

Mexico New Housing

Final Evaluation and Learning Exercise (ELE) Report & Management Response

June 2022

Overview

- **Management Response:** response to the recommendations made by the evaluation team in this Evaluation and Learning Exercise (ELE) report. Jointly written by the NAMA Support Project (NSP) and the Technical Support Unit (TSU) of the NAMA Facility.
- **Evaluation and Learning Exercise Report:** external and independent evaluation conducted by the consortium AMBERO and Oxford Policy Management.

Evaluation and Learning Exercise (ELE) of the Mexico Housing NAMA Support Project (NSP) - Management Response

1. Background

In 2021, the NSP Mexico Housing was subject to an independent final-project ELE conducted by an evaluation team led by AMBERO Consulting. The ELE report is published on the NAMA Facility's [website](#).

The NSP and Technical Support Unit (TSU) provided responses to the recommendations made by the evaluation team as follows:

2. Response to the recommendations to political implementing partners and the NSP Team for the continuation of the NAMA for Sustainable Housing in Mexico

Recommendations	Activities	Responsible Entity	Timeline
Recommendation 1: To obtain or expand results, it is necessary to establish effective mechanisms for intergovernmental coordination and alignment of interests and actions.	<p>Recommendation partially accepted.</p> <p>A Coordination Committee with several institutions in the housing sector was established at the beginning of the project and worked well. However, with the change in administration, this Committee was dissolved and there is not enough political will to restore it in the short term. SHF is trying to restore the coordination mechanism however there is not yet enough political will to make it happen.</p>	SHF	Ongoing
Recommendation 2: Stakeholder consultations should be involved in developing new LCH projects so that they respond to the local and emerging needs and context.	<p>Recommendation partially accepted.</p> <p>We agree that participatory processes are needed in the LCH sector. One idea is to develop a contest at a municipal level to consider the needs of local communities. SHF/KfW will search for funds to implement this recommendation soon. However, its implementation is dependent on having the availability of funds.</p>	KfW/SHF	2022
Recommendation 3:	<p>Recommendation partially accepted.</p>	KfW and SHF	2022

<p>Increase commitment and ownership by involving the most promising actors at the respective level of action.</p>	<p>We agree with the proposal. The idea presented above is to develop a contest at a municipal level to consider the needs of local communities. SHF/KfW will search for funds to implement this recommendation soon. However, its implementation is dependent on having the funds.</p>
<p>Recommendation 4: Housing institutions in Mexico (SHF, INFONAVIT, FOVISSSTE, CONAVI, etc.) should continue to use the SISEVIVE tool, simplify the calculation method and evolve to a universal, efficient construction label that includes the application of the Mexican NOM-020-ENER standard.</p>	<p>Recommendation partially accepted.</p> <p>We agree with the recommendation and are in the process of simplifying the calculation method for the SISEVIVE tool together with GIZ and CEELA. However, we do not control what other institutions in the sector can do (INFONAVIT, CONAVI, FOVISSSTE).</p>
<p>Recommendation 5: Enhance participatory processes involving the homeowners and developers.</p>	<p>Recommendation accepted.</p> <p>We agree with the recommendation and are in the process of simplifying the calculation method for the SISEVIVE tool together with GIZ and CEELA.</p>
<p>Recommendation 6: Prioritise LCH applications according to the different climate zones.</p>	<p>Recommendation partially accepted.</p> <p>We agree that some prioritisation to foster increasing emission reduction would be welcome. However, the program is demand-driven, and our experience shows that incentives are needed and SHF is not in the position to offer them yet.</p>
<p>Recommendation 7: Focus on introducing eco-technologies with high carbon-saving potential and the massification of cheaper LCH measures.</p>	<p>Recommendation rejected.</p> <p>This is something the EcoCasa Program already does by letting developers choose from a variety of eco-technologies and having a minimum EE threshold. The market tends to choose the most cost-effective option.</p>

Recommendation 8: The cash flow needs of the developers should be adequately considered during the financial support design.	Recommendation accepted. To support developers' cash flow needs the level of construction requirement was decreased to 80% instead of 100%. In this sense, developers could request the subsidy sooner.	SHF, KfW	2022
Recommendation 9: Explore the participation of commercial banks in financing LCH.	Recommendation partially accepted. This is something that has been carried out since 2018 as part of the EcoCasa Program as this program offers lower interest rates and loans instead of subsidies. However, banks refinance themselves at very low-interest rates. We are exploring other financial instruments such as guarantees but it is not clear as of today if this can be implemented in the short term.	SHF	Ongoing
Recommendation 10: Grant procedures should be simplified.	Recommendation accepted. This was done towards the end of the NSP by requiring less documentation and procedures.		Already implemented.
Recommendation 11: SHF should work on financial training and promoting financial products in the SME sector.	Recommendation accepted. Agreed this will be the focus of SHF in the following years. Many SME developers are already passing to the EcoCasa Program as it is an ongoing activity.	SHF	Ongoing
Recommendation 12: A shift of the risk towards government institutions (SHF), for example through a guarantee fund, should be explored by the government of Mexico.	Recommendation partially accepted. SHF is exploring this option but has not established if it is feasible yet.	SHF	Ongoing

3. Response to the recommendations to the NAMA Facility for the review, approval, and management of future interventions

Recommendations	Activities	Responsible Entity	Timeline
Recommendation 1: Consider monitoring the level of engagement of the political implementing partners through the regular progress reporting.	<p>Recommendation partially accepted.</p> <p>The engagement of the political partners and the broader political context of NSPs are already monitored through the regular reporting to the NAMA Facility through the Chapter 1 of the NSP Annual and Semi-Annual Reports, where the projects are asked to reflect on any political and/or institutional changes in the country and discuss their effects on the NSP. Additionally, this information is captured through the regular exchange between the TSU and the NSPs. A more explicit guiding question on the dynamics of the partner engagement is to be added as a clarification to the Annual and Semi-Annual report templates.</p>	TSU	Ongoing

Final Evaluation and Learning Exercise of the Mexico Housing NAMA Support Project

NAMA Support Project Evaluation and Learning
Exercises for the NAMA Facility

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Final Report

Tobias Kühner, Gerardo Canales Gonzalez, René Álvarez Gutiérrez

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NAMA Facility

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AMBERO Consulting provides services to our clients in the field of international development. Since 2003, we have supported national and international development agencies in the design, preparation, implementation, and monitoring of small and large projects that improve living conditions around the world.

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Disclaimer

The results and analysis included in the report are based on an external and independent evaluation conducted by the consortium AMBERO-OPM. The conclusions drawn in the report do not necessarily reflect the official views of the NAMA Facility and/or of the NAMA Support Project under evaluation.

AMBERO Consulting Gesellschaft mbH

Westerbachstraße 3
D-61476
Kronberg i.Ts
Deutschland

Tel: +49 6173 325 40 0
Fax: +49 6173 325 40 22
Email: info@ambero.de
Website: www.ambero.de

Oxford Policy Management Limited

Registered in England: 3122495

Level 3, Clarendon House
52 Cornmarket Street
Oxford, OX1 3HJ
United Kingdom

Tel: +44 (0) 1865 207 300
Fax: +44 (0) 1865 207 301
Email: admin@opml.co.uk
Website: www.opml.co.uk
Twitter: [@OPMglobal](https://twitter.com/OPMglobal)
Facebook: [@OPMglobal](https://facebook.com/OPMglobal)
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Preface

The NAMA Facility is a joint initiative of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), UK's Department for Business, Energy and Industrial Strategy (BEIS), the Danish Ministry of Climate, Energy and Utilities (KEFM), the Danish Ministry of Foreign Affairs (MFA), the European Union and the Children's Investment Fund Foundation (CIFF). The NAMA Facility was established in 2013. The NAMA Facility's vision is to 'accelerate carbon-neutral development to keep temperature increases to well below two degrees Celsius by supporting NAMA Support Projects (NSPs) that effect sector-wide shifts toward sustainable, irreversible, carbon-neutral pathways in developing countries and emerging economies. All NSPs with an overall duration of more than three years are subject to a mid-term and a final evaluation and learning exercise.

The NAMA Facility's Technical Support Unit (TSU) functions as the secretariat of the NAMA Facility. The TSU commissioned AMBERO and Oxford Policy Management to conduct mid-term and final Evaluation and Learning Exercises (ELEs) for NSPs from calls 1, 2, 3 and 4.

Each ELE is conducted using the same Theoretical Framework (FW), which involves the application of a document review, participatory workshops, and stakeholder interviews to collect evidence about NSPs' results and lessons analysed using a Theory-based approach centred on the use of contribution analysis reinforced by elements of process tracing.

This document presents the findings of the **Final ELE of the Mexico Housing NAMA Support Project**. The report has been reviewed by Luca Petrarulo (Technical Lead, NSP ELE Team) and Elizabeth Gogoi (International Expert A, NSP ELE Team). For further information, please contact vera@ambero.de.

Executive summary

This document presents the findings of the **final Evaluation and Learning Exercise (ELE) of the Mexico Housing NAMA Support Project (NSP)**, focusing in particular on its **Financial Component**. The NSP had a Technical Component as well that ended in 2017, which was already evaluated in 2018. The NSP has been developed and implemented in support of the broader NAMA for Sustainable Housing in Mexico, which was launched by the government in 2011.

