M2: Number of people directly benefitting from the NSP (gender disaggregated)</i> • <i>M3: Degree to which the supported activities catalyse impact beyond the NSP (potential for scaling-up, replication and transformation)</i> • <i>M4: Volume of public finance mobilized for low-carbon investments and development</i> • <i>M5: Volume of private finance mobilized for low-carbon investments and development</i> <p><i>If possible, please provide concrete figures (logframe Annex 3).</i></p> <p>Emissions are substantially reduced in the residential energy sub-sector with important socio-economic, health and environmental co-benefits for rural and indigenous people, mainly women and children, living in poverty and extreme poverty.</p> <ul style="list-style-type: none"> • <i>M1: Reduced GHG emissions (direct reductions)</i> Direct Reduction from ICS: 1.3 M tCO₂e reduced at the end of the project. • <i>M2: Number of people directly benefitting from NSP (gender disaggregated)</i> 1.1 million people: 225,000 men, 225,000 women and 675,000 children (with greater impact on women and children). 3,750 jobs created, 5,000 stakeholders (extension agents, technical staff, manufactures, suppliers etc) with enhanced capacities. • <i>M3: Degree to which the supported activities catalyse impact beyond the NSP (potential for scaling-up, replication and transformation)</i> Regulatory, institutional and technical capacities installed to reduce GHG emissions beyond the scope of the project in the sub-sector: <ul style="list-style-type: none"> ○ An S&L scheme is in place ○ A norm for ICS is adopted ○ Updated National Firewood Strategy ○ ICS mainstreaming in municipal and commonwealth planningFinancial mechanisms still in operation (Guarantee fund) to facilitate the granting of micro credits to new potential users. • <i>M4: Volume of public finance mobilized for low carbon investment and development</i> At least EUR (€) 1.3 million from the public sector for actions related to ICS.. • <i>M5: Volume of private finance mobilized for low carbon investment and development:</i> EUR (€) 16.4 million for the granting of credits for the acquisition and production of ICS. Possibility to tap into carbon finance with the emission reductions generated by the project up to EUR (€) 5.5 million³⁴.
<p>2.6 Intervention strategy</p>	<ul style="list-style-type: none"> • <i>Please specify how the technical and financial project components are interlinked and coordinated to contribute to the outcome (overarching project goal) and impacts.</i> <p>The Financial Cooperation component of the project will make tailored financial</p>

³⁴ Based on the current average price of 1t CO₂e of USD 5.

products available to end users to enable them to purchase ICS; and to producers to enable them to upscale the production of clean cooking technologies.

The Technical Cooperation component will i) upscale awareness raising efforts, ii) support the capacity development process among ICS manufacturers, distributors, end- users, and multi-stakeholders involved in project implementation such as extension, technical staff of partner organizations, community support agents and micro-finance institutions, as well as iii) strengthen the enabling environment (policy and regulatory framework for ICS, guidelines, standards, MRV and M&E processes) so that the change process be driven and sustained beyond the project duration by national agents of change.

By doing so, the TC enables the FC to result in sustainable production, adoption and use of ICS that will generate the emission reductions and co-benefits that have been stated in previous sections.

- *Please specify the main implementation steps and milestones (e.g. sequencing of project components) (details to be defined in Annex 4, Gantt chart)*
- **Operational strategy and arrangements in place:**
 - FC:
 - Establishment of the Trust Fund (Guarantee Fund and Credit Line)
 - Agreements with micro-finance entities to implement the financial products tailored for ICS end-users, manufacturers and distributors.
 - Strategy for fixed-amount incentive distribution to the extreme poverty segment developed with MIDES; and for the school subsidy distribution with MINEDUC; inter-institutional agreement signed; strategy developed with INAB to complement sustainable firewood production with efficient use..
 - M&E and MRV methodologies and systems in place
 - TC:
 - Agreements and intervention strategy established with key national and local stakeholders.
- **Implementation:**
 - Awareness raising campaign and promotional activities implemented in the five priority departments.
 - ToTs to local extension, technical and support agents on ICS installation, use and maintenance, implemented in the 5 departments
 - Manufacturers trained on business and financial planning and management, marketing and distribution strategies, 20 sales and demonstration stores created and functioning
 - Distributors trained on marketing and customer service for ICS.
 - Update of the National Firewood Strategy and Action Plan
 - Adoption of International Standards on efficiency of ICS
 - S&L scheme in place and functioning
 - Adoption of a national norm on efficiency of ICS
 - 2 equipped ICS testing laboratories with a sustainability plan implemented and staff trained at national level, 5 at regional level
 - At least 20 manufacturers have received expert support for innovation at year 2
 - At least 5 ICS have been tested and certified at year 2
 - Innovation pilot for alternative clean fuels concluded and lessons learnt presented
- **M&E:**
 - Report of the emissions reduction at year 2.5 and 5
 - NSP Semi-annual, annual, mid-term and final reporting

	<ul style="list-style-type: none"> - FC: mid-term evaluation of the implementation of the financial instruments, in particular the Credit Line; final evaluation of the distribution of incentives and subsidies; agreement on exit strategy for the Fund. - NSP mid-term and final evaluation <ul style="list-style-type: none"> • <i>Please explain how the results will be maintained and replicated after the end of the NSP implementation period</i> <p>The consolidation of the enabling environment, in particular the adoption of a ICS norm, will help overcome barriers that have prevented the scaling up of supply and the increase of demand for ICS. In particular, the members of the Firewood Commission will have greater leadership and ability to pursue the GHG reduction efforts in the subsector in coordination with all relevant stakeholders, guided by the updated Firewood Strategy. The voluntary approach to standards and labelling tested during the NSP to encourage the production of higher quality ICS could easily be institutionalized and replicated for other energy saving devices, while the ICS norm adopted as a result of the NSP will ensure sustained emissions reductions from ICS. The raising awareness and capacity development process will create new path dependencies with regards to the adoption of ICS and alternative fuels, while the creation of replicable, scalable and long-lasting financial instruments will facilitate a sustained access to ICS for users of different market segments and investment capital for manufacturers. Besides, access to carbon funding will enable results to be maintained and replicated as they will be used to support consumer needs for repair or replacement and manufacturers needs for production upscale. The market dynamics generated by the NSP will facilitate the replication and scaling up of activities and results country wide. In particular, the creation of a functional distribution system to facilitate access to ICS in the target departments could easily be expanded to other departments as demand increases, making ICS accessible and available nationwide. With the market creation, it is also expected that the end users be able to repair or replace their technologies, which will make the emissions reductions more permanent. Therefore, emission reductions will continue during the life span of the technologies.</p>
<p>2.7 Institutional structure</p>	<ul style="list-style-type: none"> • <i>Please provide a summary description of the implementing partner(s) and their role and competencies with regard to project implementation. (If applicable, indicate FC and TC)</i> <p>The Inter-American Development Bank (IDB) will work as Delivery Organization (DO) and supervise the execution of the funds according to its fiduciary procedures. The Ministry of Economy, through the National Competitiveness Program (PRONACOM), will lead the implementation of the TC. The Guarantee Fund and Credit Line of the FC will be administered by a private entity to act as trustor. Specific criteria will be used to select the trustor, unless an entity is identified in the later stage of the appraisal phase. The trustor will in turn select the fiduciary entity of the trust according to requirements to be defined between the trustor and PRONACOM (e.g. public tender). The trust will have a technical committee for decision making, evaluation, supervision and control, which will be presided by PRONACOM. The subsidies and incentives (EUR 2.5 million) will be implemented by PRONACOM as part of the TC component.</p> <p>Currently PRONACOM has an Executing Unit (EU) that oversees international resources under the supervision of PRONACOM's Executive director and under the authority of its Executive Committee. This EU will lead and supervise the implementation of the TC and ensure articulation with FC. PRONACOM's EU will be strengthened to channel the TC resources and will prepare and present reports to the NAMA Facility.</p> <ul style="list-style-type: none"> • <i>Please provide a diagram depicting the cooperation structure to be included in Annex 1.</i>

	<pre> graph TD NF[NAMA Facility] --> GIZ[GIZ] GIZ --> IDB[IDB] IDB -- FC --> PE[Private entity (Trustor)] IDB -- TC --> PRONACOM[PRONACOM (EU)] PE --> FE[Fiduciary entity] FE --> TFC[Trust Technical Committee] PRONACOM --> Costs[Assignment of personnel, travel expenses, external services, procurement of materials & equipment, operational costs, other costs] PE --> NSPSC[NSP Steering Committee] PRONACOM --> NSPSC NSPSC --> NSPAC[NSP Committee within the Advisory Council of PRONACOM] NSPAC --> RCP[Regional Competitiveness Platforms & CODEDE] NSPAC --> COFETARN[COFETARN and / or COMUSAN] NSPAC --> COCODE[COCODE] PrivateSector[Private Sector] --> NSPAC KeyGov[Key governmental institutions] --> NSPAC Academia[Academia] --> NSPAC NGOsInt[NGOs & International Cooperation] --> NSPAC DecentralizedGov[Decentralized governmental institutions] --> NSPAC Municipalities[Municipalities, Commonwealth & Local Authorities] --> NSPAC NGOsInt2[NGOs & International Cooperation] --> NSPAC OtherStakeholders[Other key stakeholders] --> NSPAC </pre>
<p>2.8 Synergies and linkages with relevant projects in the country</p>	<ul style="list-style-type: none"> - Please describe linkages and synergies of the NSP with other relevant projects supported by the national government, (other) international donors, bilateral organisations and/or other development organisations. <p>Financial Component:</p> <ul style="list-style-type: none"> - Micro-credits: <ol style="list-style-type: none"> 1. Strategic partnerships will be developed with banks and micro-finance institutions that already have financial products for ICS and others that are willing to enter the market and leverage EUR (€) 16.4 million as credits and micro-credits: <ul style="list-style-type: none"> ▪ Active banks in Microfinance: Banrural, Banco G&T Continental , and Banco Crédito Hipotecario Nacional de Guatemala – CHN (Guatemala National Mortgage credit). ▪ Cooperatives of Savings and Credit: MiCoope and its 8 regional level cooperatives in the 5 target departments. ▪ Microfinance entities that have experience with ICS: GENESIS, FAFIDESS, FINCA, HABITAT, Fundación PUENTE DE AMISTAD. 2. Additional synergies will be established with NGOs such as Helps, Habitat and GNG that already provide financing solutions to their beneficiaries in the areas of coverage of the NSP. - Individual subsidies: The NSP will build on the following existing governmental programmes for the implementation of individual fixed-amount incentives: <ul style="list-style-type: none"> o The Conditional Cash Transfers (MTCT) program for food of MIDES “Mi

bolsa segura" (*My safety basket*). This programme counted in 2017 with a GTQ 56,562,000 budget³⁵, equivalent to EUR (€) 9.5 million, for the conditional cash transfer of GTQ 250 (equivalent to EUR (€) 27 million) per family living in situation of poverty, extreme poverty and vulnerability in rural and urban areas, on a periodically basis³⁶. In 2018, MIDES is planning on covering 300,000 households with this programme.

- The Conditional Cash Transfers (MTCT) program for health and education³⁷ created in 2011 by the MIDES. In 2017, the budget dedicated to this programme was Q295,890,500.00, equivalent to approximately EUR (€) 32 million³⁸. Between GTQ 150 y 300 once or twice a year per family³⁹.
- The Economic Subsidies programme for Children and Adolescents with special necessities and disabilities from the Social Welfare Secretariat of the Presidency (SBS from its acronym in Spanish)⁴⁰. The budget allocated to this programme in 2017 was GTQ 9.9 million, equivalent to EUR (€) 1 million. The subsidy represents a monthly lump sum of GTQ 500.00 for Girls, Boys and Adolescents with Disabilities in a situation of vulnerability, for a term not exceeding four (4) years.

Synergies will be developed with the Vice-Ministry of Social Protection of MIDES and SBS ii) to prioritize families among the beneficiaries of the conditional cash transfer programme that qualify for the NSP individual fixe amount subsidies in the municipalities with the highest firewood deficit, and iii) to facilitate logistics at local level. Besides, despite the low budget execution rate of these governmental programmes, it can be anticipated that families benefiting from MIDES and SBS financial support instruments decide to use part of these funds as a complementary source of funding to the NSP incentives to buy an ICS.

- In addition to the programmes presented above, it is worth mentioning that synergies with municipalities and commonwealth will also be sought to fund and target financial incentives.
- Additional synergies will be sought with NGOs and financial entities such as Rotary club, FOCAEP, Habitat, GNG that have coverage in the five target departments and promote tripartite subsidy modalities for the acquisition of ICS.

- **School subsidies:** synergies will be established with DIGEFOSE/ MINEDUC i) to leverage EUR (€) 0.5 million for school subsidies, ii) to prioritize schools among those that are part of the Sustainable and Healthy School programme in the municipalities with the highest firewood deficit, and iii) to support logistics at local

³⁵ Cf p.8 MIDES (2017) Informe de Ejecución Presupuestaria
<http://mides.gob.gt/images/uip/ipublica/fopro/art4/InformeCuatrimestraldeEjecucionPresupuestariaabril2017.pdf>

³⁶ Cf p.9 of MIDES (2016) Acuerdo Ministerial No.DS-02-2012, 5 de mayo del 2016
<http://mides.gob.gt/images/uip/ipublica/acuerdosministeriales/2016/ACUERDOMINISTERIALDS-24-2016ReformaalAcuerdoMinisterialNo.DS-02-2012.pdf>

³⁷ Programa de Transferencias Monetarias Condicionadas (TMC) para salud y educación
<http://mides.gob.gt/programas/blue/bono.html>

³⁸ Cf p.8 <http://mides.gob.gt/images/uip/ipublica/fopro/art4/InformeCuatrimestraldeEjecucionPresupuestariaabril2017.pdf>

³⁹ Oxfam (2017) TRANSFERENCIAS MONETARIAS CONDICIONADAS: ¿Una herramienta que permite garantizar la Seguridad Alimentaria y Nutricional de los hogares más vulnerables de Guatemala? <https://www.pdh.org.gt/biblioteca/file/2691-informe-%E2%80%99Ctransferencias-monetarias-condicionadas-%C2%BFuna-herramienta-que-permite-garantizar-la-seguridad-alimentaria-y-nutricional-de-los-hogares-m%C3%A1s-vulnerables-de-guatemala%E2%80%9D-%E2%80%93oxfam-fundebase-pdh.html>

⁴⁰ Cf p22 Secretaría de Bienestar Social de la Presidencia- SBS (2017) Informe segundo cuatrimestre 2017
<http://www.sbs.gob.gt/wp-content/uploads/2017/09/DP-217-2017-Informe-segundo-cuatrimstre-2017.pdf>

	<p>level.</p> <ul style="list-style-type: none"> - Forestry incentives: The NSP will ensure close coordination with INAB in order to complement the NSP actions with the INational Forestry Incentive Programs⁴¹, in particular PROBOSQUE's, which annual budget represents, by law, 1% of the annual governmental budget⁴², and PINPEP, to promote sustainable firewood production, sustainable forest management as well as forest restoration among communities receiving financial incentives for ICS adoption as part of the NSP.. - Synergies will be established with Members of the Firewood Commission to ensure coordination of actions and alignment of strategies in the NSP target departments, ensuring that donations target areas outside the NSP intervention areas. A campaign will also be conducted among multi-lateral and bilateral development institutions and companies with CSR to sensitize around the NAMA market development strategy, prevent full stove donations, and channel additional funds to the NAMA for results-based financing as well as working capital and growth funds. <p>Technical component:</p> <ul style="list-style-type: none"> - To implement the awareness raising campaign, synergies will be established with actors with coverage on the five target departments: <ol style="list-style-type: none"> 1. Governmental institutions: MINEDUC, MAGA, MSPAS, MIDES, MARN. INAB already has material on sustainable firewood production and ICS that the NSP can build on. 2. Local authorities: commonwealth and municipalities through their extension systems. Municipalities have material for firewood production and use. 3. NGOs: Habitat, GNG, Rotary Club, HELPS, HEIFER and other CSOs. 4. International cooperation: UNDP, FAO, JICA, KOICA, WHO, GACC. - Strengthening users' capacities: same actors as the previous point. Additionally, synergies will be developed with: <ol style="list-style-type: none"> 1. INTECAP to train the community leaders and extension agents, as well as to develop technical careers. 2. MINEDUC to use public schools receiving subsidized ICS as demonstrative and training centres. 3. International cooperation: Habitat for Humanity, JICA, GNG, and other local CSOs. - Strengthening manufacturers capacities: <ol style="list-style-type: none"> 1. Chamber of commerce of Guatemala, Association of managers of Guatemala (AGG), National network of management groups, university centre of the east -USAC, and Alterna for business trainings. 2. Habitat for Humanity, GNG (ICS), INTECAP as well as the academia for innovation and production training programs. 3. UNDP, GACC and FAO for co-funding of trainings - Strengthening distribution network: <ol style="list-style-type: none"> 1. ICS stores and more 2. Electrodomestic stores (e.g Way agencies, ELEKTRA, El Gallo Mas Gallo among others) 3. Local hardware and agricultural stores
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

⁴¹ Based on the INAB average incentive of 1000 USD per ha. PROBOSQUE incentives:

<http://marn.gob.gt/Multimedios/6004.pdf> ; PINPEP incentives: <http://186.151.231.167/Paginas%20web/Pinpep.aspx>

⁴² Cf Article 9 of EL CONGRESO DE LA REPÚBLICA DE GUATEMALA (2016) Ley de Fomento al Establecimiento, Recuperación, Restauración, Manejo, Producción y Protección de Bosques en Guatemala - PROBOSQUE- DECRETO NÚMERO 2-2015

<http://ww2.oj.gob.gt/es/QueEsOJ/EstructuraOJ/UnidadesAdministrativas/CentroAnálisisDocumentaciónJudicial/cds/CDs%20leyes/2015/pdfs/decretos/D02-2015.pdf>

4. Construction material distribution chains (e.g Construred),
5. NGOs with distribution network such as GNG (9 distribution points, 2 in target areas), Habitat (7 distribution points)
6. Municipalities to facilitate spaces for distribution points
7. UNDP and GACC for co-funding of ICS stores and more
- **Strengthening capacities of evaluation laboratories:**
 1. At national level: universities such as USAC, URL for ICS, Galileo and UVG for alternative fuels;
 2. At regional level: INTECAP
 3. UNDP, GACC and FAO for co-funding
- **Technological innovation** through research and development:
 1. ICS and alternative fuels: Universities such as URL, UVG, SGCCC, GNG Galileo University and SNV
- **S&L scheme and national norm for ICS:** CLASP, MARN, CONCYT, MINECO, COGUANOR
- **Strengthening the members of the Firewood Commission:** FAO, WHO, and members of the Firewood Commission.
- **Revision of relevant policies:** members of the Firewood Commission and municipalities
- **Strengthening extension capacities:** synergies will be established with governmental institutions, local authorities, and organizations that have extension systems and staff in place in the 5 departments. These are- among others:
 1. MARN, Capacity Building Department of INAB, Departments of Extension (DICORER) and Livestock Production Development (DPP) of MAGA, MSPAS, MIDES, MINEDUC
 2. Local authorities: commonwealth and municipalities.
 3. NGOs: Habitat for Humanity, GNG, HELPS, Rotary, HEIFER, SNV and other local CSOs.
 4. International Cooperation: JICA; KOICA, FAO, UNDP, WHO.
- **MRV:** MARN (REDD+ strategy, SNICC), USAID/LEDS, Rainforest Alliance, SGCC
- **Knowledge generation and sharing:** Members of the Firewood Commission, the SGCC.
- **Linkages with sustainable production of firewood:** the NSP will complement initiatives and projects aimed at the sustainable firewood production, such as the earlier mentioned REDD+⁴³ Strategy, ER Program⁴⁴, the FIP⁴⁵, FAO's Forest and Landscape Restoration Mechanism (FLRM) as well as the forest incentives programme of the INAB.

To operate these synergies, agreements will be signed with these actors to establish terms (staff time, etc), roles and responsibilities for the coordination, implementation and monitoring of activities at national and departmental level.

Coordination with these actors will take place, at national level within the NSP steering committee created as part of PRONACOM's Advisory Council; at departmental level, in the Departmental Development Councils (CODEDE) and PRONACOM's Competitiveness platforms; and at municipal level in the Municipal Commission for Food and Nutrition Security (COMUSAN) and Commission for Economic Development, Tourism, Environment and Natural Resources (COFETARN); at local level in the Community Development Committees (COCODE).

⁴³ FCPF – Guatemala <http://www.forestcarbonpartnership.org/guatemala>

⁴⁴ ER-PIN

<https://www.forestcarbonpartnership.org/sites/fcp/files/2014/June/CF10%20Guatemala%20Early%20Idea%20Presentation.pdf>

⁴⁵ FIP <http://documents.worldbank.org/curated/en/483541506980247458/Guatemala-Forest-investment-plan>

- *Please describe if and how the NSP builds on already existing projects and programmes. How are lessons learned from other (similar, regional, international) interventions taken up and integrated into the project design?*

The NSP is integrating lessons learnt from existing and past interventions in the project design. Lessons learnt will also be utilized from the onset of the project to 'popularize' approaches and actions proposed by the NSP.

ICS: More than 20 ICS- related projects have been implemented in the country in the last 4 years, the main ones being implemented by GACC, GIZ, KOICA-GNG, USAID-LEDS, and GEF-PNUD, HELPS. These projects provide a wealth of experience and lessons learned in terms of practical approaches to promoting ICS in the country. The main lessons-learnt are summarized as follows:

- **Supply side.**
- Most of existing and previous projects in Guatemala have fallen short in terms of distribution strategy. An integrated distribution strategy incorporating demonstration, sales, installation and post-sales services is needed for the NSP to be successful.
- Experience shows that ICS size, weight and design matter for distribution. In China and India many of ICS models are lightweight and can be easily packaged, thereby facilitating the distribution at strategic points.
- Experience shows that when it is difficult for users to find support and spare parts to continue using ICS, they abandon it and return to the open fire. In Kenya, the manufacturer of the BURN stove has been successful setting-up a support system for the repair and maintenance of the stoves in Kenya and Tanzania, which substantially increased the sustainability of use and the demand for the BURN stove.
- The experience of "ICS stores and more" - a model of store that includes a demonstration centre implemented in Guatemala by Fundacion Solar, GACC and UNDP- shows that women are more likely to buy if they have a chance to test different models to select what best suits their tastes, needs and purchasing power. These stores are also instrumental to reducing the logistic costs related to the distribution of ICS for the manufacturers. Nevertheless they are not effective in reaching rural populations. The NSP should build on these stores while also diversifying distribution points, such as local and large-scale appliance, hardware, agricultural product and construction material stores.
- The experience of Peru, Bolivia or Honduras shows the importance of investing in strengthening national capacity for research, development and testing of ICS to achieve intended GHG reductions and access carbon finance. In Guatemala, GIZ, UNDP and USAID-LEDS have paved the way, by improving the capacities of the USAC to perform ICS laboratory tests. Yet, USAC's capacity remains limited. The NSP will build on these efforts while also expanding support to other relevant institutions to perform testing and investigation.
- **Demand:**
- Lessons learnt from existing and past projects in Guatemala reveal that benefits of using ICS and risks associated with open fire are not sufficiently known by rural populations. To promote demand in these areas the NSP will create mechanisms for awareness raising including demonstration and distribution and financial instruments that reach the communities.
- Recently, financial institutions have developed financial instruments to facilitate access to ICS but these still need to be tailored to different segments more finely to meet consumer demands, in particular those living in poverty and extreme poverty.
- It will be important to map communities receiving donations, and to target subsidies beneficiaries in communities that will not have access to micro-credit to avoid conflicts and no-payment phenomenon. Efforts also need to align donation

strategies of the multiple ICS stakeholders with the socio-economic criteria of priority beneficiaries defined by MIDES.

- There have been a number of successful experiences in Guatemala of ICS installation in schools based on co-funding modalities with municipalities. As mothers cook every day on a rotating basis, many women are exposed to ICS.
- **Enabling environment**
- At national and regional level, experience shows that donation strategies are not sustainable and hinder the development of a consumer focused market. The NSP will facilitate the development of a market for ICS that have been tested and meet the minimum standards established. The NSP approach to CCT market development will be promoted among all interested parties and ICS strategies coordinated through the Firewood Commission to avoid contradictory approaches in the same territories, which would affect project results.
- Standard & Labelling policies are proven market transformation tools. In the US, for example, S&L policies have contributed to almost a four-fold decrease in energy consumption⁴⁶. Product standards remove lowest-performing products from the market, while labels convey information to consumers to stimulate the purchase of high-performing products. Labels consequently drive innovation and competition among manufacturers by rewarding high-performing products. Enacting the S&L process also creates an environment conducive to broader market transformation efforts, such as technological innovation initiatives, awards and incentive programs, or consumer finance mechanisms. In the past five years, the principles and components of Standard & Labelling have been applied to early-stage market development efforts with great success. Relevant examples include traditional government-led S&L programs, like the Ghana Energy Efficiency Label⁴⁷ (for refrigerators and air conditioners), and industry-focused programs, such as Lighting Global⁴⁸ and Global LEAP⁴⁹. Based on these experiences, the NSP will introduce a S&L⁵⁰ scheme to encourage and lead the market to produce higher quality products.
- Lessons learnt from projects in Guatemala have demonstrated the key role played by decentralized governmental institutions, in particular extension staff in promoting the technologies and building local capacities. Yet, they have performed poorly in terms of follow-up and monitoring as well as in terms of articulation with other actors. The NSP will ensure a clear definition of roles and responsibilities, endorsed by a formal inter-institutional agreement, good coordination and close supervision of extension staff.
- The lack of coordinated action, evaluation and knowledge sharing of previous initiatives have demonstrated the need for the NSP to strengthen the role of the Firewood Commission to guide the implementation of ICS related initiatives.
- Lessons learnt from regional and international projects (e.g. the Mirador Project in Honduras, New Lao in Cambodia, UgaStove in Uganda) reveal that financial flows from voluntary carbon markets can help make sustainable the growth of the local ICS market, making affordable stove prices possible, as well as quality guarantees and permanent maintenance systems. This financial scheme rewards the good management and marketing practices of the stove manufacturers, since the revenues only occur at the moment in which the external audits of the project determine the effective use of the product. Building on these experiences, the NSP will generate emission reduction credits to access carbon finance.