This ELE was undertaken during the period July-October 2021. In accordance with its Terms of Reference¹, this ELE sought to address the following questions:

- Has the NSP achieved its planned results?
- Has the NSP started to trigger transformational change?
- What can be learnt from the NSP?

More information about the focus of this ELE and on the methodology followed can be found in Section 1.2 and Section 2, respectively.

The Financial Component of the Mexico Housing NSP was implemented between 2016 and 2021, with a total budget of 10 million Euros. It was managed by KfW, in collaboration with the *Sociedad Hipotecaria Federal* (SHF) as national implementing partner.

The purpose of the NSP was to strengthen the development of a Low-Carbon Housing (LHC) market in Mexico, fostering the supply and demand of energy-efficient houses and improving related legal frameworks and supporting mechanisms. While the Technical Component focused on improving the policy framework, raising consumer awareness, and building capacities of suppliers of technology and houses, the Financial Component sought to eliminate investment barriers and improve access to finance for the construction of LCH, thus increasing the market supply of LCH by small and medium housing developers. This was expected to contribute to the development of a self-sustained market for energy-efficient residential houses in Mexico.

Originally, the Financial Component was meant to design and implement two new financial instruments directed to SME housing developers: (i) loan guarantees for financial intermediaries to allow them to provide bridge loans to SMEs to aid the developers' cash-flow; and (ii) direct subsidies to the SMEs to partially compensate for the extra costs involved in building LCH, which required new technologies and skilled labour, so that LCH units could be offered at a similar price as other houses. However, in response to the conclusions of its 2018 mid-term evaluation², the Financial Component changed strategy by dropping the guarantee instrument, simplifying the procedures involved in accessing the subsidies, and intensifying the technical assistance to SME developers about key benefits of eco-technologies for LCH, i.e. to focus on increased marketing.

¹ The ELE Terms of Reference is provided in G.1.² Mid-term evaluation of the Financial Cooperation Component, Final Report, Presented to NAMA Facility Technical Support Unit by SUM-INBAS Consultants, Germany, 27th April 2018

² Mid-term evaluation of the Financial Cooperation Component, Final Report, Presented to NAMA Facility Technical Support Unit by SUM-INBAS Consultants, Germany, 27th April 2018

Table ES-1 summarises the key findings of the ELE according to its five evaluation criteria and uses a Red-Amber-Green (RAG) rating³.

Table ES-1. Summary of key ELE findings

Evaluation criterion / ELE Question and RAG rating	Summary of key findings
1. Relevance: To what extent did the NSP address an identified need?	<p>Despite the changes in priority that occurred after the change in federal administration in 2018, which has been observed as a decreased government engagement, formally, sustainable housing remains a government policy priority. For instance, it is part of Mexico's Nationally Determined Contributions (NDC), and LCH actions are implemented through the Sustainable Housing NAMA⁴. As the NSP has supported the wider NAMA and related public programmes, it is aligned with the national government's agenda.</p> <p>The NSP Financial Component is also aligned with the priorities and agenda of SHF⁵. SHF considered the Financial Component as part of its ECO CASA programme, which started in 2013, and contributed to motivate SHF to maintain and expand financing support for this type of projects beyond the implementation period of the NSP.</p> <p>The NSP was also relevant to the specific needs of different stakeholders in the LCH market, such as providing financial and technical support to the SME housing developers and technical assistance and capacity building to other public institutions involved in the housing market, e.g. the National Housing Commission (CONAVI).</p>
2. Effectiveness: To what extent has the NSP achieved intended (and unintended) outcomes?	<p>The main investment barriers that the NSP expected to address were the limited access to construction finance for SMEs, the lack of knowledge and experience on LCH in the market, the high costs of building materials and technologies, and the lack of policy incentives.</p> <p>The projects financed by the NSP proved that LCH delivers benefits of financial savings, emission reductions and increased comfort. This helped the market realise the potential business opportunities associated with it. Positive advancements were perceived in terms of increased knowledge and capacities for LCH by SME developers and the strengthening of the supply of eco-technologies which include insulation materials, bioclimatic design measures and efficient and renewable equipment (e.g. solar water heaters) that aim to reduce the environmental impact and energy consumption of the house built.</p> <p>However, the targets of the performance indicators in terms of leveraged funds and number of LCH units built were far from being achieved. Delays, accompanied</p>

³ Good/ Very good = Green; Problems = Amber; Serious deficiencies = Red; Not enough info to rate = Grey.

⁴ Sustainable Housing is formally a governmental objective. However, it seems as it is not a priority anymore as no further engagement on behalf of government to promote new sustainable housing was observed.

⁵ SHF has a strong mandate to promote energy efficiency in the residential housing sector as the lead agency for the implementation of the programme for sustainable urban developments (*Desarrollos Certificados*). As implementing agency for ECO CASA, an initiative funded by BMZ through KfW, the Clean Technology Fund (CTF) through the Inter-American Development Bank (IDB) and the Latin American Investment Facility (LAIF) of the European Commission through KfW/IDB, SHF is at the forefront of the implementation of the NAMA to reduce greenhouse gas emissions from residential buildings.

	<p>by insufficient applications by developers, were the principal causes for the Financial Component to miss its key goals within the agreed project timeframe.</p> <p>In addition, the enabling conditions to incentivise the sustained development of the LCH market in Mexico are still partial, particularly as a consequence of the change in priority of the federal government on this matter. However, concrete efforts have been displayed by the different government partners of the NSP to continue supporting advancements on LCH.</p>
<p>3. Efficiency:</p> <p>To what extent was the delivery of output activities timely and to expected quality standards, particularly regarding structure & steering?</p>	<p>The overall NSP efficiency was assessed as problematic, although the situation at the end of the project improved significantly. The delivery of outputs was perceived as timely and of the right quality standards, including the structure and steering of the project. However, some delivery problems, like bureaucratic challenges or coordination loopholes between CONAVI⁶ and the Financial Component, were identified during the analysis. Moreover, the delays in the start of the Financial Component and, therefore, the limited overlap and synergies with the Technical Component affected the optimal implementation of the former.</p>
<p>4. Impact:</p> <p>What evidence is there that the NSP has been contributing to the intended impact in the ToC (incl. transformational change)?</p>	<p>The NSP was expected to contribute to building a self-sustained market for LCH in Mexico, bringing about a less carbon-intensive development pathway for the housing sector as a whole.</p> <p>The NSP appropriately built on the long-standing experience in sustainable housing in Mexico brought about by the NAMA. The Financial Component worked along and strengthened the existing instruments, such as the housing and eco-technology loan programs, the Green Mortgage of INFONAVIT and ECOCASA of SHF. For example, during the time of the Financial Component implementation, SHF saw a steep increase in the construction of houses with the highest energy efficiency performance.</p> <p>The design of the NSP was focused on producing systemic change, particularly in terms of creating a market for LCH and addressing investment barriers. New technologies were introduced into the Mexican market, with energy-efficient materials being made more available and new suppliers emerging. National capacities in developing, funding, and supporting efficient housing were improved across a wide range of stakeholders, in particular SME developers, officials of housing institutions, financial organisations, and consultants. Some public policies are now requiring efficient technologies, which should provide some long-term and sustained momentum towards LCH. This is the case, for instance, of the Green Mortgage from INFONAVIT, ECOCASA from SHF, and CONAVI programmes.</p> <p>Although the sector's transformational change is still incomplete, based on the catalytic, demonstrational, and learning effects described above, it is likely that the NSP may result in additional, large-scale and sustained GHG emissions reductions in the future.</p>

⁶ The *Comisión Nacional de Vivienda* that operates housing subsidies for low-income families in Mexico. For more information on CONAVI's role in the NSP, see chapter 3.1 and footnote 14 on page 10.

<p>5. Sustainability:</p> <p>What is the likelihood that the outcomes will be sustained after the end of the NSP funding period?</p>	<p>Mexico is in the process of transitioning towards sustainable housing, which the NSP has contributed to. As a result of the NSP, the LCH market seems viable and likely to continue even after the financial support ends. The market has consolidated business models, and a large proportion of the developers are convinced of the benefits of LCH. The stability of the market benefits manufacturers and suppliers of eco-technologies, users who can achieve better comfort with less spending, and in general, the entire value chain.</p> <p>However, the sustainability of the LCH market is put at risk by the reduced political commitment by the federal government, institutional coordination, and the affordability of private financing, which generate discouragement and uncertainty in the market. Similarly, financial schemes have areas of opportunity to achieve a greater impact on SMEs' participation in LCH building in addition to mobilising more resources from commercial banks.</p>
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Based on the analysis, a **summary⁷ of the key lessons** deriving from the ELE is provided below:

1. The parallel and coordinated implementation of the Technical and Financial Components can lead to better results.
2. Technical assistance for Financial Components is often necessary.
3. Less bureaucracy (e.g. in applying for and disbursing funds) enhances project participation.
4. Intersectoral alignment, attention to the local context and coordination to raise political support at the governmental level is key to success.
5. Different eco-technologies can work better in different climates, and if they are not strategically selected, they do not maximise impact and benefits.
6. SMEs need easier and more timely access to financing products.
7. While grants are very attractive for developers, they are generally not so attractive for financial intermediaries, who gain little from offering them.