⁴⁶ <http://aceee.org/blog/2014/09/how-your-refrigerator-has-kept-its-co>

⁴⁷ <http://clasp.ngo/en/OurPrograms/SuccessStories/Ghana>

⁴⁸ <https://www.lightingglobal.org>

⁴⁹ <http://globalleap.org/>

⁵⁰ CLASP (2017)

--	--

3. Overall Budget and Financing Structure (in EUR, incl. VAT where applicable)			
3.1. Nama Facility funding in EUR	<p>Please indicate the overall cost of the NSP with regard to its technical and financial component – with respect to its funding received from the NAMA Facility.</p> <p>Please note: All indirect costs and overheads need to be included in the cost calculation and budget (detailed budget in Annex 5).</p>		
		Overall Project (in EUR)	FC Component
			TC component
	2018	386 000	386 000
	2019	1 293 000	714 000
	2020	2 914 000	2 142 000
	2021	2 200 000	1 428 000
	2022	2 200 000	1 428 000
	2023	2 007 000	1 428 000
	Total	11 000 000	7 140 000
3.2. Overall NSP funding in EUR	<p>Please outline the financing contributions from the Nama Facility and other public or private sources that contribute to the NSP.</p> <ul style="list-style-type: none"> Please indicate the sources and type of any allocations provided by other funders and the status of contractual arrangements as included in section. 		
		Overall NSP (in EUR)	in % of total
	NAMA Facility funding	11 000 000	35
	National government funding	1 300 000	4
	Indirect contribution	1 300 000	
	Private sector contributions	16,402,299	44
	Financial entities: micro-credits		
	Carbon funding	5 500 000	17
	Total	31 550 345	100
	<ul style="list-style-type: none"> Please explain whether financing contributions from other public or private financing sources are conditional on NAMA Facility financing and what project components they will be used for. <p>Contributions from the financial entities and governmental indirect contribution (staff time, logistic support, etc) are conditional on NAMA eventhough of the financial entities are already granting micro-credits for ICS and plan on pursuing the effort.</p>		

	<p>As for carbon funding, it could be accessed only with the emission reductions generated by the NSP, it therefore is entirely conditional to the NSP funding.</p>
3.3. Justification for NAMA Facility support	<ul style="list-style-type: none"> • <i>Please describe briefly why international public support in the amount requested in this proposal is required for the implementation of the NSP.</i> • <i>Please specify the added value of the additional funds to the overall NAMA.</i> <p>Guatemala has advanced on setting the national framework that guides the reduction of emissions in different strategic sectors. The Climate Change Law and the Energy Policy contain guidelines and targets for adaptation and mitigation in the energy sector, which is the second highest emitting sector (approximately 40 percent of total emissions). Biomass represents 60 percent of energy consumption which also generates socio-economical, health, environmental, and emission generation problems. About 69 percent of the population uses biomass, impacting health, forest, and household livelihoods.</p> <p>Guatemala is seeking to address this problem and has developed a Strategy and an Action Plan, with the participation of the Firewood Commission and other key stakeholders (manufacturers, end users, NGOs, International Cooperation, etc.), that constituted the basis of the NSP and is part of the NDC. The NSP support will trigger the implementation of the Firewood Strategy and Action Plan that to date have not generated much result and need further support to reach its full scale and impact.</p> <p>In particular, the NSP will fund activities that, despite being highly prioritized by the Government, could not be funded by the public or the private sector- due to a budget and administrative restrictions, lack of capacity, coordination or visibility of the sector. The NSP will act as a catalyser of the public and private sector investment by:</p> <ul style="list-style-type: none"> • Developing financial mechanisms that incentivize financial institutions to assume new risks and facilitate the access to credit for segments that have remained largely unattended by financial institutions so far. • Building a foundation for long-term technological innovation scheme supporting a timely, feasible and successful transition to a sustainable Standards & Labelling policy. • Developing and implementing an MRV process and methodology to make evident emission reductions in the sub-sector, the first stone of the national MRV framework and opening long-term opportunities for carbon funding. <p>While previous initiatives have been partial and fragmented, the NSP will adopt a holistic approach –with a combination of financial and technical support mechanisms- not only to ensure the achievement of the NSP goals but also to catalyze a transformational change process that can be sustained beyond NSP duration, contributing to 58% of Guatemala’s NDC by year 10 and to NAMA’s goal of facilitating</p>

	transformational change towards sustainable low-emission development in line with the 2 degree limit.
--	-------------------------------------------------------------------------------------------------------

Specific Part

FC-Component / TC-Component

Please provide a specific part for each component of the NAMA Support Project.

4. Specific Project Information	
4.1 Outcome (project component)	<ul style="list-style-type: none"> Please describe the outcome of the respective TC or FC component (preferably in one sentence). The outcome is the central objective of the project component. Please identify the indicators that will be used to measure the achievement of the outcome. Please also refer to the mandatory core and 1-2 sector indicators relevant for the specific component at the outcome level. <p>TC: Enhanced awareness, capacity, and enabling environment for the creation of a thriving market for ICS and alternative fuels</p> <p>M1: Reduced GHG emissions (direct reductions) linked with the adoption of ICS. Baseline value: 0. Target value: year 5: 1,3 M tCO₂e</p> <p>M2: Number of people directly benefitting from NSP (gender disaggregated) Baseline value: 0, Target:</p> <ul style="list-style-type: none"> 225,000 families (1,125,000 people)= 225,000 men, 225,000 women and 675,000 children 3,750 jobs created 5,000 extension, technical and support agents with enhanced capacities 40 ICS manufacturing and distributing companies with enhanced capacities <p>M3: Degree to which the supported activities catalyse impact beyond the NSP</p> <ul style="list-style-type: none"> S&L scheme in place Norm on ICS adopted Firewood policy updated CCT mainstreamed in municipal and commonwealth planning in the 5 departments <p>M4: Volume of public finance mobilized for low carbon investment and development. Baseline: 0. Target: EUR (€) 1.3 million:</p> <ul style="list-style-type: none"> EUR (€) 1.3 million as indirect contribution <p>FC: Increased access to funding for the upscaling of ICS production and adoption</p> <p>M1: Reduced GHG emissions (direct reductions) linked with the adoption of ICS; Baseline value: 0; Target value: 1,3 M tCO₂e t year 5</p> <p>M2: Number of people directly benefitting from the financial instruments under FC; Baseline value: 0, Target: 2023: 225,000 credit users ; 40 manufacturers and distributors</p> <p>M3: Degree to which the supported activities catalyse impact beyond the NSP</p>

	<ul style="list-style-type: none"> • Guarantee fund in place to catalyze financial entities participation in the financing of ICS • Credit line in place to expand coverage of micro-credit granting in rural areas <p>M4: Volume of public finance mobilized for low carbon investment and development. Baseline: 0. Target: EUR (€) 1.3 M as kind contribution + TBD as direct contribution</p> <p>M5: Volume of private finance mobilized for low carbon investment and development</p> <ul style="list-style-type: none"> • EUR (€) 16.4 million from the private sector as micro-credit for ICS users with ability to pay and loans for manufacturers and distributors. • Possibility to tap into carbon finance with the emission reductions generated by the project up to EUR (€) 5.5 million
<p>4.2 Outputs and planned activities</p>	<p><i>Outputs are products, goods, services and regulations/standards or other deliverables generated by the project component.</i></p> <ul style="list-style-type: none"> • <i>Please describe the expected outputs of the component.</i> • <i>Please define at least one indicator per output. Please also refer to the mandatory core and sector indicators relevant for the specific component at the output level.</i> • <i>Please list the <u>main</u> activities generating the output and critical milestones.</i> • <i>If advisory services/implementation consultant for the FC part is foreseen, please delineate clearly from the TC advisory services</i> • <i>Please provide a comprehensive logframe matrix for FC and TC each, including all indicators, sources of verification as well as assumptions & risks. Please attach the logframe in Annex 3. Indicators must be SMART (Specific, Measurable, Achievable, Relevant, Time-bound) and must be provided with a baseline and target value. Please refer to the indicator guidance sheets for M1-M5 annexed to the NAMA facilities M&E framework.</i> • <i>Please provide a Gantt chart to depict main steps of implementation and milestones (Annex 4).</i> <p>TECHNICAL COMPONENT:</p> <p>Output 1: Higher consumer concern and capacity to use ICS</p> <p>A behavioural change communication (BCC) strategy is rolled out at national level and in project area to increase demand for ICS, combined with awareness raising activities and capacity development trainings delivered by national rural extension programs to ensure the adequate use and maintenance of ICS by rural and indigenous communities in the project area.</p> <p><u>Output level indicators:</u></p> <ul style="list-style-type: none"> • Indicator 1.1: Indicator: Number of families in the project area reached by the raising awareness campaign and activities; Baseline value: 0; Target value: 225,000 families • Indicator 1.2: Number of extension, technical and supports agents trained to train potential users to install, use and maintain ICS; Baseline value: 0; Target value: 5,000 • Indicator 1.3: Number of families trained by extension, technical

	<p>and community support agents in the project on CCT use and maintenance; Baseline value: 0; Target value: 225,000.</p> <ul style="list-style-type: none"> Indicator 1.4: Number of schools with the ICS topic incorporated in the curriculum and trained on ICS; Baseline value: 0; Target value: 2,500 <p><u>Activities:</u></p> <p>1-1 Enhance extension capacity to raise awareness and capacity of potential ICS users capacity to use and maintain ICS</p> <p>1-2 Raise public awareness on clean solutions for cooking</p> <p>1-3 Strengthen the capacity of potential ICS users to use and maintain ICS</p> <p><u>Critical milestones:</u></p> <ul style="list-style-type: none"> Implementation of Trainings of Trainers (ToT) in the 5 departments Awareness raising campaign and activities implemented in the five priority departments. Inclusion of ICS in Public School Curriculum and staff trained Trained and prepared extension agents, community support agents and technical staff of partner organizations to create awareness and train the target group on ICS. Direct training to ICS users implemented by extension agents <p>Output 2: Increased CCT production and distribution capacity to meet demand and consumers needs</p> <p>Enhanced capacity of and articulation between value-chain actors contributes to consolidating the offer, while developing coordinated and adequate strategies to substantially increase the demand for ICS.</p> <p><u>Output level indicators:</u></p> <ul style="list-style-type: none"> Indicator 2.1: Number of certified ICS sold, installed and operating; Baseline: 0. Target: 225,000 ICS. Indicator 2.2: Number of jobs created in the CCT value chain; Baseline: 0. Target: 3,750 Indicator 2.3: Number of “ICS and more Stores” installed; Baseline: 0. Target: 20 Indicator 2.4: Number of manufacturing and distributing companies participating in trainings: 40 <p><u>Activities:</u></p> <p>2.1 Improve business capacities of ICS manufacturers</p> <p>2.2 Enhance distribution capacities of supply actors</p> <p><u>Critical milestones:</u></p> <ul style="list-style-type: none"> Trainings and expert support to manufacturers on business & financial planning & management, marketing, distribution, customer service Networking event between manufacturers, distributors and financial institutions 20 sales and demonstration stores created and functioning Trainings to distributors on marketing and customer service for
--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>ICS</p> <p>Output 3: Enhanced institutional capacity and public-private sector coordination to strengthen ICS and alternative fuels adoption</p> <p>Enhanced capacities, strategic planning and coordination of relevant public and private stakeholders at national and local levels building on existing departmental and municipal coordination platforms, to improve delivery, monitoring and knowledge management of existing initiatives in support to ICS and alternative fuels as well as enhanced articulation with sustainable wood production initiatives, and private sector-led initiatives.</p> <p><u>Output level indicators:</u></p> <ul style="list-style-type: none"> • Indicator 3.1: Number of policy, regulatory, strategic and planning instruments adopted, revised or updated; Baseline: 0. Target: 1: National Strategy and Action Plan updated • Indicator 3.2: Government institutions officially supporting the strategy actions and coordinating actions; Baseline: 0; Target: 5 • Indicator 3.3: ICS mainstreamed in municipalities and commonwealth planning, in particular Municipal Women Office and Forestry Office planning. Baseline:0; Target: 5 departments • Indicator 3.4: private sector entities officially supporting NSP actions and coordinating actions. Baseline:0; Target: 2 <p><u>Activities:</u></p> <p>3.1 Strengthen the capacity and governance of relevant ICS stakeholders at national level</p> <p>3.2 Strengthen the capacity and governance of relevant ICS stakeholders at local level: Municipal Women Office, Municipal Forestry Office and Learning Centres for Rural Development</p> <p>3.3 Promote private sector participation in ICS initiatives</p> <p><u>Critical milestones:</u></p> <ul style="list-style-type: none"> • Agreements and intervention strategy established with MINEDUC, MIDES, INAB, MAGA, MSPAS • Update of the National Firewood Strategy and Action Plan • Agreements and intervention strategies established with local governmental institutions and authorities (municipalities and commonwealth) • Networking event with private sector actors with CSR • Financial mechanisms (Guarantee Fund and Credit line) designed and Agreements signed with financial institutions for their operation • Agreements signed with financial institutions for the implementation of financial products for the acquisition of ICS, as well as for manufacturers and distributors • Agreements signed with private sector entities for the coordination and implementation of joint actions <p>Output 4: Technological innovation and improved regulatory framework</p> <p>Creation of an S&L scheme for ICS and promotion of research and development on alternative fuels to trigger innovation, improve national standards and increase demand, combined with knowledge transfer to</p>
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

manufacturers to improve existing ICS models and laboratories to perform tests, and the adoption of a national norm for ICS based on the output results.

Output level indicators:

- Indicator 4.1: Number of laboratories with enhanced capacities at national and regional level. Baseline: 0. Target value: 2 at national level; 5 at regional level.
- Indicator 4.2: Standard and Labelling scheme in place and operating. Baseline: 0; Target: 1
- Indicator 4.3: Number of certified and labelled ICS, Target: 5 ICS
- Indicator 4.4: National norm for ICS is adopted; Baseline: 0; Target: 1.
- Indicator 4.5: Adoption of International Standards on efficiency of ICS
- Indicator 4.6: Alternative fuel pilots; Baseline 0; Target: at least 2 alternative fuels and technologies piloted.