From these lessons, specific recommendations for the political implementing partners of the Sustainable Housing NAMA, the NAMA Facility, and future NSPs applicants were derived. **Table ES-2 presents a summary⁸ of these recommendations.**

Table ES-2. Key recommendations from the Final ELE

Summary of recommendations
Recommendations to the political implementing partners and the NSP Team for the continuation of the NAMA for Sustainable Housing in Mexico

⁷ Please refer to section 5 for the full description of the lessons.

⁸ Please refer to section 5 for the full description of the recommendations.

1.	To obtain or expand results, it is necessary to establish effective mechanisms for intergovernmental coordination and alignment of interests and actions.
2.	Stakeholder consultations should be involved in developing new LCH projects so that they respond to the local and emerging needs and context.
3.	Increase commitment and ownership by involving the most promising actors at the respective level of action, for example, by finding new partners at the city or state level.
4.	Housing institutions in Mexico (SHF, INFONAVIT, FOVISSSTE, CONAVI, etc.) should continue to use the SISEVIVE tool, simplify the calculation method and evolve to a universal, efficient construction label that includes the application of the Mexican NOM-020-ENER standard.
5.	Enhance participatory processes involving the homeowners and developers, for example, in calculating savings through DEEVi (software for energy efficiency simulation).
6.	Prioritise LCH applications according to the different climate zones.
7.	Focus on introducing eco-technologies with high carbon-saving potential and the massification of cheaper LCH measures, even if they individually have less mitigation potential.
8.	The cash flow needs of the developers should be adequately considered during the financial support design.
9.	Explore the participation of commercial banks in financing LCH.
10.	Grant procedures should be simplified, for instance, not via a flexible cost reimbursement scheme, but through fixed lump sums (e.g. for m ²) or other objective variables.
11.	SHF should work on financial training and promoting financial products in the SME sector.
12.	A shift of the risk towards government institutions (SHF), for example through a guarantee fund, should be explored by the government of Mexico.
Recommendations to the NAMA Facility for the review, approval, and management of future interventions	
1.	Consider monitoring the level of engagement of the political implementing partners through the regular progress reporting. Just with active and committed partners, and a high level of ownership, sustainable results can be achieved.
Recommendations to future NSP applicants	
1.	Ensure there is enough overlap in implementation time between both components to build synergies, avoid disconnects, and increase impact.
2.	Ensure the existence of well-established governance and regular coordination through meetings and information exchange between the delivery organisations of the Technical and Financial Components and key stakeholders.
3.	The Technical Component should have the specific mandate, expectation, and scope to support the Financial Component and vice versa.
4.	As it proved successful in this NSP, future NSPs could consider allocating budget for TA through the Financial Component, especially if the parallel implementation of the NSP components is not possible.
5.	If TA activities are outsourced, they should be designed by the NSP before the procurement of the TA implementing entity (to the extent possible by the respective procurement guidelines).
6.	Financial Component delivery organisations must simplify the bureaucratic steps to access their financial support within the limited legal framework.
7.	Ex-post quality assurance systems, such as through spot-checks, could be considered to decrease excessive bureaucracy in the financial instruments' application process.

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List of abbreviations

BEIS	Business, Energy and Industrial Strategy
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit)
BMZ	German Federal Ministry for Economic Cooperation and Development (Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung)
CCM	Climate-Change Mitigating
CIFF	Children's Investment Fund Foundation
CONAVI	Comisión Nacional de Vivienda
COP	Conference of the Parties
COVID-19	Corona Virus Disease 2019
DEEVi	Diseño Energéticamente Eficiente para la Vivienda
EE	Energy-efficient
ELE	Evaluation and Learning Exercise
ELEQ	Evaluation and Learning Exercise Question
EQ	Evaluation Question
EUR	Euro
FC	Financial Component
FOVISSSTE	Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Housing Fund of the Institute of Social Security and Services for State Workers)
FW	Framework
GHG	Greenhouse Gases
GIZ	Gesellschaft für Internationale Zusammenarbeit
GOPA	Gesellschaft für Organisation, Planung und Ausbildung
IDB	Inter-American Development Bank
INFONAVIT	Instituto del Fondo Nacional de la Vivienda para los Trabajadores (Institute of Housing for Workers)
KEFM	Danish Ministry of Climate, Energy and Utilities
KfW	KfW Development Bank (KfW – Kreditanstalt für Wiederaufbau)

KII	Key Informant Interview
LCH	Low Carbon Housing
Logframe	Logical Framework
M&E	Monitoring and Evaluation
MFA	Ministry of Foreign Affairs
MRV	Measuring, Reporting, and Verification
NAMA	Nationally Appropriate Mitigation Action
NDC	Nationally Determined Contributions
NGO	Non-Governmental Organization
NSO	NAMA Support Organisation
NSP	NAMA Support Project
NT	NSP Team
OECD DAC	Organisation for Economic Co-operation and Development's Development Assistance Committee
OPM	Oxford Policy Management
QA/QC	Quality Assurance/Quality Control
SEDATU	Secretaría de Desarrollo Agrario, Territorial y Urbano
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales
RAG	Red Amber Green
RUV	Registro Único de Vivienda
SH	NSP Stakeholder
SHF	Sociedad Hipotecaria Federal
SME	Small and Medium-Sized Enterprise
TC	Technical Component
ToC	Theory of Change
TP	Third Party
TS	Types of Sources
TSU	Technical Support Unit, NAMA Facility

1. Introduction

This document presents the findings of the **final Evaluation and Learning Exercise (ELE) of the Mexico Housing NAMA Support Project (NSP)**, focusing in particular on its **Financial Component**. The NSP had a Technical Component as well that ended in 2017, which was already evaluated in 2018. Some findings of the previous evaluation were taken into account for the elaboration of this report. However, as the evaluation of the Technical Component followed another methodology and approach, not all examined elements were congruent with, and therefore applicable to, the current ELE of the Financial Component. This ELE was undertaken during the period July-October 2021.

1.1 Overview of the NSP

The NSP was conceived to support the implementation of the wider NAMA for Sustainable Housing in Mexico, which was launched at the 17th Conference of Parties of the United Nations Convention on Climate Change (UNFCCC) in Durban in 2011. In particular, the NSP Financial Component complements the ECOCASA Programme, a joint initiative of the Mexican development bank Sociedad Hipotecaria Federal (SHF), the Inter-American Development Bank (IDB) and the German state-owned investment and development bank “Kreditanstalt für Wiederaufbau” (KfW) within the framework of the Mexican NAMA for Sustainable Housing.

The purpose of the NSP was to strengthen the development of a Low-Carbon Housing (LHC) market in Mexico, fostering the supply and demand of energy-efficient houses and improving related legal frameworks and supporting mechanisms. The NSP Financial Component was implemented between 2016 and 2021, with a total budget of 10 million Euros. It was managed by KfW in collaboration with SHF as the national implementing partner. The Technical Component was managed by the Gesellschaft für Internationale Zusammenarbeit (GIZ) and implemented closely with the National Housing Commission (CONAVI) together with the Ministry of Agrarian, Territorial and Urban Development (SEDATU).

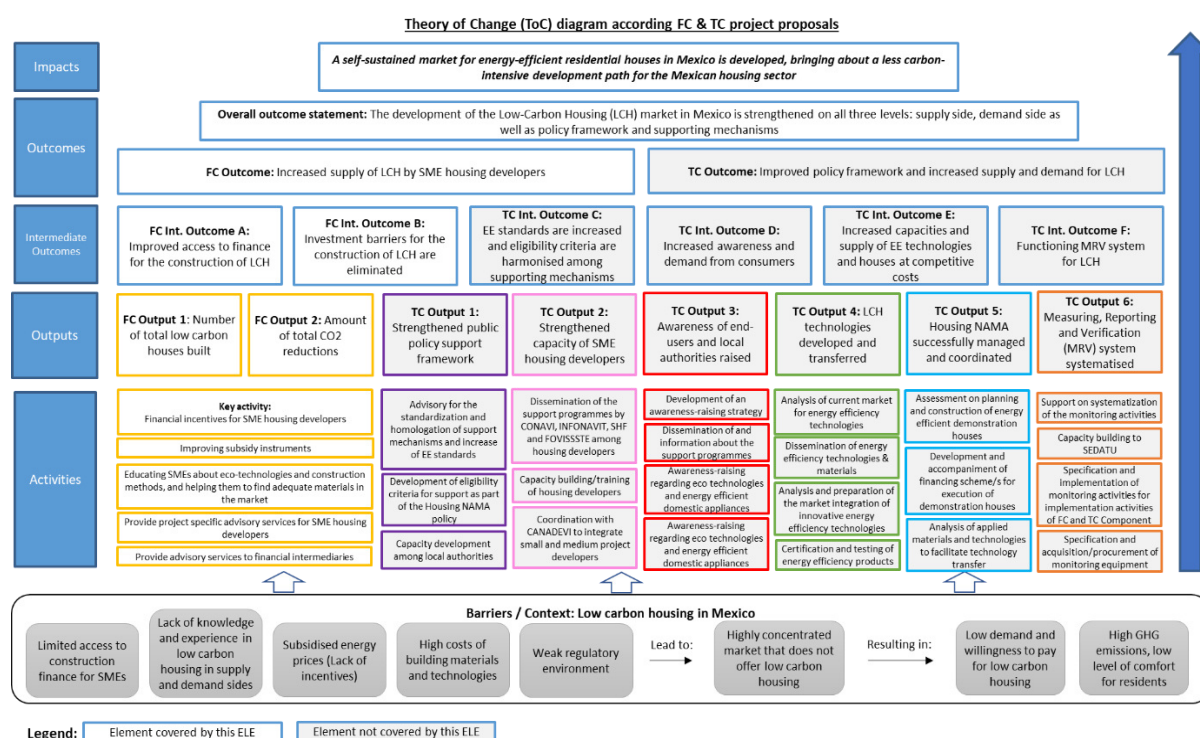
Figure 1 illustrates the Theory of Change (ToC) of the NSP (see a full-page version in Annex A), and its elements are briefly described below.

The problem: Before the NSP, energy efficiency considerations in housing were largely absent in Mexico, even though the sector was responsible for approximately 17% of total energy consumption in the country⁹. As indicated in Figure 1, the main barriers to reducing emissions from the housing sector were related to the lack of knowledge, awareness and experience in LCH (from both housing developers and consumers), lack of incentives for adopting energy efficiency measures due to energy price subsidies, lack of competitive sourcing of eco-technologies and technical capacities for their proper design and installation, and lack of regulation and policies to promote sustainable housing. There were also financial barriers related to financial institutions’ lack of experience and resistance in

⁹ According to the Global Alliance for Buildings and Construction (GlobalABC), greenhouse gas emissions from the use of energy by buildings account for some 20% of global emissions.

financing LCH projects, which limited access to construction finance for small and medium enterprises (SMEs).

Figure 1. Theory of Change of the Mexico Housing NAMA Support Project



The impact and outcomes of the NSP: The expected impact of the NSP is to put the housing sector onto a less carbon-intensive pathway through the penetration of energy efficiency technologies in the market. The NSP as a whole was expected to contribute to three elements linked to transformational change in the sector to achieve: increased supply of energy-efficient houses; increased demand for such houses; and improved legal and policy frameworks and support mechanisms.

The NSP Technical Component was expected to contribute to it by delivering an improved policy framework and increased supply and demand for low carbon housing ('Outcome'). As such, it pursued the following intermediate outcomes: (i) Strengthening the policy framework for the implementation of the Housing NAMA (increase energy efficiency standards and harmonise eligibility criteria among support mechanisms); (ii) Strengthening capacities of LCH developers, national and local authorities, and potential suppliers of eco-technologies; and (iii) Supporting the creation of demand for LCH through awareness-raising activities.

The Financial Component aimed at increasing the supply of LCH by SME housing developers ('Outcome') by achieving two intermediate outcomes: (i) Eliminating investment barriers; and (ii) Improving access to finance for the construction of LCH. Originally, the Financial Component was meant to design and implement two new financial instruments directed to SME housing developers: (i) loan guarantees for financial intermediaries to allow them to provide bridge loans to SMEs to aid the developers' cash-flow; and (ii) direct subsidies to the SMEs to partially compensate for the extra costs involved in building LCH, which required new technologies and skilled labour, so that LCH units could be offered at a similar price as other houses.

Five mandatory core indicators¹⁰ and five NSP-specific outcome indicators were established to monitor progress against the ToC (see Table 1).

Table 1. Outcome indicators of the Mexico Housing NSP

Mandatory Core Indicators
<ul style="list-style-type: none"> • M1: GHG emissions reduced [metric tons of CO2] • M2: number of people directly benefitting from the NSP [number of individuals] • M3: degree to which the supported activities are likely to catalyse impact beyond the NSP [ranking] • M4: volume of public finance (domestic and/or international) mobilised for low carbon investment and development [EUR] • M5: volume of private finance mobilised for low carbon investments and development [EUR]
NSP-specific outcome indicators
<ul style="list-style-type: none"> • Indicator 1: Number of NAMA Housing Units built and registered • Indicator 2: Electricity consumption per housing unit financed or built • Indicator 3: Electricity expenditure per participating household • Indicator 4: CO2 emission per housing unit financed or built per year • Indicator 5: Improving the level of comfort of houses financed and built

The NSP overall results framework at mid-term: The NSP Financial Component underwent a mid-term evaluation in 2018, which assessed the robustness of the overall result framework underpinning the NSP's strategy (the equivalent of the ToC) at its mid-point. However, only one year had passed since the beginning of the Financial Component implementation, so the evaluators had not enough evidence to carry out a fully-fledged interim evaluation. The mid-term evaluation identified some barriers to the NSP to achieve the expected outcomes, which have been reviewed during the course of the final ELE. A summary of the evaluation's key conclusions is reported below:

- Despite the considerable mobilisation efforts by the NSP, the SMEs' demand for bridge loan funding was much lower than expected. Therefore, the bridge loan guarantees were not taking off either. Low-cost housing units are usually built by larger developers; they benefit from significant economies of scale and dominate the production of social housing, one reason why SMEs are reluctant to become involved in NSP-supported housing projects. Those SMEs who need construction capital would go directly to banks, refinance themselves through agreements for delayed payments with suppliers, or incentivise buyers to increase their advanced payments through further discounts.
- The Financial Component's subsidies paid out after selling the housing units and subsidised bank guarantees required much more detailed case-by-case technical assistance than

¹⁰ Indicators that are common to all NSPs funded by the NAMA Facility.

envisaged and did not seem to be sufficient to attract many SMEs for operating in the highly competitive low-cost segment of the housing market.

In response to these conclusions, the Financial Component changed strategy by dropping the guarantee instrument, simplifying the procedures involved in accessing the subsidies, and intensifying the technical assistance to SME developers about key benefits of eco-technologies for LCH.

1.2 Focus of the Evaluation and Learning Exercise

In accordance with its Terms of Reference¹¹, this ELE seeks to address the following General ELE Questions (ELEQs):

- Has the NSP achieved its planned results?
- Has the NSP started to trigger transformational change?
- What can be learnt from the NSP?

In addition, the following specific elements will be considered in this ELE:

- What can be learnt from the fact that the Technical Component ended in 2017 and the Financial Component is still being currently implemented?

The General ELEQs presented above were broken down and operationalised in Specific ELEQs that are answered in this report. In Table 2, the General and Specific ELEQs are mapped against the Organisation for Economic Co-operation and Development's Development Assistance Committee's (OECD DAC) evaluation criteria¹², which are widely used as international standards for evaluations of development interventions. Reference to the relevant report section where each ELEQ / evaluation criterion is treated is also given. Finally, the specific ELEQs were broken down further into sub-questions, which are included in the official ELE Matrix, approved by the NAMA Facility Technical Support Unit (TSU), and reported in Annex C.

Table 2. General and specific ELE questions and their link to the ELE Report sections

General Question	ELE	Specific ELE Question	Evaluation criteria (relevant ELE Report section)
Has the NSP achieved its planned results?		Q1. To what extent does the NSP address an identified need?	Relevance (Section 3.1)
		Q2. To what extent has the NSP achieved intended (and unintended) outcomes?	Effectiveness (Section 3.2)
		Q3. To what extent was the delivery of outputs timely and to expected quality standards?	Efficiency (Section 0)
Has the NSP started to trigger transformational change?		Q4. What evidence is there that the NSP has been contributing to the intended impact in the ToC (incl. transformational change)?	Impact (Section 0)
		Q5. What is the likelihood that the outcomes will be sustained after the end of the NSP funding period?	Sustainability (Section 0)

¹¹ The ELE Terms of Reference is provided in G.1.

¹² Relevance, Effectiveness, Efficiency, Impact, Sustainability. The ELE Team added a 6th criteria, namely Learning.

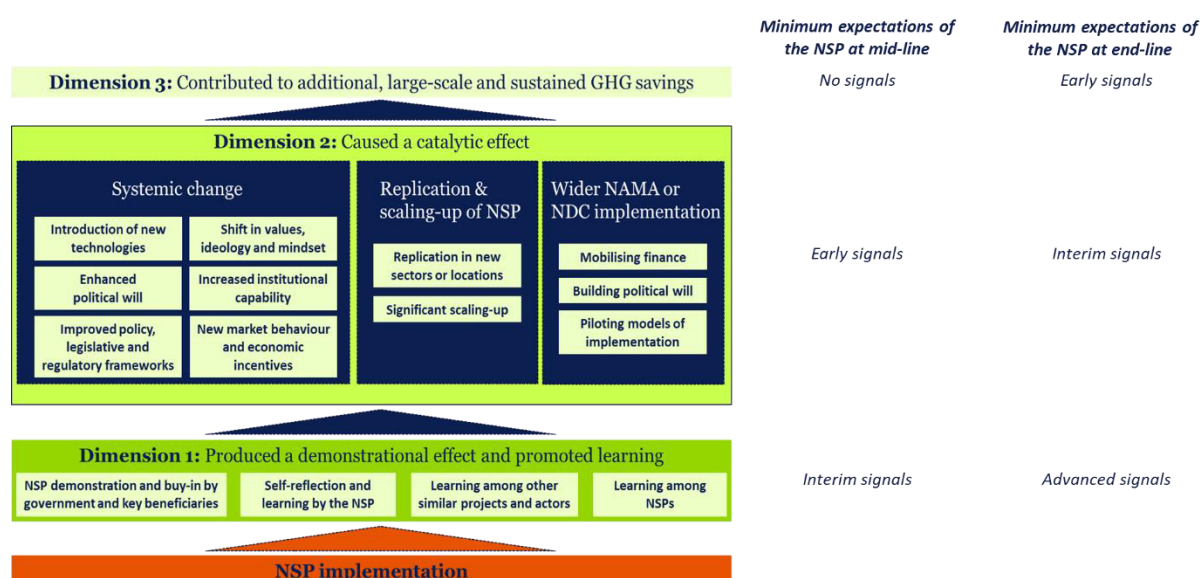
What can be learnt from the NSP?	Q6. What key lessons can be learnt to the benefit of the legacy of this NSP, other NSPs and the NAMA Facility as a whole?	Learning (Section 5.1)
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1.2.1 The NAMA Facility Transformational Change Framework