Activities:

4-1 Establish and implement a standards and labelling (S&L) scheme for ICS

4-2 Improve capacity of manufacturers to comply with the S&L

4-3 Improve the regulatory framework for ICS

4-4 Innovation for alternative sources of clean fuels

Critical milestones:

- Adoption of International Standards on efficiency of ICS
- Standard and Labelling (S&L) scheme in place and functioning
- 2 equipped ICS testing laboratories with a sustainability plan implemented and staff trained at national level, 5 at regional level
- 10 manufacturers have received expert support for innovation
- 5 ICS have been tested and certified
- Innovation pilot for alternative clean fuels concluded and lessons learnt presented
- Adoption of a national norm on efficiency of ICS

Output 5: Accountability of results and climate financing catalyzed by M&E and MRV systems

The methodological framework for the M&E and in particular MRV of the project is in place and validated with relevant authorities to ensure transparency, good governance, accountability and credibility of results, verify that resources are used effectively as well as to catalyze climate financing. The system is implemented and reports are shared with MARN to feed into the national monitoring systems, NDC and National Communications on Climate Change. Authorities may build on the proposed MRV methodology and measures to strengthen the SNICC in particular the inventory methodologies and project MRVs.

Output level indicators:

- Indicator 5.1: MRV system implemented generating carbon credits; Baseline: 0; Target: emission reductions verified
- Indicator 5.2: M&E reports to NAMA; Baseline: 0. Target: 5 semi-annual reports, 5 Annual NSP reports; 1 final report; 1 Mid-term NSP evaluation; Final NSP evaluation
- Indicator 5.3: NSP results and lessons learnt shared; Baseline: 0;

Target: organization of at least 2 national events; participation in at least 5 regional and international events

Activities:

5-1 M&E and MRV design, validation and implementation

5-2 Evaluation of project results and impact

5-3 Communication and dissemination of results and lessons learnt

Critical milestones:

- M&E and MRV methodologies and systems in place
- Report of the emissions reduction at the end of year 3 and 5
- Annual NSP report
- Mid-term NSP evaluation
- Final NSP report
- End-of-project NSP evaluation

FINANCIAL COMPONENT

Output 1: Increased financial support for segments without ability to pay to access ICS

At least 37,500 households from the segment without ability to pay receive a fixed-amount incentive of EUR (€) 40 equivalent to 25% of the ICS price; and 2,500 public school have received a subsidy of EUR (€) 200 covering 100% of the ICS price.

- EUR (€) 1.5 million fixed amount incentive covering 37,500 ICS
- EUR (€) 0.5 million for the installation of approximately 2,500 cookstoves in public schools.

Indicators:

- Indicator 1.1: Number of ICS purchased with the fixed-amount incentive. Baseline: 0. Target: 37,500.
- Indicator 1.2: Number of families receiving fixed amount incentives and accessing to forestry incentives; Baseline: 0; Target: 5,500 families.
- Indicator 1.3: Number of ICS installed in public schools with subsidies; Baseline: 0; Target: 2,500 Activities:
- Activity 1.1 Design and implement the distribution strategy for fixed-amount incentives with MIDES and INAB
- Activity 1.2 Design and implement the distribution strategy for school subsidies with MINEDUC

Critical milestones:

- Design the fixed-amount incentive distribution strategy with MIDES and INAB, including prioritization of beneficiaries in municipalities with highest firewood deficit
- Design the school subsidy distribution strategy with MINEDUC, including prioritization of schools in municipalities with highest firewood deficit
- Establish inter-institutional agreements for the implementation of the strategy
- Mid-term evaluation of the distribution of incentives and subsidies
- Final evaluation of the distribution of incentives and subsidies

Output 2: Increased tailored financing for segments with ability to pay

The segment with ability to pay will be attended by private banks, Savings and Loans Cooperatives (SACCOs) and Micro-finance institutions (MFIs). The NSP will promote the involvement of these institutions by:

- establishing a EUR (€) 2.8 million guarantee fund to guarantee credits granted by financial entities (micro-finance and SACCOs) for the acquisition of ICS;
- granting a EUR (€) 2 million credit line for the purchase of ICS for MFIs and SACCOs that already have experience in this area.
- implementing tailored financial products to expand coverage.

Indicators:

- Indicator 2.1: Fund in place and operating
- Indicator 2.2: Credit line in place and operating
- Indicator 2.3: Number of ICS purchased with credits granted by financial institutions operating the credit line. Baseline: 0. Target: 17,400 ICS
- Indicator 2.4: Number of ICS purchased with credits granted by financial institutions covered by the Guarantee Fund; Baseline: 0; Target: 167,600 ICS

Activities:

- 2.1 Design and implement the Guarantee Fund
- 2.2 Design and implement the Credit line
- 2.3 Implement the financial products for the acquisition of ICS

Critical milestones:

- Establish the Trust Fund (Guarantee Fund and Credit Line)
- Agreements with micro-finance entities, cooperatives and banks signed to implement the financial products
- Mid-term evaluation of financial mechanisms
- Final evaluation and agreement on exit strategy

Output 3: Increased tailored financing for manufacturers and distributors to expand their capacity

The NSP will facilitate access to financial options for manufacturers and distributors to expand their production capacity, through:

- The implementation of a credit guarantee fund to guarantee loans granted by financial entities to manufacturers and distributors
- The implementation of tailored financial products for manufacturers by MFIs, SACCOs and banks. These loans will be guaranteed by the Guarantee Fund.

Indicators:

- Indicator 3.1: Number of manufacturers and distributors upscaling capacities with financial products facilitated by financial institutions covered by the Guarantee Fund. Baseline: 0. Target: 40

Activities:

- 3.2 Implement the Credit Guarantee for loans granted to

manufacturers

- 3.1 Implement the financial products for manufacturers and distributors

Critical milestones:

- Establish agreements with micro-finance entities, cooperatives and banks- to implement the financial products
- Mid-term Evaluation of the financial mechanism
- Final evaluation and agreement on exist strategy

# Families	Type	Segment	Funding (Million EUR)				
			Private	Public	NSP		
					Subsidy/ incentive	Credit	Guarantee Fund
37,500	Fixed amount incentive	Without ability to pay	0	0	1.5*		
2,500	Subsidy	Public Schools	0		0.5*		
17,400	Credit line	With ability to pay	16.4			2	
167,600	Credit					0	2.8
40	Loan	Manufacturers and Distributors				0	
225,040	TOTAL		16.4		2	2	2.8

The analysis of financial instruments developed within the framework of the appraisal phase and involving consultations with microfinance institutions and private banks, revealed that a specific product for remittances was not needed.

* These resources will be executed by PRONACOM within the technical component since they are not financial instruments and will therefore not be executed through a financial institution.

3.1 Target group

- *Please provide a description of the direct and indirect target group(s)/beneficiaries.*
- *If possible, take gender issues into consideration and provide numbers if possible.*

Direct beneficiaries:

- Awareness raising activities and direct trainings on ICS installation, use and maintenance: 1,1 M beneficiaries, among which 225,000 women, 225,000 men and 675,000 children in rural and indigenous communities of the 5 target departments.
- Training of trainer programs: 5,000 extension agents, community support agents and technical staff from partner organizations. 2,500 school organizations of parents; 20 financial institutions.
- Trainings:
 - on CCT mainstreaming in municipal and commonwealth

	<p>planning: Women Municipal Direction (DMM), Municipal Forestry office; leaders of Learning centres for rural development (CADER);</p> <ul style="list-style-type: none"> ○ on business and financial planning and management: CCT manufacturers and ICS stores and more. ○ on best practices on distribution models and marketing, customer service (including installation and post-sale services) and organizational capacities: 30 CCT manufacturers small-scale supply actors. <ul style="list-style-type: none"> • Universities, in particular testing laboratories: At least 2 testing laboratories at national level and 5 at regional level will received a capacity development programme as well as material and equipment to perform ICS evaluation. • School subsidy: 2,500 public schools prioritized by MINEDUC in municipalities with the highest firewood deficit. • Fixed amount subsidies: 37,500 beneficiaries, prioritized by MIDES among beneficiaries of the Cash transfer programmes, in municipalities with the highest firewood deficit. • Micro-credit: 185,000 for the purchase of ICS. <p>Indirect beneficiaries: 1.1 M people mostly indigenous women and children in rural areas and indigenous communities, living in poor and extremely poor condition, that will be receive training on ICS installation, use and maintenance through trainers trained by the NSP.</p> <ul style="list-style-type: none"> • <i>Has the target group participated in the project planning?</i> <p>All the target groups were involved in the project design and planning, as part of the preparatory phase, through the socialization workshops conducted in each the 5 departments in October 2017, which registered the participation of 286 participants, among which 34% of women, representing local governmental institutions, local authorities, municipalities, commonwealth, financial institutions, manufacturers, distributors, financial institutions, academia, civil society, NGOs and international cooperation. In particular, rural and indigenous associations and networks were represented, such as: Asorech, Asedechi, Fedecovera, Fundalachua, Adiscari, Asocuch, Cecep.</p> <p>Besides the 5 workshops, each target group was consulted separately during meetings and workshops, the main ones being presented below:</p> <ul style="list-style-type: none"> • Rural and indigenous populations were also actively involved in the project design through the focus groups organized as part of the market study to understand their consumption behaviour, the barriers faced for ICS purchase, and the opportunities to involve them as investors in their own welfare and the environment. The Market study provided the bases to understand the ICS end-users and consumers and facilitate the development of market strategies around the users of firewood in the departments of San Marcos, Huehuetenango, Quiché, Alta Verapaz, and Chiquimula. • ICS manufacturers were consulted for the development of the minimum standards for ICS (multi-stakeholder workshop), the distribution strategy as well as for the validation of the financial products. A total of 13 manufacturers participated in the financial products validation workshop held on November 20, 2017. This workshop enabled to identify perceived barriers and financial needs for their expansion, experiences with funding schemes and to evaluate interest towards proposed financial products and
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

incorporate suggestions for their definition.

- Universities (USAC, URL, UVG, Galileo) were consulted individually as part of the consultancy on minimum standards for ICS. The consultation process enabled to identify perceived barriers and opportunities to the establishment of a S&L scheme for ICS in Guatemala, capacity development gaps to perform ICS evaluation (a rapid self-assessment was performed) as well as to evaluate interest in proposed NSP measures to strengthen their capacities.

What are the interests of the target group with regard to the NSP? Please note that we understand the term target group = beneficiaries (i.e. different from stakeholders).

The main interest of the NSP for rural and indigenous communities relates to the improvement of their quality of life (socio-economic and health benefits) through increased access to financing for the purchase of ICS. Environmental benefits are not their main concern. The main socio-economic benefits such as described by them can be summarized below:

- The target group is interested by the financial opportunities offered by the NSP when 37% of them have little access to credit and low availability of money to pay for the stove and 41% face budget instability and low access to credit. Rural and indigenous women in particular are interested by having increased access to financial products when only 13% of them in the 5 departments have paid work, which greatly limits the purchase of equipment for the home.
- Households who buy firewood (45% of total target group) expressed that economic savings represented a great advantage.
- For the segments that collect firewood (representing 54% of the target group), the reduction in the time and effort of collecting firewood is perceived as an important benefit of the stove. For segments outside of poverty, comfort is key: they have the wood stoves with chimney not only to eliminate the smoke, but to heat the home and increase the warmth of home for man.
- Potential users will have the possibility to choose, within a competitive market, among a large number of products.

Manufacturers:

- expressed a high degree of interest in selling ICS with the use of the proposed financial products (micro-credits) to end-consumers;
- expressed a high interest in the creation of guarantee fund to obtain credits in the financial system, since most of them expressed that they do not have sufficient guarantees that are often requested by financial institutions. They believe that this financial mechanism would be very useful to trigger support to the growth and operational expansion processes of their companies.
- are interested in the NSP in the extent that they will benefit from i) trainings and certification opportunities, support to formally register their business; ii) expert support to improve financial and business planning and management; iii) Increased demand for ICS and reduced risk of low-performing sales to end-users, resulting from the NSP raising-awareness activities and facilitated access to financing for users; iv) Fully-funded laboratory tests for their ICS.

Distributors are interested in promoting a new technology in the extent

	<p>that it could in improved financial benefits.</p> <p>Extension agents and technical staff from partner organizations are interested in receiving updated knowledge on ICS and benefitting from an improved coordination in order to optimize financial and human resources for the delivery of extension services to the communities.</p> <p>Universities expressed high interest in receiving trainings and equipment to improve their capacity to perform ICS evaluation.</p>
3.2 Stakeholders	<ul style="list-style-type: none"> • <i>Please identify stakeholders who are affected negatively or positively by the project.</i> <p>The NSP is expected to positively affect all stakeholders, mainly as a result of increased coordination and articulation of actions. No negative effect is expected to affect any of the NSP stakeholders.</p> <ul style="list-style-type: none"> • <i>Please identify the relevant stakeholders for achieving the intended results within the sector and how they interact.</i> • MARN: As National Designated Entity, MARN will be a key stakeholder in the development and validation process of the MRV system of the NSP. • Members of the Firewood Commission: Coordinate policies, implement the Firewood Strategy and Action Plan, coordinate with stakeholders to align actions and prioritize target areas for intervention. • Central and local authorities and governmental institutions: prioritize target areas for interventions and beneficiaries (e.g. MIDES for individual incentives, MINEDUC for school subsidies), provide technical assistance through extension staff, implement awareness raising and training activities at the community level as well as monitor implementation • Microfinance institutions, cooperatives and private banks: responsible to implement the financial products (micro-credit schemes) for ICS purchase. These institutions are: <ul style="list-style-type: none"> ○ Active banks in Microfinance: Banrural, G & T, CHN. ○ Cooperatives of Savings and Credit: MiCoope and its 8 cooperatives in the 5 target departments: FENACOAC, Cotoneb Cooperative (Quiché), Yaman Kutx, R.L.Cooperative (Huehuetenango), Encarnación R.L. Cooperative (Huehuetenango), ACREDICOM (San Marcos), COBAN RL Cooperative (Cobán), COSAJO RL (Chiquimula), Chiquimuljá, .R.L. Cooperative (Chiquimula). ○ Microfinance entities that have experience with ICS: GENESIS, FAFIDESS, FINCA, HABITAT. • CCT manufacturers and distributors: will supply and sell the technologies and fuels at point of need, as well as provide post-sales services (repair or replacement), will also participate in the NSP S&L scheme platform and in the consultation processes regarding ICS norm. • Universities and learning centres: USAC, URL, UVG, Galileo, the SGSS and INTECAP are key stakeholders for the technological innovation activities (Output 4) of the NSP. • International Organizations, NGOs and academy: Co-financing for technical assistance and research. These funds will be complemented with climate finance. Relevant organizations will