Some words need to be spent about the concept of Transformational Change, which is included in the General and Specific ELEQs. The enabling of Transformational Change is one of the key aims of the NAMA Facility, and therefore of NSPs. The NAMA Facility defines Transformational Change as *“Catalytic change in systems and behaviours resulting from disruptive climate actions that enable actors to shift to carbon-neutral pathways”*¹³. The NAMA Facility Theory of Change explains how Transformational Change is expected to be achieved through its outputs and outcome. The Theory of Change is broad, and there are different ways in which Transformational Change can be achieved through the NSPs. Figure 2 illustrates three dimensions that interact and reinforce each other to produce NSP-induced Transformational Change. Each NSP will work on different elements of the three dimensions to define its own pathway to or “recipe” for Transformational Change. A more detailed explanation of the Transformational Change framework summarised in Figure 2 is presented in Annex B.

The ELE used the Transformational Change Framework to assess the NSP’s progress towards its impact in Section 0. In particular, in the evidence gathered through the ELE, the evaluators have looked for “signals” of the materialisation of the three dimensions, and classified them as early, interim, and advanced signals according to the definitions in Table 3. The right end of Figure 2 shows the minimum level of signals of each of the three transformational change dimensions that NSPs are expected to have achieved by respectively their mid-line and end-line.

Figure 2. NAMA Facility Transformational Change Framework for NSPs



¹³ <https://www.nama-facility.org/concept-and-approach/transformational-change>

Table 3. Transformational Change “Signals” assessment by ELEs

Signal level	Definitions
No evidence	Evidence suggests little to no progress is being made in line with the ToC causal pathways to Transformational Change.
Early signals	There is emerging evidence of the transformation related to the dimension, or the foundations for the transformation have been laid by the NSP, but no signals of the change are present.
Interim signals	Evidence shows some signals that the transformation related to the dimension is underway, and it is likely to continue.
Advanced signals	Evidence shows strong signals that the transformation related to the dimension is underway, and there is little doubt that it will continue.

2. Methodological approach

The ELE entailed activities under four main phases: Inception, fieldwork, analysis, and reporting.

During the Inception Phase, the ELE Team conducted a review of key NSP documentation, including the NSP Proposal, Annual and Semi-Annual Reports, the NSP Monitoring and Evaluation (M&E) Framework, and the Final Report of the Mid-term evaluation (see the full list of documents reviewed in 0). Following that, the team used the information from the document review to **develop a retrospective ToC diagram**, based on the initial project proposal (see Figure 1 and 5.1 for the validated version).

The data from the document review and the ToC served as a reference point to **develop a tailored matrix including the ELEQs** (ELE Matrix – see Annex C), which the ELE Team **integrated with the initial hypotheses** to be tested by the fieldwork. At the same time, the ELE Team worked on the organisation of the fieldwork interviews. For that, **they applied a *purposive sampling* approach of the key informants according to their level of involvement with the NSP**. In this way, the ELE Team grouped them in **3 general categories: (i) NSP Team**, i.e. members of the NSP Delivery Partners and Implementing Partners, the performance of whom is directly assessed by the ELE; **(ii) NSP Stakeholders**, i.e. developers, company representatives and individuals who have actively supported one or more NSP activities; and **(iii) Third Parties**, i.e. organizations and individuals who received one or more NSP activities (e.g. were part of the audience of an event or training), or who were not involved with the NSP, but are working on similar or relevant issues. This helped the ELE Team to test and triangulate the evidence and to assess its strength. Table 4 summarises the number of interviews and people interviewed (some calls had multiple interviewees) by each sampling category. For a detailed list of the institutions and organisations interviewed, refer to 0.

Table 4. Overview of the number of interviews and interviewees by sampling category

	NSP Team	NSP Stakeholders	Third Parties	TOTAL
No. interviews	5	13	8	26
No. interviewees	7	16	12	35

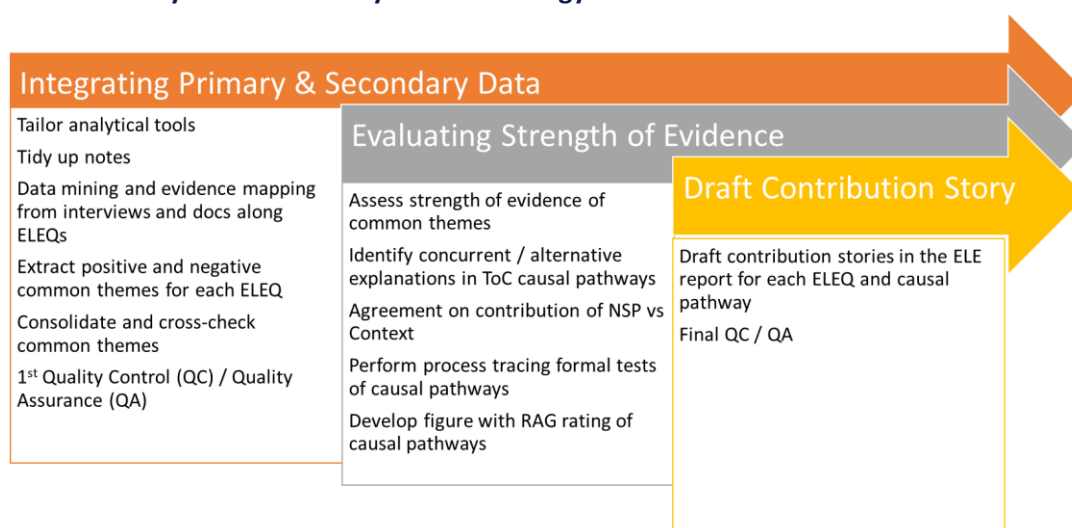
The Fieldwork Phase began with an ELE Kick-Off Workshop on 8 September 2021. The workshop was conducted in a virtual setting and was attended by 9 participants from the NSP Team and ELE Team. The purpose of the workshop was to review, clarify and validate: (i) purpose, scope, and expectations of the ELE and (ii) the NSP's ToC. During the workshop, after an introduction, a Q&A session on the ELE purpose and scope, and a discussion about the NSP Team's expectations from it, the NSP Team had the chance to present their understanding of the key elements of the NSP ToC. This was followed by questions from the ELE Team, and the ELE Team then presented their point of view on the NSP ToC. **The key outcome of the Kick-Off Workshop was the finalisation of a validated NSP ToC diagram** (see 5.1).

The initial workshop was followed by **nine days of primary data collection using in-depth interviews with the NSP Team and Key Informant Interviews (KIIs) with NSP Stakeholders and Third Parties.**

The **general ELE Interview Guides** prepared during the inception phase **were reviewed and tailored to the specific interviews daily**. The Guides followed the ELEQs, and the general structure was kept consistent among interviewees from the same sampling category, but the content and wording of the questions were tailored to capture key knowledge from specific informants, cover knowledge gaps, or simply test hypotheses or triangulate specific information. Where necessary, the interview was conducted in Spanish. **Following the intense period of interviews, the ELE Team was able to brainstorm and update the ELE Matrix with more complete and updated versions of preliminary answers.** The updated ELE Matrix was used to develop the slides for the **ELE Validation Workshop on 24 September**, also held in a virtual setting, with the NSP Team. The main objectives of the Validation Workshop were to **review, discuss and validate the preliminary ELE findings, and identify ways to adapt the NSP based on the lessons identified**. The fruitful discussion on preliminary ELE findings allowed the ELE Team to validate them in collaboration with the NSP Team and identify and discuss recommendations as laid out in section 5.

The final part of the fieldwork moved the ELE Team into the **Analysis Phase**. Figure 3 illustrates the different steps taken to analyse the data.

Figure 3. Summary of the ELE Analysis Methodology



For drafting the contribution story, a Red-Amber-Green (RAG) rating was used. Section 3 of this report uses the evidence and emerging themes discussed above to present the ELE Team's findings in terms of the performance of the NSP against the OECD DAC criteria (relevance, effectiveness, efficiency, impact, and sustainability) and (under the effectiveness criteria) its performance against the ToC intermediate outcomes. Performance is summarised for each DAC criterion and/ or ToC intermediate outcome, in the form of a RAG score, as follows: Green – good/ very good performance; Amber - some progress but problems also identified; Red - serious deficiencies in the performance.

Evaluating the strength of the evidence: To assess the strength of the evidence behind the emerging themes extracted from the interview notes or documents, the ELE Team cross-referenced each emerging theme with its sources. Then, the Team went through all the emerging themes again and rated the strength of the evidence behind each of them according to the score card in Table 5. The rating exercise highlighted the number (i.e. one, two or more than two) and the types of sources (i.e. NSP Team, NSP Stakeholders, Third Party) for each theme. The more number and types of sources a

theme came from, the stronger the evidence underpinning it was considered. For example, the evidence of a theme that was only reported in one interview or document was considered weaker than the evidence of a theme that was reported in three or more interviews or documents. Similarly, the evidence of a theme reported in interviews of the same stakeholder group (e.g. NSP Team) was considered weaker than the evidence of a theme reported by multiple stakeholder groups (e.g. NSP and NSP stakeholders). **A key methodological limitation** is that the threshold to define what constitutes weak or strong/very strong evidence is subjective, and it has been decided by the evaluators based on the size and diversity of the sample of sources. Therefore, the strength of evidence labels (weak, medium, etc.) are only to be viewed in relative terms to the evidence of the other themes rather than in absolute terms. The final result can be seen in the “Evidence and Answers to the ELE Matrix” in Annex D, which still reports the sources and the evidence strength of the emerging themes used in the answers.

Table 5. Score card for assessing the strength of evidence

Quantity (number of sources reporting the evidence)	Variety (number of types of sources (TS) reporting the evidence)		
	1 TS only	2 TSs	3 TSs
1 interview only	Single source		
2 interviews	Weak evidence	Medium evidence	
3+ interviews	Medium evidence	Strong evidence	Very strong evidence

The final ELE phase is the Reporting Phase. During this phase, the ELE Team compiled this report which has undergone internal quality assurance and one round of comments from the NSP Team, the NAMA Facility TSU and its Donors.

The COVID-19 pandemic imposed some methodological challenges on the ELE. The main limitation was the need to conduct the fieldwork in a virtual mode. Although the ELE Team was able to arrange interviews with an appropriate number and variety of stakeholders, the virtual nature of the interviews limited it in two ways. Firstly, the ELE Team was not able to be personally immersed in the NSP’s national and local context. To some extent, this fact may have limited their full understanding of the contextual dynamics influencing the NSP, although the participation of an experienced local consultant in the ELE Team has mitigated this issue to a great extent. Secondly, given travel between interviews was not required, it was possible to schedule more interviews, of which many were back-to-back interviews. This meant that the team had to concentrate and absorb large amounts of information for a long duration.

3. Key Findings

In this section, the ELE Team presents the main findings of the ELE. These are structured according to the ELE Questions in Table 2. At the beginning of each section, a RAG rating of the strength of the NSP's contribution story to the ToC and the OECD DAC criteria is included.

3.1 Relevance of the NSP

Relevance

1. To what extent does the Financial Component of the NSP address an identified need by the national government, SMEs and project developers? (Incl. alignment with national agenda)

The NSP was conceived to support the wider Sustainable Housing NAMA and related public programmes. For instance, the NSP was implemented in coordination with SHF and CONAVI, which are organisations involved in the improvement of public policy around financial and regulatory aspects of sustainable housing. **As sustainable housing remains a government policy as part of the NDC, the NSP is aligned with the national government's agenda.**

The Financial Component of the NSP was clearly aligned to the priorities and agenda of the SHF and helped strengthen this line of work. The SHF considered the Financial Component to be a part of its ECOCASA programme, which started in 2013, while adding new elements to it, such as different types of subsidy and technical assistance. While ECOCASA provides preferential bridge loans to financial intermediaries used by LCH developers, the NSP subsidises the additional costs of energy-efficient construction and pays out the subsidies directly to the SME. The NSP's Financial Component provided much more intensive technical assistance due to the technological challenges of energy-efficient construction for SMEs developers. Housing developers considered that the NSP helps widen and deepen the markets for sustainable housing within the ECOCASA family of sub-programmes, by focusing on SMEs who had previously been only marginally involved in the mass production of sustainable housing.

The NSP was also helpful in aligning SHF with other public agencies related to the LCH market such as COVANI, INFONAVIT and FOVISSTE. For example, there was direct interaction and conceptual alignment between CONAVI¹⁴ and SHF, for instance through their joint participation in the Intersectoral Roundtable on Sustainable Housing ("Mesa Transversal"¹⁵), in the decision-making process for determining distribution criteria for public sustainable housing subsidies, in the establishment of measurement, reporting and verification (MRV) methods, and in sharing basic guidelines for SMEs' capacity-building.

¹⁴ CONAVI operates housing subsidies for low-income families and therefore some developments supported by the NSP Financial Component were also beneficiaries of CONAVI. In addition, the NSP Technical Component was managed by GIZ in close cooperation with CONAVI professionals. As a result, CONAVI adopted the energy efficiency standards recommended by the NSP and now are part of its rules of operation.

¹⁵ Its main objective is to enable a space for coordination and interaction between different agencies working on LCH.

From the perspective of house developers, there was almost unanimous agreement that the support provided was appropriate and aligned to their needs. In particular, the technical advisory services of the Financial Component and capacity building activities helped them increase their awareness of the business and sustainability opportunities related to LCH. For instance, during the first year of Financial Component implementation, subsidy funds had not yet been utilised and only very few SMEs were ready to commit themselves to an LCH project. Project-specific technical assistance was therefore necessary to increase the interest from SMEs and reduce the risks related to the inadequate installation of eco-technologies. In addition, many SMEs had not been in contact with SHF before and needed to be guided in complying with the Financial Component's procedures.

The needs and objectives of developers were not the same, though. Some had already started before the NSP to adopt some environmental measures, while for others, GHG emission reduction was not a priority, and they were not aware of the national policies related to the issue.

Since the price of social houses – those targeted by the NSP – is established by the Institute of Housing for Workers (INFONAVIT) and the Housing Fund of the Institute of Social Security and Services for State Workers (FOVISSSTE), SMEs must control their construction costs, or else their houses would not be eligible for public support anymore because the threshold is exceeded. Thus, the NSP's subsidy was an appropriate incentive to include in low-income houses eco-technologies that were just entering the Mexican market and hence their cost was high, and availability was scarce. SMEs also considered the NSP's support useful in terms of making their products more attractive, which motivates them to continue with the incorporation of eco-technologies as a differentiator from now onwards. Finally, large developers can access low-cost loans more easily; therefore, the focus of the NSP on SME's seemed correct from that perspective.

In order to better respond to the needs of project developers and the change in the Social Housing subsidy scheme, the financial instruments were adjusted during the Financial Component operation, and this was well-received by beneficiaries. The initial subsidised guarantee instrument was not implemented since it did not catch interest from financial intermediaries because of the lack of clear incentives for them. Financial intermediaries stated they were not interested in having SME developers as clients, and they wanted to avoid the costs of incorporating them into their systems. The subsidised guarantee was not sufficient to overcome the financial intermediaries' reluctance. In addition, developers felt that bridge loan costs, in comparison with the ones from commercial banks, were too high. As a result, the guaranteed funding was cancelled, and its budget was transferred to the subsidy. However, some of those interviewed argued that the NSP's subsidies are not the most appropriate tool because they do not have the capacity to leverage as many investments as other financial instruments. SMEs have a different business cycle than large developers, and for most of them is difficult to pay in advance the cost of eco-technologies due to a lack of cash flow. This situation becomes particularly challenging when the LCH developments are located in warm weather zones: this is where higher energy savings could be achieved, but also where the investment required from the developers is higher, making the inclusive participation of SMEs more difficult. Therefore, it is important to consider a future subsidy or grant to be paid considering at least one advance payment, which could reduce the financial weight and cash flow pressure during the construction. In addition, an important hurdle for the access of SMEs to the support instruments were the administrative requirements from SHF.

Some interviewees reported that the **incentives could have been better designed in order to maximise mitigation opportunities, also by better differentiating support schemes according to climate zones.** The majority of construction projects of LCH that have applied and accessed support from the NSP are from locations with a temperate climate because the required level of comfort and energy efficiency can be achieved with lower investments in eco-technologies. This meant that the NSP did not manage to incentivise LCH developments in areas with more extreme weather, where energy and GHG saving potentials are higher.

SMEs interviewed mentioned that the NSP did not directly target buyers of LCH despite a strong need to build demand for sustainable housing. The main argument behind this is that a key objective of the NAMA was to extend the penetration of basic energy efficiency standards to the entire housing sector, which requires working with the developers in the first place to incorporate eco-technologies and adapt them to the local conditions and requirements. Also, the NSP assumed that the demonstration effect of the initial portfolio of projects would have been sufficient to have an extensive spill-over effect on the Mexican building sector as a whole, including the demand side.

Lastly, the change of federal administration appears to have reduced the government's commitment to LCH. The mid-term evaluation of the Financial Component found that the Government of Mexico had singled out the housing sector as crucial for reducing national GHG emissions. However, there was a change in government during the NSP implementation period, and some interviewees reported that the federal administration that initiated the NSP was better aligned with its objectives than the present one. It was claimed that the new administration is more focused on improving the energy efficiency of existing houses and promoting self-construction, while the construction of new sustainable buildings is not of the highest priority. Nevertheless, at SHF in particular, there is still interest in encouraging LCH, and support programmes remain active. Additionally, the economic deceleration and COVID-19 have changed priorities towards more pressing matters. Some of those interviewed also reported that key government partners are not as committed as they need to be; in particular, the Secretary of Environment and Natural Resources (SEMARNAT) is not actively supporting the implementation of sectoral action, and for the Institute of Housing for Workers (INFONAVIT), climate mitigation is not a priority. As a result, under the prevailing conditions, the capacity and willingness of developers to invest in new schemes shrunk.