	<p>participate in NSP S&L platform.</p> <ul style="list-style-type: none"> • NGOs and local CSOs will play a key role in the implementation of the awareness raising campaign, capacity development activities geared to ICS users at community level and monitoring. Relevant NGOs and CSOs will also be involved in the technological innovation and distributions activities of the NSP. <ul style="list-style-type: none"> ◦ CLASP has been identified as a potential service provider for the design and implementation of the Standards and Labelling (S&L) activities of Output 4 on technological innovation. • <i>How will the project ensure an adequate involvement of relevant stakeholders?</i> <p>The coordination of the NSP with key stakeholders (MARN, INAB, stakeholders of the firewood commission, MIDES, MINEDUC, financial institutions and other relevant institutions/ organizations that will be directly involved in the NSP implementation) will take place in a commission created as part of PRONACOM Advisory Council which is composed by 47 stakeholders- from the civil society, the labor sector, academia, media, Central Government, the public and private entities.</p> <p>At local level, the NSP will build on existing coordination platforms, in particular the Regional Competitiveness Platforms and CODEDEs; at municipal level on the COMUSAN and COFETARN and at local level on COCODE. The Firewood commission will play a key role in facilitating access to these structures as it works with municipal governments and community committees through the participating ministry's and institution's field extension agents.</p> <ul style="list-style-type: none"> • <i>Have these stakeholders been consulted in the project preparation phase? What are the interests of stakeholders with regard to the NSP?</i> <p>All relevant stakeholders have been consulted through the socialization workshops conducted in each one of the target departments. Besides, they were consulted individually through bi-lateral or multi-stakeholder meetings and workshops, the main ones being presented as follows:</p> <ul style="list-style-type: none"> • Governmental institutions- central level: the key governmental stakeholders were involved through the National Firewood Commission where the NSP was first presented and discussed in July 2017 and discussed in all the Commission meetings; as well as during a national workshop held in September 2017. Besides, individual meetings were held with INAB, MINEDUC and MIDES to define the nature of the collaboration for the NSP implementation. • Ten financial entities that currently serve 1 million women throughout the country were consulted through 3 main activities: an induction workshop, a visit to "ICS stores and more" and a validation workshop. The general strategy has been to generate an strategic partnership with these entities to design and implement financial products for ICS end-users and manufacturers. In the validation workshop, held in November 2017, eight entities participated and confirmed their willingness to join efforts to achieve the NSP objective using the agreed financial mechanisms and instruments. • Universities expressed interest in supporting the innovation
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>process by co-funding research and development activities, integrating the NSP topics in their planning, and facilitating support to the industry and linkages with the university through student internships or thesis.</p> <ul style="list-style-type: none"> • NGOs: GNG expressed interest in supporting the implementation and monitoring of raising-awareness and capacity development activities in the common 2 departments of intervention through their extension staff; as well as in innovation activities on alternative fuels. Habitat for Humanity is the second main key NGO interested in a strategic partnership. • International cooperation: the 13 main cooperation partners were involved in the project planning through the “G13”- a platform of the main 13 cooperation partners in Guatemala, where the NSP was presented and discussed in October 2017. In particular USAID/LEDS, the EU, UNDP, AECID and GIZ expressed interest in articulating efforts and coordinating actions in common areas of intervention. • Besides, two national consultations (ICS) were organized with key stakeholders from the public and private sector, academia and manufacturers in October, reuniting 36 persons, to socialize the proposed minimum standards of the technologies for the S&L scheme of the NSP.
4.5 Methodological Approach	<p><i>Please describe the project concept and methodological approach and how it addresses the key barriers for mitigation action in the sector.</i></p> <ul style="list-style-type: none"> • <i>For the FC part please describe the financial support mechanism (instruments and institutional set-up) in detail, also referring to the business models of the interventions / investments as well as the intermediary banks (if applicable). Please make sure, that all financial support mechanisms used in the NSP are listed. Argue why this financial support mechanism has been chosen and analyse how it helps to remove the investment barriers and results in a sustainable shift of investment patterns and flow of funds in the sector (refer to Annex 8)</i> • <i>For TC: please explain the choice of interventions, instruments and the staffing concept</i> <p>FINANCIAL COOPERATION</p> <p>The proposed financial mechanism consists of four instruments, targeting two different market segments:</p> <p><i>Financial instruments for the segment with ability to pay</i></p> <p>Currently, 77% of the target population for the purchase of ICS lives below the poverty line. Likewise, the majority of stove producers have scarce resources for working capital and acquisition of inputs. Both groups need credit, but due to limited income and guarantees, they have remained largely unattended by financial institutions.</p> <p>Among the financial problems that are usually identified in relation to obtaining credit by 77% of the total population of the country classified as poor are the following.</p> <ul style="list-style-type: none"> • On the demand side:

A. Low capacity of income, capital and property (diffuse property rights) of the loan applicants, which increases the probability of default of payments.

B. The magnitude of the existing multidimensional gaps in geographic, social, ethnic, cultural, linguistic and access and information management that make the process of obtaining credit complex.

- On the supply side:

A. High transaction costs, especially for the small amount of the amounts requested.

B. Difficult identification and obtaining of information of the users of credit and weak understanding of these of the rules of fulfilment of a credit.

C. Application of high interest rates that offset the risk and high cost of financial operations.

The NSP will address this issue by facilitating :

Credit instruments. The objective of these instruments is to facilitate the acquisition and production of 225,000 ICS throughout the five years of implementation of the NSP. It is estimated that altogether approximately Q.300 Million / EUR 34.5 Million of funding could be required throughout the project, based on the premise of the development of market mechanisms for these clean technologies. The basic strategy of intervention requires the creation of a strategic partnership between multiple institutions financial institutions and the NSP for the purpose of facilitating financing for the acquisition of clean technologies by poor families with ability to pay for credit effects in rural areas of the target departments of the NSP; and for the expansion of the production and distribution capacities of ICS suppliers. The credit instrument will be implemented in two ways:

- on the one hand it is expected that the micro-finance entities, SACCOs and banks that work with the target population, implement the credit products presented in section 4.2, using their own resources and funding sources;
- on the other hand, the NSP will put into operation a specific credit line (EUR 2 million), at second-tier anchoring level, so that smaller financial institutions operating in isolated rural areas of the target NSP departments, with limited micro-credit granting capacity can fund the credit products promoted by the NSP. This credit line will operate as part of the specific fund to be established by the NSP.

The proposed amount for the credit line is € 2 Million to fund 17,400 credits for the acquisition of ICS, and obtain a leverage of 1:7 from credit entities.

The credit instruments were chosen under the basic premise of the development of massive markets in the medium term, which need demand activation potential for clean technologies through the facilitation of credit. Given the economic constraints of families living in poverty, the investment in clean technologies such as ICS, requires investments that they are outside their monthly

budget capacity. Likewise, the majority of manufacturers and distributors have limited resources for working capital and the acquisition of inputs needed for the expansion of their production and distribution capacity. It is estimated that the way to facilitate production, distribution and access to these technologies is through the facilitation of micro credits to families according to their ability to pay, as well as to manufacturers and distributors.

A credit guarantee instrument. The credit guarantee instrument was chosen as a complementary instrument to mitigate the credit risks for financial institutions, particularly in the context of economic vulnerability of the target sectors of the project. This instrument will mitigate financial risks for the entities that grant first-tier credit for families that purchase stoves on the one-hand, and on the other hand for financial institutions that grant credit for the expansion of operations of ICS manufacturing and distributing companies at the national level. This guarantee mechanism would work as part of the specific fund to be established by the NSP, for which the specific NSP management unit in coordination with a bank who would act as fiduciary. It is estimated that, with this financial mechanism, the availability of resources for the production and acquisition of ICS will increase according to the development of the markets.

With the resources granted by the NSP for the guarantee fund and a revolvency of 1.5 times the amount, quality guarantees will be provided for 50% of the amount of credits and loans requested from financial institutions for the acquisition and production of ICS . The Guarantee fund will cover the granting of 155,100 credits for the purchase of ICS; and loans for 40 manufacturers and distributors. The main expected effect of the guarantee fund mechanism is that in the long term, during the next 10 or 20 years, the acquisition of ICS will be generalized through the granting of credit and loans by financial institutions.

The creation and operation of the proposed guarantee fund has the following benefits and advantages:

- On the demand side:

A. Ease of access to credit by people (users or manufacturers) without guarantees or with weak guarantees.

B. It promotes financial inclusion by encouraging savings and the management of deposit accounts of unbanked persons in regulated or non-regulated financial entities.

C. It promotes the acquisition of improved ICS in a sustainable manner.

- On the supply side:

A. It is a favourable mechanism for financial institutions to mitigate the risk of loans that do not have a mortgage guarantee, since they are guaranteed with a guarantee of quality and easy realization. In addition, these institutions do not necessarily have to make provisions for reserves in the case of non-performing loans covered by the guarantee fund.

B. It encourages financial institutions to provide financial services

to unattended economic sectors or sub-sectors or population segments and segments of the population that are strategic for the achievement of the project goals.

C. It acts as an incentive for financial institutions qualified to participate to assume new risks, eventually unknown to them and to reduce market uncertainties, which will allow them to obtain greater profitability and liquidity, as well as agility in the recovery of their capital.

To address the needs of the target groups, the following tailored financial products were developed under the Appraisal Phase, to be implemented by the participating financial entities:

Credit for the purchase of ICS:

- Product 1. Easy-Credit for Stoves (1): Fiduciary credit for the acquisition of stoves at the point of sale offered by microfinance entities or savings and credit cooperatives. The amount to consider is from EUR(€) 115 and EUR(€) 330, which includes the cost of the stove, as well as all expenses necessary to install it in final user's house. The maximum credit duration will be 12 months, at the interest rate established by the financial institution, which ranges from 1% to 4% monthly. The product's down payment is the first quota of the credit and should be paid at the time of purchase. The approval of the credit should take no longer than 48 hours through a simplified process and basic requirements.
- Product 2. Easy-Credit for Stoves (2): Fiduciary credit for the acquisition of stoves at the point of sale, offered by the seller of the stove for amounts less than EUR (€) 115 through sale invoice. The maximum term will be 6 months, with a surcharge of 10% - 15% at the price to cover the value of the financial discount that the seller will have to grant at the time of discount the exchange invoice in a financial institution. The product's down payment should not exceed 20% of the stove price, and will be paid at the time of purchase. The approval of credit should be immediate at the point of sale through a simplified process and basic requirements.
- Product 3. Easy-Credit for Stoves (3): Fiduciary credit for the acquisition of stoves offered to current customers of the microfinance entities or savings and credit cooperatives. The methodology for this product could be individual or in solidarity group, depending on the entity. The amount to be considered is from EUR(€) 115 and EUR(€) 330, which should include the price of the stove, as well as all the necessary expenses to install it in the house of the end user. The maximum credit duration will be 12 months, at the interest rate established by the financial entity, which ranges from 1% to 4% per month. The product's down payment is the first instalment paid at the time of purchase. The approval of the credit should take no longer than 48 hours through a simplified process and basic requirements.
- Product 5: Savings Product for Acquisition of Materials for Stoves: This product consists of a savings account with a defined purpose. This product could be offered by SACCOs or by commercial banks. It is proposed that customers save a minimum amount of of EUR 17 during 3 or 4 consecutive months, with the

purpose of reaching the amount required for the delivery of a kit of materials for the upgrade of non-efficient stoves to become efficient. Once reached the amount, the client would receive the kit of materials, as well as technical assistance from the NSP for the improvement of its stove.

Credit for the manufacturers and distributors of ICS:

- The credit for working capital and / or investment in fixed assets for manufacturers and / or distributors of ICS will be granted by savings and credit cooperatives and Commercial banks. The amount to be considered is from EUR(€) 5,500 to EUR (€) 23,000 for working capital and from EUR(€) 17,000 to EUR (€) 170,000 for investment in fixed assets. The maximum credit duration will be 36 months for working capital and 10 years for asset financing. The interest rate will be established by the financial institution, between 10% to 24% per year. The guarantees may be fiduciary, pledge, mortgage and through the guarantee granted by the guarantee fund.

Financial instruments for the segment without ability to pay

Among those 77% living below the poverty line in the rural areas of the target NSP departments, 36.7% are found in extreme poverty, meaning they have no ability to pay. For this segment, NSP will provide financial support to access to ICS through the two following instruments:

- **An incentive instrument.** The third component of the support mechanism of the NSP is the use of fixed-amount specifically targeted to families in conditions of extreme poverty that do not have indebtedness capacity and that, therefore, could not have access to market mechanisms for the acquisition of ICS. A fixed incentive of EUR (€) 40 per cook-stove (about 25 percent of average retail cost) will be funded by the NSP, and the rest will be either fully paid by the end-user, or divided between the user and a third part, under a tripartite incentive scheme to be define with key local stakeholders (e.g. municipalities, commonwealth, CSOs or NGOs).

The NSP will provide EUR (€) 1.5 million for this mechanism (covering about 37,500 cook stoves). These incentives will be distributed to families living in the municipalities with the highest firewood deficit prioritized by the *National Strategy for the Sustainable Production of Firewood and Efficient Use of Firewood* and that are already targeted by MIDES' conditional cash transfer programs. When coinciding with municipalities where there are schools prioritized by MINEDUC's Healthy School Programmes, a third criteria will be for these families to have their kids attending schools and parents to participate in the preparation of school meals.