Based on the evidence presented above, the ELE Team considers the performance of the NSP in terms of relevance (needs of target groups, alignment with policy level, appropriateness of financial instruments) as appropriate, and consequently marked this evaluation criterion as “green”.

3.2 Effectiveness of the NSP

Effectiveness

2. To what extent has the Financial Component achieved intended (and unintended) outcomes? Outcome: Increased supply of LCH from SME housing developers that are incorporated into the low-carbon housing market

The mid-term evaluation of the Financial Component concluded that **its overall targets might not be reached by the end of the NSP implementation period.** The key reasons for that judgement are included in Box 1.

Box 1. Summary of key findings about the Financial Component's effectiveness at mid-term

- Developers need to finance the housing production processes over 24 to 36 months and generally do not have the cash flow to wait such a long time for a financial reward as their capital base is small.
- The envisaged maximum direct subsidy amounts are not sufficient to close the gap to the selling prices of the large developers who benefit from significant economies of scale.
- The Financial Component procedures, which follow SHF's administrative requirements, are too lengthy and too complicated for many SMEs.
- The conditions under which bank guarantees are offered are not good incentives either for SMEs or financial intermediaries.
- The slow uptake of the investment grants was partially due to the lack of promotion by the financial intermediaries since there was no incentive for them.
- The larger developers who have already tested the ECOCASA programme appreciate its loans with subsidised interest rates and do not want to change to another programme. If SMEs are interested in taking bridge loans and comparing both programmes, many of them will also prefer ECOCASA because of the subsidised interest rate.
- SMEs have continued to face the fact that Government changes the rules of intervention, e.g. the change of the rules of CONAVI's subsidy assignment without communicating this change in due time to the developers; the cooperation framework of the Financial Component does not generate sufficient trust to overcome their reservations.
- Energy-efficient housing is not yet a strong selling argument; as explained by homeowners and developers, people are not necessarily ready to pay more when they buy an energy-efficient housing unit.

According to the NSP Theory of Change, the Financial Component has one main outcome: "Increased supply from small and medium (SME) housing developers that are incorporated into the low-carbon housing market". This was broken down into two intermediate outcomes: improved access to finance for the construction of low carbon housing (Intermediate Outcome A); and investment barriers for the construction of low carbon housing are eliminated (Intermediate Outcome B). Below, the ELE report discusses how the effectiveness of the Financial Component has evolved from its mid-term to the present, particularly concerning the achievement of its two intermediate and final outcomes.

3.2.1 Intermediate Outcome 1: Improved access to finance for the construction of LCH

SMEs' access to finance for LCH construction was improved by the NSP, but the implementation of the Financial Component was not able to meet its key performance indicators' targets. The total volume of public finance mobilised (indicator M4) was 46.9 million Euros which is 39% of the target, and the total volume of private finance mobilised (indicator M5) was 68.9 million Euros¹⁶ which is 86%

¹⁶ The public funding mobilised corresponds to: 1) Public investment by the Guarantee Programme and the Bridge Loans financing of the Financial Component; 2) Public investment by the Subsidy Programme; 3) Public investment by the Federal Subsidy Programme of the Mexican Government. The private contribution is based on an estimate realised in 2014 by GIZ

of the target. In addition, the targets of total NAMA Housing Units built and registered (Outcome Indicator 1) and total GHG emission reductions (indicator M1) were not achieved either, with only 43% and 33% of the goals reached, respectively.

The reasons behind the underachievement of these goals are partially related to the following barriers identified in the Mid-term Evaluation Report and consecutive Annual/Semi-Annual Reports, and that still remained at the time of the ELE: SMEs face cash flow difficulties when the subsidy is paid fully only after selling the houses, lack of interest from most financial intermediaries, elimination of the subsidy by the federal government and remaining lack of interest from buyers to pay the extra cost for LCH. In addition, COVID 19's impact on the economy resulted in a slowdown of construction projects and the demand for support from the NSP was consequently affected. Other factors affecting the improved access to finance for LCH found during the ELE are discussed below.

A minority of SMEs expressed that the NSP's direct subsidies were more convenient than low-interest rate credit on the financial market because it allowed them to improve their commercial offer and access other public financial aid. Particularly, during the pandemic, the timely payment of subsidies from the Financial Component helped the developers to cover their loan payments or, if necessary, to have the cash flow for their operations. However, some developers reported that their cash flow would have needed additional support, and this could have been achieved by dividing the NSP's subsidy disbursements, so that some would occur before or during the construction period, rather than only at the end of it through a single payment. The reason cited by the NSP for not doing so was the potential risk of misuse of funds by the SMEs.

Throughout the implementation period, the NSP decreased the amount and complexity of the bureaucracy involved in its financial support, for example by simplifying the application processes and disbursement procedures to SMEs. The simplification of procedures was key to facilitating access to financing from SMEs. Some SMEs were reportedly motivated to enter the financial system because of the NSP. In addition, the financial intermediaries interviewed appear likely to keep financing sustainable housing projects after their involvement in the NSP, through which they became aware of the business opportunities related to this incipient market.

Beyond the finance directly provided by the NSP, there was some evidence that the project also influenced more financial resources being available for sustainable housing. By supporting the incorporation of energy efficiency criteria into the ECOCASA implementation framework, the NSP strengthened the scheme, which will continue providing financial support to expand LCH in Mexico. The SHF is also committed to continuing to expand this line of support into the future and bringing private financial institutions on board as well. SHF will continue with its national social housing programme, but retrofitting and self-production will be added to the support packages as per the new government priorities. In addition, KfW is involved in further developing a green financial market (e.g. green bonds) in Mexico, which may also help expand the NSP achievements.

and CONAVI, i.e. each constructed NAMA house subsidised by CONAVI leads to an average additional private investment of €400, as housing developers must cover part of the additional costs of energy efficiency improvements. The finance mobilised includes: 1) Investment by housing developers who received bridge loans by the NSP Financial Component; 2) Investment by housing developers who received subsidies for technologies by the NSP Financial Component.

The time required to design, plan for and prepare the Financial Component was underestimated, and the financial instrument could have been more targeted on maximising GHG emission reduction savings. After the Financial Component was designed and operation started, the NSP team realised that guarantees were not being used by financial intermediaries because of the resulting increased costs of bridge loans. This facilitated a change of approach, and all the funds of the Financial Component initially allocated for the guarantee were moved to increase the budget for subsidies. In terms of GHG emission reductions, as explained in Section 3.1, the NSP's financial instrument was not successful in encouraging or incentivising applications from locations with more extreme climate conditions, where carbon savings were likely to be the highest due to cooling/heating demands¹⁷. As mentioned before, the subsidies and packages differ according to the climate conditions. However, developers from extreme climates opt not to apply, probably because the investments needed to comply with the energy efficiency goals were higher than in temperate zones, and this affected their economic and technical feasibility assessment.

The Financial Component was intended to focus on low-income households¹⁸, which represented a challenge for the NSP as they are generally very price-sensitive. This means that a house slightly more expensive, yet with much better technical standards, might be less attractive to this target group. After the government announced changes in the Social Housing subsidy scheme in early 2019, the NSP responded by proposing to increase the income threshold for social housing programmes from 12 to 15 minimum wages per month. The reason behind this adjustment was that, without the subsidy, profit margins dropped even more in the social housing sector, and SMEs could not compete with large developers who had bigger plots and bigger economies of scale. As a result of these changes, developers moved towards slightly higher income groups, and houses started to be developed for different market niches.

While the NSP was effective in providing access to finance for LCH, there are still financial barriers for SMEs in the market. Credit is still expensive and difficult to obtain for SMEs. The financial intermediaries interviewed argued that there is still not much experience in developers in implementing LCH projects, and therefore there is a lot of risk. Also, at the same time, the local private banks cooperating with the NSP have not structured green lines for sustainable houses, as SHF has done.

3.2.2 Intermediate Outcome 2: Investment barriers for the construction of LCH are eliminated

Besides the limited access to construction finance for SMEs, the main investment barriers that the NSP expected to address were the lack of knowledge and experience on LCH in the market, the high costs of building materials and technologies, and the lack of policy incentives.

The NSP has enhanced institutional capacity, which has mobilised additional financing of LCH construction and provided the government with a technical framework for LCH certification and

¹⁷ 39% of the homes completed by the first half of 2021 correspond to temperate climates.

¹⁸ Defined as earning up to 12 times the minimum monthly wage per year. Reference value from the Financial Component proposal (2013): 1 minimum monthly wage = €110.

standardisation, which will better focus financial instruments on projects that have better energy efficiency performance.