The incentive instrument could also possibly be articulated under a tripartite scheme with other subsidy programs managed by the government through the MAGA and the SBS, municipalities and commonwealth, or NGOS and CSOs.

Finally, it is considered that the mechanism of direct incentives to families is of vital importance to give access to clean

technologies to families who live in extreme poverty. From the perspective of social and economic equity, this segment of the population is probably the most in need of these technologies, but paradoxically, it has the least capacity at the economic level to have access to financing mechanisms. Given these limitations, it is estimated that this mechanism of financial support will have an important impact to encourage a generalized culture of reduction of firewood consumption and reduce its negative impacts on the environment and in the health of the families that live in the rural communities of the country.

- **A subsidy instrument for schools:** The NSP will finance up to € 0.5M for the installation of approximately 2,500 institutional ICS in schools, as a mechanism to develop skills among the teachers, students and mothers (that prepare the school meals) as well as community members as potential users of ICS. The ICS installed in public schools will also serve for the promotional, demonstration and capacity development activities of the NSP. Stoves used for schools are institutional and have more capacity than the domestic stoves. ICS will be provided to schools that need only one (up to 500 children). These stoves will be fully subsidized, this being considered as a marketing and awareness raising expense. Indeed, in public schools children's mothers prepare the school meal on a rotational basis and are also the ones who provide the firewood. With the ICS, they will be exposed to the technologies and financially benefit from the reduction of firewood consumption. With the savings, they will be responsible for maintaining and repairing the ICS.

The implementation strategy of the incentive and subsidy instruments will be differentiated from the one established for the operation of credit programs. They will be implemented by PRONACOM.

TECHNICAL COMPONENT

Choice of interventions:

The TC component will serve to increase demand for and offer of CCT as well as to strengthen the institutional, regulatory and technical capacity needed to achieve the sustainability of NSP outcomes.

Interventions to increase demand:

- **Awareness raising interventions:** A large-scale BCC will be implemented in the NSP target areas, complemented by promotional and demonstration activities at community level, using the 2,500 public schools that will have received the full subsidy for ICS as demonstration and training centres.
- **Capacity development interventions:** To reach end-users of the technologies, the methodology of training of trainers (ToT) will be used, whereby extension agents, technical staff from partner organizations and community support agents, will be trained on ICS installation, use and maintenance. In turn, they will be responsible for training the community members, monitoring the use of the technologies and providing support in case of need.

Interventions to increase and improve offer:

- **Capacity development interventions:** The NSP seeks to expand the end user market for ICS, which requires at least three key actions:

1. Increasing the availability of new high-potential products (including imports at first) in the Guatemalan market.
2. Increasing the number of ICS manufacturers and strengthen their business management and marketing capacities in a short period; increasing the capacities of existing manufacturers.
3. Increase the production, business management, and marketing capacity of distributors.

Manufacturers and distributors will receive direct trainings and tailored support such as coaching and mentoring from coaches with experience supporting business growth to help existing and new market participants. The NSP will outsource training, coaching, and mentoring functions in business and financial management, marketing and distribution in order to bring in specialized knowledge and expertise.

- **Distribution interventions:** the NSP will promote the distribution of ICS through existing small-scale and large scale distribution stores, while financing the creation of 20 specialized ICS demonstration and sale stores over the 5 departments. Strategic partnerships between distribution points and financial entities will be promoted to facilitate customers' access to a variety of micro-credit schemes at the distribution points. This strategy will facilitate a massive penetration of the technologies in the rural areas, while making possible for interested consumers to test the ICS in the four demonstration and sale stores installed in each departments, and purchase the technology with a micro-credit tailored to its needs at the distribution point. Demonstration stores personnel will be trained on ICS installation, use and maintenance in order to be able to provide post-sales services as needed.

- **Innovation interventions:** The NSP will:

1. **implement an S&L scheme for ICS.** The 2014 Guatemala Action Plans⁵¹ identified S&L policies as a key intervention to accelerate adoption of ICS and alternative fuels. As Guatemala has no existing S&L program for appliances, there is no legislative framework or institutional foundation upon which to build a cookstoves program. An S&L scheme and S&L best practices will be introduced in the NSP in order to trigger technological innovation. This will be the first S&L scheme of its kind in-country.

The TC will build S&L capacity in-country and experiment S&L mechanisms to determine and promote cleaner and most efficient ICS, providing a valuable learning curve for national stakeholders, facilitating the adoption of a national norm for ICS based on the S&L scheme results and setting the ground for the possible adoption of a national S&L scheme and policy. The scheme will revolve around the following main three main activities:

- a) Testing products to understand their performance. This

⁵¹ GACC

activity will involve building capacities of existing stove testing laboratories at national and local level.

- b) Certifying and labelling products that meet the established performance criteria for efficiency, emissions, and safety to improve confidence among consumers and investors. The NSP will adopt an approach that encourages and pulls the market toward producing higher quality products by encouraging manufacturers to produce better products in order to receive label that provides a competitive advantage. This activity involves strengthening manufacturers' capacity to meet criteria and incentivizing manufacturers' participation in this S&L scheme. The main incentives provided by the NSP to manufacturers will be the possibility evaluate free of charge their technology and to access to loans if their technology meet the performance standards. Additionally, the label itself will act as an incentive, with companies having the opportunity to enhance their brand recognition once their technology labelled. It is expected that these result-based incentives will increase ambition among other manufacturers who will make changes to their products to reap the program benefits.
- c) Ensuring a robust quality verification process to guarantee that products actually meet the performance and quality threshold, which will increase credibility and trust in the program.
- d) Conveying information to producers, consumers, distributors, retailers, and program implementers through labels, databases, and public awareness campaigns, to increase awareness of the benefits of clean and efficient cookstoves and the existence of the labels.

It is expected that the S&L scheme will transform the market by removing poor-performing or low-quality products, while the labeling program will encourage and empower consumers and other buyers to make informed decisions about the products they purchase. This approach will create fewer upfront barriers to private sector investment in the cookstoves sector and supports a timely, feasible and successful transition to a sustainable S&L program in the long term.

- 2. **test alternative fuelled-cookstoves** and promote research and development on alternative fuels, cooking technologies, materials business models, marketing and awareness campaigns, working closely with the academia and interested stakeholders (private sector, NGOs, international cooperation).

Interventions to strengthen the enabling environment:

- **Institutional and regulatory strengthening interventions:** the TC will strengthen the capacities and governance of key national and local institutions for the implementation of the firewood

strategy:

- At national level: the TC will promote the coordination with and active involvement of INAB, MIDES, MINEDUC, MSPAS, MAGA in the NSP implementation. It will also support the evaluation of the Firewood strategy and plan of action 2013-2024 and support the development of the Strategy and action plan 2025-2036.
- At national level: the TC will support the capacity development of Municipal Women Office, Municipal Forest Office and Learning Centres for Rural Development on ICS, and promote the mainstreaming of ICS in municipal planning.
- **Public-private sector coordination:** The TC intervention related to public-private sector coordination pursue 3 main objectives:
 - **Promote the participation of financial entities:** the TC will facilitate platforms of dialogue and consultation with financial entities, to inform them on the financial mechanisms available. The NSP will create a market where the private sector can participate in the manufacturing of clean cooking solution, firewood and alternative fuels processing and distribution, services and distribution systems. The following participation from financial entities is expected: partial risk coverage (microcredits to purchase ICS and credits for manufacturers) and supporting the development of financial products suited for the target groups.
 - **Promote synergies with CSR programs:** the NAMA will raise awareness and coordinate with action with relevant private companies in order to upscale impact. The NAMA will inform and train as needed companies implementing ICS related CSR activities on aspects such as identifying extreme poor populations, making the most of their donations (e.g. funding working capital through the NAMA rather than donating the full cost of a stove), stove marketing, and assessing impact of their donation over time (versus an install-and-drop approach) through the NAMA monitoring processes. The efforts could be coordinated with agents in the market promoting similar agendas (e.g. Ecofiltro).
 - **Promote the participation of private sector in the technological innovation process.**

MRV: the NSP will develop and implement an MRV methodology to make evident emission reductions in the sub-sector and sell carbon credits.

- **MRV methodology:** The study of the environmental legal framework has shown that there are no specific laws for MRV of ICS in the country so it has focused on tools that govern the activities of mitigation under the international climate change framework. Guatemala is at a crossroads between the top-down process of the Kyoto Protocol and the process bottom-up of the Paris agreement, in which as Guatemala can define its own structure. In this context, it is recommended to build on the Kyoto structure and contribute to the national definition, adapting it to the context of the Paris agreement. In addition, considering that

the SNICC is not yet operational, it is recommended to contribute to its definition, maintain the dialogue with the national designated authorities (NDA), MARN, and inform them on the development of the NSP MRV. Presentations and public consultations of the calculation methodologies to be used for the NSP will be conducted in such a way that the NDA are informed of the progress and may build on the proposed MRV methodology and measures to strengthen the SNICC and the national MRV methodology. This proposal is considered strategic because anticipating and proposing allows to justify thereafter, once the national MRV scheme has been established, that everything necessary has been done by the NSP to comply with the rules. It is expected that MARN will receive this initiative very favourably.

- **MRV governance:** In terms of the NSP MRV governance, an international certification scheme will be used for the NSP, that is operative and will allow to obtain funding by selling carbon credits generated by the project.
- **MRV activities:**
 - Initial activities: integration of the carbon module in the project financing; preparation of initial project documentation; Public consultations on the project and certification methodology; Local consultations to present models of stoves; Development of tools (surveys, software); Purchase tools (smartphones, weights, simple material); Presentation of final project documentation; Review of the project for registration.
 - Annual activities: surveys for each selected stove; quality control of information compilation; presentation of project monitoring documentation; review of the project for bond issuance.
- **Carbon credits:** The MRV system used complies with the most demanding international standards and will allow leveraging international funds through marketing schemes such as carbon credits. The corresponding resources will be used to ensure the proper use and maintenance of the stoves and also ensure the impact of the project over time, ensuring in the same way a stability in the emissions generated.

Staffing concept of the NSP

The NSP foresees the constitution of a core NSP management team of seven, including one coordinator, one assistant of the coordinator, one FC officer, one M&E officer, and one procurement and financial officer.

- The NSP coordinator will be in charge of the macro-management of the NSP, overseeing the operation of the TC, and ensuring articulation with the FC. The coordinator will be in charge of preparing the NSP reports- including both FC and TC reports.
- The Assistant of the Coordinator will support the coordinator, the FC officer and M&E officer as needed, in particular for field operations.
- The FC officer will be overseeing the operation of the FC, working in close collaboration with the financial entity executing the funds.

	<ul style="list-style-type: none"> • The M&E officer will be responsible for monitoring both FC and TC. • The procurement and financial officer will be in charge of procurement of materials and equipment as well as the process of issuing contracts with external service providers. He will be in charge of the payments. <p>Individual consultants will be hired on a punctual basis to perform specific tasks related with policy and regulatory support (e.g. design of the ICS norm, update of the firewood strategy), the implementation of the financial mechanisms (e.g. design of the Guarantee Fund regulation or the subsidies and incentives distribution strategy) and knowledge management.</p> <p>The NSP will outsource the implementation of the key following activities to consulting firms in order to bring in specialized knowledge and expertise:</p> <ul style="list-style-type: none"> • Design and implementation of the MRV system • Design and implementation of the BCC strategy • Design, implementation and evaluation of the S&L scheme • Training of trainers, direct trainings, coaching and mentoring. The NSP will supervise the work of different support actors (trainers and coaches) and those receiving trainings (manufacturers, distributors, extension agents, laboratories, etc) to facilitate evaluation, accountability, and foster knowledge transfer to more rapidly scale the market.
4.6 Technology and business model	<ul style="list-style-type: none"> • <i>Please describe the promoted technologies (e.g. volume, size, numbers, techniques, methods, material)</i> <p>The promoted technologies are:</p> <ul style="list-style-type: none"> • 225,000 improved cook stoves, with combustion chamber and chimney, mostly manufactured locally, with an estimated duration of 7 years on average. The local price of this technology is approximately EUR 200. The NSP will promote only ICS that comply with the minimum quantitative and qualitative parameters established during the appraisal phase and presented below. The ICS will be evaluated against these minimum parameters in two phases: <ul style="list-style-type: none"> ○ The first phase consists in identifying the ICS that perform better in terms of quantitative standards (reduction of firewood consumption; thermal efficiency; boiling time; reduction of particulate matters and security) in controlled (ideal) laboratory conditions. The evaluation of ICS will be performed at national level, using the Water Boiling Test (WBT) protocol, a protocol designed to determine, under laboratory conditions, the energy efficiency of the cooking technology in terms of heat transfer and combustion efficiency. Minimum quantitative parameters: <ul style="list-style-type: none"> ▪ Relative Reduction of Firewood Consumption $\geq 40\%$ (WBT protocol) ▪ Thermal efficiency at high power $\geq 25\%$ ▪ Corrected Boiling time (min) ≤ 60 min ▪ Relative Particulate Material Reduction PM2.5 $\geq 95\%$

- Relative Reduction of Monoxide Carbon CO $\geq 95\%$
- Using the Security Protocol: Security values as weighted average: $80 \leq S < 95$: Good

ICS that meet each of these minimum parameters are allowed to the second phase of selection process.

- The second phase consists in selecting the ICS that perform better in terms of qualitative parameters at local level in the target project areas. Evaluations will be performed in each of the 5 target departments, using the Controlled Cooking Test (CCT) protocol, a protocol designed for field implementation, that measure the performance of the cooking technology in comparison to traditional cooking methods during the preparation of a typical food of the place. **Minimum qualitative parameters:**

Acceptation value of $7.0 \leq A < 8.5$ (Good) as weighted average of the following qualitative metrics:

- Ease of ignition
- Ease of cooking food in the pots
- Ease of firewood control
- Ease of cooking tortilla

Additionally, for an ICS to qualify, its manufacturer should comply with the following criteria:

- ✓ Provide a user-friendly manual of use and repairs to the end users.
- ✓ Provide a written guarantee of at least 1 year on manufacturing defects and spare parts. During this period, the manufacturer is responsible for the repair or replacement of any dysfunctional parts of the technology. He can provide the service directly or indirectly, e.g. through a partner institution (e.g. store).
- ✓ Offer post-sale service, that is, the availability and existence for users of spare parts such as pipes, chimneys, elbows and any other accessory of the ICS.

- *Please describe the business model of the sub-projects (details to be provided in Annex 8). The business model is closely linked with the financial support mechanism*

Business model of the micro-credit:

The expected effect of the micro-credit is to make the purchase of an improved cook stove accessible, by dividing the payment of the good into low instalments according to the payment capacity of poor families. In a mass market of stoves, buyers get the advantage of having an accessible product in monthly payments, which are offset by the savings obtained by the reduced purchase of firewood.

- **For the acquisition of ICS:**

The business model for the acquisition of an ICS with a micro-credit that is presented in Annex 8, is based on the following premises and logic:

a) Initial investment. The purchase of the ICS by the family is done through a micro credit (EUR 200 for a stove in average). The expected life of the stove is estimated at approximately 7 years.

b) Operating costs. Without efficient technology, the family makes spends EUR 29 monthly in the purchase of firewood. The credit will be taken at an interest rate of market, offered by the entity selected by the client. For the purposes of the projections in Annex 8, a rate of 2% per month was used.

c) Financing costs. The credit obtained for the acquisition of the stove will be amortized within a maximum period of 12 months, in instalments between Q.120 (EUR 14) and Q.170 (EUR) monthly payments, which fits into the customer regular budget.

d) Estimated savings. At the end of the credit payment period, the customer will begin to experience monthly savings between 17% and 24% in the consumption of firewood throughout the 7 years of useful life of the stove.

- *Please indicate if there are pilots (technological or business model) in country or in the region that the project is building on. Also lessons learned from failed pilots can be useful.*

Business model:

Micro-credits:

The proposed business model is based on the recognition of existing experiences in the rural microfinance market in Guatemala that have been successful in financing ICS. Over the past five years, there have been several pilot projects experimented by individual alliances between manufacturers of stoves and financial institutions that demonstrated the feasibility of granting micro-credits for the acquisition of ICS in the country: for instance HELPS International has sold 14,000 ICS in the last 10 years with microcredits granted by FAFIDESS, GENESIS, Habitat and Banrural. Likewise, Good Neighbors between 2014 and 2016 sold 400 ICS with micro-credit granted by ACREDICOM/MICOOPE, a SACCO. The main limit has been the lack of scalability and sustainability over time, being isolated initiatives as part of individual projects.

Three types of entities are currently working with the target population of the project to facilitate access to ICS through micro-credit programs: microfinance entities, savings and credit cooperatives (SACCOs), and banks. The average amounts financed by the financial entities consulted during the appraisal phase, oscillate between EUR 150 and EUR 175; the average duration of the credit between 6 and 18 months, with an interest rate between 7% and 36% per year, depending on the type of financial entity. The totality of programs in which financial entities have been involved correspond to partnerships made with stove manufacturers, mainly 5 manufacturers (Doña Dora, Envirofit, HELPS-Onil, Chispa, and Energy). The experience of the financial institutions was rated as "regular" on a scale of bad to very good, that is to say that the perception of the experience did not reach the median level of satisfaction, particularly due to the following problems:

- Low production capacity of manufacturers: Manufacturers were not prepared for a high demand.
- Lack of distribution strategy and capacity: Manufacturers struggled with the distribution and installation of the stoves.
- Lack of quality control system: Manufacturers could not meet quality or warranty claims.
- Lack of scope in manufacturers' experience.

Financial entities also highlighted the following positive elements of the pilot experiences:

- There is interest from clients purchasing an ICS with a credit.

- Financial entities are pleased to attend women and the poorest segments.
- Clients pay the credits well, recording a low default rate.

Finally, financial entities recommended that the NSP should provide technical support and trainings within their organizations, particularly to women who are currently clients of the entities, as well as the advisors of credit that work with these groups, as this will increase their capacity to promote the acquisition of stoves.

The NSP will build on these pilot experiences and lessons learnt, in particular addressing the need to substantially improve the supply capacity (production and distribution) and strengthening the quality control system of the promoted technologies, in order for the proposed business scenario to be successful.

It is worth mentioning here the capacity of the main 3 financial entities identified as key stakeholders for the implementation of the NSP:

- **Active banks in Microfinance:** Banrural, Banco G & T Continental, CHN, Banco Industrial and Banco de Antigua are the main banks granting microcredits for commercial activities to the low-income population. According to the data published by the Superintendency of Banks⁵², as of December 31, 2016, the global amount of micro-credit granted by the banking system amounted to Q.2,733 Million (EUR 314 million), through a total of 186,945 credits granted, of an average amount of Q.14,622 (EUR 1,600). The total amount of microcredits granted represented only 1.64% of the total loans granted by the banking system. Rate average of these loans was at 21.06% with a default rate of 3.74%. It should be noted that 66% of the total microcredit registered in the banking system to date had been granted by Banrural.
- **Cooperatives of Savings and Credit:** MiCoope: 25 savings and credit cooperatives are affiliated to the Federation Nacional de Cooperativas de Ahorro y Crédito (FENACOAC), operating under the brand "MICOOPE," which represent 80% of the total savings and credits granted by the cooperative system in the country. MICOOPE integrates a network of 167 service points in the 22 departments of the country, with a total of 1.6 million associates (of which 46% they are women) throughout the country and joint assets of more than Q.12,000 Million (EUR 1,3 Billion). The portfolio of credits at the level of the entire MICOOPE system exceeds Q.9,000 Million (EUR 1 Billion), registering a default rate of less than 3%. The average active rates are around 15% and the average passive rate on savings around 6% on average. MICOOPE counts with 8 cooperatives in the 5 target departments: FENACOAC, Cotoneb Cooperative (Quiché), Yaman Kutx, R.L. Cooperative (Huehuetenango), Encarnación R.L. Cooperative (Huehuetenango), ACREDICOM (San Marcos), COBAN RL Cooperative (Cobán), COSAJO RL (Chiquimula), Chiquimuljá, .R.L. Cooperative (Chiquimula).
- **Microfinance entities:** According to the data published by the MixMarket organization⁵³, there are more than 24 micro finance

⁵² <http://infpb.sib.gob.gt>

⁵³ <https://www.themix.org/mixmarket/countries-regions/guatemala>

institutions in the country, which allocate its portfolio, mainly, for micro and small enterprises productive activities. However, they also have an important percentage allocated to housing programs, mainly for improvements and extensions. According to the data published to December 2016, by the MixMarket the institutions of Microfinance in Guatemala reported a portfolio of approximately Q.1,960 Million (EUR 225 Million) for a total of 389,000 clients served, which represented an average of Q.5,010 of credit by client (EUR 570). The average interest rates granted by this type of entities is around 26%, registering cases with higher rates up to 60% per year. The default rates reported by this sector are less than 5.50%. The main microfinance entities identified for the NSP are GENESIS, FAFIDESS, FINCA, and HABITAT, which already have experience funding microcredit for ICS.

Incentives: this is the most widely spread modality in Guatemala, often covering the major part of the ICS cost. More recently, tripartite incentive schemes have emerged, to divide the cost of the ICS between the promotor (often an NGO, such as HELPS and Habitat International), the user and a third-part, generally a municipality or commonwealth.

School subsidies: there have been a few isolated initiatives such as UNDP's distribution of 50 fully subsidized school ICS as an education tool.

Pilot of technological model:

Improved cook stoves:

As previously mentioned, there has been a multitude of projects for the promotion of the ICS in Guatemala. About 20,000 ICS are distributed every year. There is also a high penetration of stoves in the target NSP areas, but a large proportion of them (43%) are not improved stoves. Besides, there is currently a wide range of variations between prices / qualities in the market, which customers can not differentiate fully. The experience of past pilot experiences in Guatemala have demonstrated the need to:

- Standardize the quality of ICS sold on the market through the establishment of minimum parameters for the promoted technologies. Both quantitative and qualitative criteria should be establish to promote not only models that are highly efficient but that also meet consumers tastes and needs at the local level.
- Substantially improve the capacities of manufacturers to meet these standards and innovate. Raise awareness and inform the public on efficiency standards.
- Ensure the provision of a guarantee for the technology as well as post-sale service and back-up to the ICS user, by the manufacturers.
- Establish and implement a quality control system at NSP level that contains monitoring and evaluation at all levels: from the sourcing of quality raw material, design, installation, maintenance, customer service, availability and quality of spare parts.

•

4.7 Assumptions, risks and risk assessment

Assumptions are external conditions, which need to be fulfilled in order to be able to produce the outputs and reach the outcome of the NSP component.

- Please describe and assess the assumptions and make reference to Annex 2.
- Please identify potential risks for achieving the project objectives (including additional GHG emissions, e.g. by rebound effects), and assumptions with a high probability of not holding true.
- Please assess the seriousness of the risk (low, medium, high).
- Please describe whether and how this risk can be mitigated. What is the level of influence by the project (low, medium, high)?

Risk	Mitigation Action	Risk Severity	
		Low	Medium
<i>Inadequate communication and coordination between the members of the Firewood Commission and other stakeholders at national and local level.</i>	<ul style="list-style-type: none"> • Ministerial agreements defining each members role. • Work plan aligned to the policy framework and sector strategies. • Socialize the NSP at national and local levels in order to promote the integration of other parties such as local governments, private sector, academia, manufacturers/distributors and the Council on Climate Change. • Coordination with other programs to create synergies and complement efforts. 		
<i>Lack of liquidity for budget allocation and possible changes in budget allocation with the change of Government in 2020</i>	<ul style="list-style-type: none"> • Establish agreements with the Ministry of Public Finance to prioritize fund allocation for these programs. • Build on the core mandate of key institutions • Ensure institutional commitment and budget allocation • Identify alternative financial mechanisms. 		
<i>Cookstoves and fuels that reach end users are not certified</i>	<ul style="list-style-type: none"> • Establish standards and labels to certify technologies • Assure access to clean cooking technologies in prioritized regions • Involve the municipalities and community leaders in the value chain • Educated the general public on the meaning of the labels 		
<i>Low adoption rate due to cultural and economic (54% of households in target NSP areas collect wood) barriers</i>	<ul style="list-style-type: none"> • Implement a massive BCC campaign • Target incentives to households in extreme poverty that collect wood 		
<i>Preference of stove manufacturers to tap into the existing donor markets than to enter into direct sales to end-users.</i>	<ul style="list-style-type: none"> • Incentivize a new set of players • Building capacity of the new players to speed on stove distribution and marketing • Involve large-scale manufacturers for massive stove production • Facilitate stove importations if 		

	needed	
4.8 Environmental, social impact and climate proofing	<ul style="list-style-type: none"> • <i>Please explain how you address gender, human rights and environmental impacts.</i> • <i>Please provide a summary of the findings of the environmental and social impact assessment and climate change assessment. Please fill-in the checklist in Annex 9.</i> • Environmental assessment: <ul style="list-style-type: none"> ○ The NSP is not expected to have any substantial negative impact on animals, plants and biodiversity; soil, water, air and landscape; neither on ecosystems and ecosystem services. ○ According to the Article 19 of the National Regulation of Environmental Evaluation, Control and Monitoring, Governmental Agreement Number 137, the NSP falls under the Category C, which corresponds to projects considered of low impact and environmental risk that do not require environmental assessment⁵⁴. ○ The NSP has substantial potential to improve environmental quality, resource protection and to strengthen ecological sustainability; in particular it will contribute to the reduction of forest degradation, by avoiding the extraction of 998,000 tons of firewood in municipalities with the highest firewood deficit prioritized by the National Strategy for the Sustainable production and Efficient use of Firewood. ○ One potential un-intentional negative environmental impact of deadweight effect related to firewood extraction and commercialization has been identified during the preparatory phase. The NSP will mitigate this risk under TC Output 1, in close coordination with INAB, by raising awareness of target groups on the importance of reducing firewood extraction and forest degradation. In the long run, as ICS adoption rate increase to finally cover all firewood users in Guatemala, this could be addressed by encouraging the reduction of the firewood extraction quota allowed by license. • Climate proofing: <ul style="list-style-type: none"> ○ The intended impacts of the project are not dependent on climate parameters such as temperature, rainfall, wind, etc. ○ The NSP acknowledges short- term needs and builds long-term resilience of target groups: it optimizes current conditions by reducing firewood consumption and promoting the use of alternative fuels while minimizing vulnerability of target groups to future changes by dynamizing the rural economy (creation of 3,750 jobs), and increasing local access to financing and capacity to use ICS. Through synergies with sustainable firewood production projects, the NSP will contribute to ensuring firewood supply stability and sustainability in project area 	

⁵⁴ National Regulation of Environmental Evaluation, Control and Monitoring, Governmental Agreement Number 137 <http://www.marn.gob.gt/Multimedios/4739.pdf> p.27

	<p>thereby enabling food preparation. By reducing forest degradation, the NSP will also avoid decline in food production from forestry thereby contributing to the food security of target groups, resulting in increasing adaptive capacity.</p> <ul style="list-style-type: none"> • Social impact assessment: <ul style="list-style-type: none"> ○ The NSP is not expected to have any substantial negative impact on Human Rights of an individual and/or a group of individuals. ○ Instead, the NSP is expected to substantially improve the implementation of Human Rights standards and principles, in particular the human rights to health and to an adequate standard of living as defined by International Covenant on Economic, Social and Cultural Rights⁵⁵ by improving health, social and economic conditions of 225,000 poor and extremely poor households in rural and indigenous areas. The NSP will also promote to decent employment through the creation of 3,750 jobs in the CCT value-chain. ○ The NSP addresses two key gender specific inequalities within target groups: i) 70% of Guatemalan households using fuelwood are at high risk of cardiac and respiratory diseases, mostly children and women, resulting in 5,000 deaths per year; ii) housewives have very little decision-making power over expensive purchases like ICS. ○ The NSP is expected to have a positive impact particularly concerning equality in living conditions and development opportunities thereby reducing gender specific social inequalities: it will generate health benefits for 250,000 women and 675,000 children and enable 40% time saving for women and children - the main responsible of firewood collection- belonging to the segment of households that do not pay for firewood, which represents 54% of the target market. ○ There are two main risks that the NSP – possibly unintentionally - intensifies existing gender specific inequalities in the target population: i) risk of increasing gender inequalities with regards to the financial management of households ii) risk of reducing women's financial risk management capacity. The NSP will support households in the process of analyzing the risks as they arise and designing a risk mitigation strategy, for instance to ensure that the savings generated by the adoption of a CCT have a pre-established purpose for the households. • <i>If according to the checklist, an in-depth environmental and social impact assessment and climate proofing is required, please provide additional information on how and when the assessment will be conducted.</i> <p>According to the checklist, no in-depth environmental and social impact assessment and climate proofing is required.</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

⁵⁵ OHCHR (1966) International Covenant on Economic, Social and Cultural Rights Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966 <http://www.ohchr.org/Documents/ProfessionalInterest/cescr.pdf>

**4.9 Phasing out/
long-term
sustainability**

- *Please describe the phasing out concept and how the long-term sustainability of the project outputs and outcomes will be secured.*
- *For TC: put a focus on regulations, public budget flow etc.*
- *For FC: Please provide details on the institutionalization of the financing mechanism, e.g. the utilization of NSP funds beyond the implementation period of the project, if applicable*

With a more aware population, a strengthened regulatory and policy framework, increased production and distribution capacities, and the creation of new innovative financial mechanisms, it is expected that a thriving market for CCRs will develop and thrive. The financial mechanisms facilitated by the NSP will foster the financial institution's desire to continue investing in these mechanisms to further expand coverage. Therefore, with the support of the NSP, most of the current barriers will have been addressed. The sustainability of the project outcomes won't depend any longer on financial support, but on the dynamisation of the market generated by the NSP.

The long-term sustainability of the results of the NSP will be guaranteed by the permanence of the concession of the remaining FC funds, the efficiency of the administration of the guarantee fund by the technical committee of the same, under the trustee's instructions, the effectiveness of the procedures agreed between the guarantee fund and the participating financial entities, the achievement of the project's goals and, above all, the project's support functions, such as raising awareness, education and training activities, technological innovation, and control of results.

Finally, the MRV system used will allow leveraging of international funds through marketing schemes such as carbon credits'. The corresponding resources will be used to ensure the proper use and maintenance of the stoves and also ensure the impact of the project over time, ensuring in the same way a stability in the emissions generated.

TC: The adoption of a norm for ICS and a new Firewood Strategy and Plan of Action for the next decade (2025-2035), as well as the uptake of the S&L scheme by the Government will pave the way for sustainability of NSP outcomes. At local level, it is also expected that the NSP will have contributed to mainstream ICS in municipal and departmental planning priorities, and triggered a profound behavioural change with regards to firewood use, thereby securing the sustainability of the NSP outcomes.

FC: The phasing-out concept of involves three elements:

1. High probability that the goal of placing 225,000 improved wood stoves in the market will be achieved;
2. Favourable evolution of the balance of the resources allocated to the guarantee fund under the assumptions of a commission of 2% per annum for the use of the guarantee and a moderate default rate of around 5% as an annual average;
3. Experience of financial institutions in financing users for the purchase of improved wood stoves, which, if positive, could become a trigger for the granting of credit for the acquisition and production of improved stoves without the participation of a guarantee fund.

Utilization of NSP funds beyond the implementation period of the project:

	<ul style="list-style-type: none"> • Guarantee Fund: Assuming a 5% annual default during the period, and an average annual fee of 2% on the guarantees granted, at the end of the fifth year the balance of the guarantee fund would be 2.5 Million Euros, which means a loss of 0.2 Million Euros on the initial amount allocated to the guarantee trust. Two options are envisaged for the utilization of NSP funds beyond the implementation period of the project: <ol style="list-style-type: none"> 1. The resources could remain in the guarantee fund if it were found that there is still a potential demand from users who do not have enough guarantees or income to access credit in order to acquire or manufacture improved wood stoves. 2. The resources could be returned to PRONACON for the implementation of a “second phase” of the project or a new project related to ICS. • Credit Line: It is expected that the NSP funds have a rotation of at least 1.5 times through the line of credit granted to financial institutions, with a return of at least 6% annual interest, a default rate of less than 10%, and 4% annual operating costs. With these premises it is estimated that the remaining amount at the end of the project could be approximately EUR 2.1 Million. At the end of the implementation period, the funds could be made available to the Ministry of Economy (PRONACOM) in order to maintain the financing mechanism.
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

5. Monitoring & Evaluation

5.1 Monitoring

Please provide a comprehensive monitoring concept according to the M&E guidelines. Together with the submission of the proposal, the M&E plan should be outlined. The final M&E plan has to be presented with the first annual report.

- *Please provide an outline of planned monitoring activities. Please provide detailed information in Annex 6.*
- *Please make reference to the NAMA Facility M&E Guidance.*
- *Please make sure to include costs for monitoring in your project budget.*
- *Please make sure to address the identification of lessons learned and their communication to the NAMA Facility and the wider community of practice.*

MRV concept: the NSP will use the *Technologies and practices to displace decentralized thermal energy consumption (TPDDTEC)*⁵⁶ methodology under the Gold Standard certification standard. This methodology involves kitchen performance tests in the field or Kitchen Performance Test. The KPT is a field study used to evaluate the performance of ICS in real conditions of use. The KPT enables the evaluation of qualitative aspects of the performance of ICS through surveys within households, as well the comparison of impact of ICS on fuel consumption within households.

The KPT, meticulously developed, is the best tool to understand the

⁵⁶ http://www.goldstandard.org/sites/default/files/revised-tpddtec-methodology_april-2015_final-clean.pdf

emission reduction impact generated by the use of ICS at the household level, because the test is conducted inside the house, evaluating the habits of consumption and fuel use of each family. This requires implementing a methodology adjusted in such a way that it does not involve interrupting daily domestic activities of the families, as well as limiting the intrusion into their homes.

The KPT includes:

- A qualitative household survey to collect basic social, economic and cooking information of the families. The survey is done in two moments, first before implementing the kitchen and then after to implement it, in order to compare data on firewood consumption reduction and habit change in the family. The post installation survey is carried out about a month after the ICS have begun to be used, in order to identify the changes in the cooking method. This survey enables to identify strengths and weaknesses in the performance of the recently installed ICS. Besides potential changes at the economic level or demographic of the houses can be identified. This survey will be conducted every year during the NSP implementation, according to the TPDDTEC methodology.
- A quantitative household survey to measure firewood consumption. This survey serves different purposes:
 - Demonstrate differences in fuel consumption for cooking between households that use traditional cooking technologies and those who use ICS.
 - Analyse consumption patterns of fuel in the medium or long term as a result of the intervention of technology.
 - Evaluate seasonal variations in fuel consumption due to changes in the climate, availability of the resource or local agro-economic cycles.
 - Evaluate the differences in fuel consumption between households that use stoves similar but different fuels

This survey is due every two years. It is proposed to realize the survey at the end of year 3 & 5.

Additionally, another other survey will be conducted at the time of implementing the qualitative surveys mentioned above, to generate information on the following two monitoring elements:

- Adoption: to generate information on why families use the ICS or not.
- Maintenance: the results of the adoption survey will be used to identify maintenance needs for ICS installed in households in order to be able to address them.

Monitoring operation strategy:

Besides extension agents and technical staff from partner organizations, the NSP will build on local support agents (voluntarily designated within communities), based on the assumption that the best interlocutors in the field are the communities themselves. This operative model is used by the most successful stove operator at the regional level: the Work and Family Institute (ITYF for its Spanish acronym - *Instituto Trabajo y Familia*), a Peruvian non-profit organization. Under this model, extensions agents, technical staff and

local agents will be trained in raising awareness of families, installing stoves, monitoring, helping in the maintenance, etc. These agents will receive no financial incentive (following the successful experience of ITYF in Peru). Budget is required only for the implementation of the local trainings, which includes the cost of the trainer, eventing and catering service, accommodation and transport for participants as needed, as well as the impression of training and support materials. Some of the local agents will be invited to regional and national events (eventually international) to share lessons-learned from the field.

Manufacturers and distributors will have to monitor the ICS sold and distributed in order to access the financial products facilitated by the NSP. The information will be shared with the NAMA administration.

The M&E officer and the coordinator assistant will be in charge of supervising the day-to-day monitoring activities conducted by the extension agents, technical staff and community support agents mentioned above.

Monitoring of the financial component:

The FC officer will be in charge of the overall supervision of the FC. In particular, he/she will be responsible for the monitoring of:

- Financial products (subsidies and incentives):
 - Coordinating with MIDES, MINEDUC and INAB
 - Carrying out the actions necessary for the successful execution of the agreements and delivery of subsidies and incentives
 - Preparing reports
- Financial mechanisms:
 - Coordinating with the entities of microfinance, savings and credit cooperatives and banks.
 - Carrying out the actions necessary for the successful execution of the agreements.
 - Carrying out the executive actions emanating from the operation of the established fund (trust) for the granting of the line of credit for financial institutions and the guarantee fund.
 - Prepare, analyze and submit for consideration of the Committee Technician of the fund, the requests that are generated for the line of credit as for the granting of guarantees.
 - Supervise and verify that the fiduciary of the fund leads to the actions derived from the instructions of the Technical Committee of the Trust Fund

Besides:

- The Technical Committee of the Fund, to be composed of 3 financial specialists appointed by PRONACOM, will be informed of the requests to the fund and will resolve them according to technical criteria, providing the instructions to the Trustee. The Committee will meet with the periodicity required by the operations of the fund, but at least once a month.
- The Consultative Committee of Financial Entities: Consultative body to the NSP, composed of representatives of all microfinance entities, savings and loan cooperatives, Credit and Banks that sign agreements with the project. Its function will be

	<p>to provide feedback to the NSP team on the implementation of the financial component. It will meet at least every 2 months.</p> <p>Monitoring of the technical component: The M&E officer, supported by the assistant of the coordinator, will be in charge of the monitoring of the TC. The assistant of the coordinator is a key actor of the NSP monitoring particularly for the monitoring of activities at territorial level. She/he will work closely with extension agents, technical staff of partner organizations and community support agents; and will report to the M&E officer and NSP coordinator.</p> <p>Outline of planned monitoring activities: Under the supervision of the NSP coordinator- in charge of the macro-management of the NSP-, the following monitoring activities will be performed:</p> <ul style="list-style-type: none"> • MRV: In line with the TPDDTEC methodology, the KPT qualitative household survey, together with the adoption and maintenance survey, will be conducted at the end of every year of the NSP, while the KPT quantitative household survey will be conducted at the end of year 3 & 5. • FC: Evaluation of the implementation of the financial products (subsidies and incentives) and financial mechanisms (Guarantee Fund and Credit Line) will be conducted twice a year, complemented by the monitoring activities realized by Technical Committee of the Fund (at least once a month) and the Consultative Committee of Financial Entities (to meet at least every 2 months). • TC: Evaluation of TC activities progress will be performed twice a year.
5.2 Evaluation	<p>Given its duration (>3 years), the NSP will be subject to a mid-term and end-of project evaluation, both mandated and managed by the NAMA Facility. Donors may also request other project evaluations.</p>

6. Budget and Financing Structure (in EUR, incl. VAT where applicable)

Please illustrate how the funding contributions from the NAMA Facility to the NSP are expected to be distributed over the project duration. Please fill in the table(s) relevant to the specific component (FC or TC). A detailed cost calculation (total costs, annual costs, and itemized costs) is to be attached in Annex 5. Please note: All indirect costs and overheads need to be included in the cost calculation and budget. Please specify if different practice is applied. Please make sure that the forecasted annual funding volumes correspond to the gantt chart.

FC Component (NSP funding only)

Categories	2019	2020	2021	2022	2023	Total
Subsidies	50 000	150 000	100 000	100 000	100 000	500 000
Incentives	150 000	450 000	300 000	300 000	300 000	1 500 000
Guarantee Fund	280 000	840 000	560 000	560 000	560 000	2 800 000
Credit Line	200 000	600 000	400 000	400 000	400 000	2 000 000
Contingencies	34 000	102 000	68 000	68 000	68 000	340 000
		2 142	1 428	1 428	1 428	
Total	714 000	000	000	000	000	7 140 000

TC Component (NSP funding only)

2018	2019	2020	2021	2022	2023	Total
------	------	------	------	------	------	-------

Personnel	64 800	97200	129 600	129 600	129 600	97 200	648 000
Travel							
expenses	3942	5 913	7 884	7 884	7 884	5 913	35 478
External							
Services	207000	310 500	414 000	414 000	414 000	310 500	1 863 000
Procurement	21520	32 280	43 040	43 040	43 040	32 280	193 680
Operational							
costs	357	536	714	714	714	536	3 213
Other costs	70000	105 000	140 000	140 000	140 000	105 000	630 000
Contingencies	18381	27 572	36 762	36 762	36 762	27 572	165 429
Total	386 000	579 000	772 000	772 000	772 000	579 000	3 860 000