Technical support provided by the Financial Component has lowered the investment barriers by increasing awareness among stakeholders, including developers, financial intermediaries and technology providers. For instance, in addition to the developers directly receiving technical assistance from the Financial Component for supported projects, 460 developers (5.6% of total developers in Mexico) were informed about the benefits of sustainable housing, which contributed to expanding the knowledge around LCH concepts in Mexico. The Financial Component has also developed sufficient technical capacity to supply LCH, including installing the eco-technologies properly and increasing the constructive quality of the houses. In particular, there is increased awareness of the relationship between energy efficiency and climate change and the benefits in terms of an increased level of comfort and long-term financial savings. Several developers reported that the NSP made them aware of the benefits of incorporating energy efficiency features in house developments and, as a result, they started to do so regardless of getting financial support from the NSP to stay competitive and improve their product offering. Even when the costs of energy efficiency features were higher, they still were able to sell those houses because higher-income clients value the energy efficiency improvements and were more prone to pay for the resulting increased levels of comfort.

One interviewee mentioned: *"Today, with the same investment set for social housing, there are better houses. Efficiencies were incorporated into the construction process concerning the finished house as a result of the guidance provided from the two NSP supports (Technical Component & Financial Component)".* The awareness and capacities were reinforced by the initial projects built with the support of the NSP that served to demonstrate the concept more widely, and, consequently, it is expected that the capacities will keep building on into the future. Also, the Financial Component provided advisory services to financial intermediaries in order to lower their perception of the risk of the technology. Based on the ELE evidence, capacity building activities appear to have been crucial to the NSP delivering the outcomes it did in relation to lowering the barriers related to knowledge and experience.

However, there were some concerns raised by those interviewed about the depth and scale of the changes supported by the NSP in the market. Some mentioned that the NSP is not a well-known programme among developers. Others also mentioned that while the technical assistance provided was good, the knowledge and technical capacity of developers are still not sufficient to ensure the improvements continue beyond the lifetime of the NSP.

The cost of eco-technology materials was another potential barrier to the supply of LCH that the NSP has addressed satisfactorily. The NSP Technical Component provided technical assistance to technology providers, and the Financial Component facilitated the connection between demand and supply of technologies. The consequent increased demand for eco-technologies and materials triggered by the housing NAMA as a whole strengthened the supply as well. By the end of the NSP, the supply of materials was considered to be at a reasonable price, and an incipient market had developed, which facilitated access to the eco-technologies.

While the NSP focused on strengthening the supply side of LCH, there were reportedly limitations remaining in the demand from consumers of LCH. There is some evidence that the NSP did not have

a big impact on the level of demand for LCH, particularly because low-income consumers were still unaware of the range of benefits associated with sustainable housing. This mitigates the positive impact on the supply of eco-technologies and materials mentioned above. For example, a couple of stakeholders¹⁹ stated that some equipment was still expensive, and therefore it was not always possible for them to incorporate it into the projects yet.

In terms of incentives for LCH, there also remain significant policy barriers and a worsening policy environment that could put the long-term trajectory of the sector at risk. Two different interviewees believed that not enough efforts were made by the NSP to generate high-level policy changes that could have helped transform the sector's future pathway. Only informing consumers of certification or labelling schemes, was considered not sufficient to influence and improve the market. *“House owners are not so easy to be influenced. Thus, to increase demand for LCH, stronger regulations must be put in place”*, one source said.

Box 2. Additional outcomes of the Financial Component

In terms of additional or unexpected outcomes²⁰, the following were the main ones identified during the ELE:

- A holistic and common view on sustainable housing was established across different stakeholders, which was probably one of the major accomplishments of the NSP.
- A pipeline of projects will remain after the NSP and could be supported by other financial instruments.
- Urban development criteria (i.e. greening of settlements, community facilities and public spaces) were not a priority at the design stage of the NSP, but ended up being a successful area of work since developers started to incorporate these considerations into their projects.
- In the ECOCASA Rental component, there were several low-carbon housing developments, which were certified and came from the experience of the NSP.
- There could be co-benefits in reputational terms for the financial intermediaries. For them, the business cycle does not end with the construction of the homes, but extends to the supply of credit for their purchase. In this sense, eco-technologies are beginning to be a market differentiator that can favour those who promote them.
- The promotion of water heaters as one of the eco-technologies also reduces indoor air pollution associated with traditional Liquefied Petroleum Gas (LPG) technology.

3.2.3 Final Outcome: Increased supply of LCH from SMEs

Based on the evidence presented above, the ELE Team considers the performance of the Financial Component in terms of effectiveness in achieving its Outcome (i.e. the increased supply of LCH from SMEs) as problematic, and consequently marked this evaluation criterion as “amber”.

¹⁹ The cited source is of medium evidence. For more information, please see chapter 2 (methodological approach) and Annex D (Evidence and answers).

²⁰ Additional or unexpected outcomes are those observed achievements that were not part of the original NSP ToC.

The projects financed by the NSP proved that LCH delivers benefits of financial savings, emission reductions and increased comfort. This helped the market realise the potential business opportunities associated with it. Positive advancements were perceived in terms of increased knowledge and capacities for LCH by SME developers and the strengthening of the supply of eco-technologies. However, the targets of the performance indicators in terms of leveraged funds and number of LCH units built were far from being achieved. As mentioned before, the effects of COVID-19 and the change of government priorities regarding the housing sector, in addition to the remaining financial barriers, have slowed down the development of the NSP's LCH project portfolio.

In addition, the enabling conditions to incentivise the sustained development of the LCH market in Mexico are still partial, and those achieved could be at risk, particularly as a consequence of the removal of government subsidies for new housing projects, despite the efforts displayed by the different government partners of the NSP.

All the different outcomes refer to the improvement of enabling conditions for a sustained development of the LCH sector. As presented, there have been great advancements, but it is not possible to confirm with the information collected during the ELE that those outcomes have been fully achieved or they will after the NSP is over.

3.2.4 How external factors impacted the NSP's effectiveness

The effectiveness of the NSP was greatly affected by the **presidential elections in 2018** and the **COVID-19 pandemic in 2020/21**. In the mid-term evaluation, the planned elections were classed as a medium risk, given that the entry of a new president was expected to imply changes in policies, including those on housing. Section 3.1 explains how both events meant the NSP was no longer strongly aligned to the priorities of the government.

The 2018 elections also resulted in a massive change in personnel in the SHF, including those supporting the NSP. Furthermore, the priority of the new government in the housing sector shifted towards urban development and reconstruction for areas affected by the 2017 earthquake, rather than incentivising sustainable housing. Also, the complex Mexican procurement system and the fact that the support to the construction of new social housing was diminished, affected the participation of some SME developers. Finally, COVID-19 also generated delays in the procedures for the accreditation of homes and slowed down construction projects in general, which resulted in an equal dramatic drawback in the expected goals of the NSP in terms of projects supported and associated disbursements.

3.3 Efficiency of the NSP

Efficiency

3. To what extent was the delivery of outputs timely and to expected quality standards, particularly regarding structure & steering?

For this final ELE, the interviewed SMEs reported they were very pleased with the timeliness of funding and the quality of the technical support received from the NSP Financial Component. As mentioned in section 3.2.1, the disbursement of the subsidies was mainly on schedule: most of those interviewed perceived the disbursement as on time, i.e. after about three months of home delivery,

although several stated that the time taken for the final payment was longer than expected. The SMEs also appreciated the technical support in managing the paperwork to apply for the NSP's financial support, and gave a very positive review of the level of service received (as compared to government-managed financial instruments).

The parallel operation of the Financial and Technical Components could have been more coordinated and efficient, but unfortunately, the Financial Component was delayed in starting, resulting in a too-short overlap between the two components. This was due to multiple reasons. For instance, while the Technical Component started promptly on schedule, its short implementation period (by design) reduced the window of potential overlap with the delayed implementation phase of the Financial Component. Concerning the Financial Component, its initial terms were perceived as quite complex, and neither the German and Mexican cooperating parties were willing or able to simplify them. Finally, mandatory bureaucratic tendering/procurement processes slowed down the mobilisation process of the Financial Component. As a result, there was less implementation time available to operate the financial instruments, which was worsened by COVID-19. In fact, the disbursement of investment grants to developers depended on construction and sales of new houses built according to the NAMA energy efficiency standard. And as construction and demand for these types of houses slowed down because of COVID-19, fewer investment grants were paid out than foreseen. Therefore, as stated in the Semi-Annual Report 2021, it is unlikely that all project funds will be spent by the time the project closes.

Other reasons stated for time delays in the Financial Component implementation are: (i) time planning of large developers, and not of SMEs were considered, as bridge loans for SME developers take more time (18-48 months) than for a medium-sized or big company developers (less than 18 months)²¹; (ii) lags in time with DEEVi certifications due to unclear responsibilities or problems with the calculations; (iii) the signing of the developer contracts with the NSP, which took longer than expected; and (iv) high staff turnover in the institutional partners, which implied delays as the new staff needed time to get a grip of their new roles and tasks. **Delays, accompanied by insufficient applications by developers, were the principal causes for the Financial Component to miss its key goals** (the agreed number of LCH constructed and thus the overall reduction of GHG emissions) within the agreed project time.

Initially, the Financial Component of the project was not efficiently managed and started slowly. While there was a lot of discussion among stakeholders, this dialogue was not coordinated or institutionalised. The personnel changes as a result of the change of government and the phase-out of the Technical Component also affected the exchange of information and coordination, particularly between CONAVI and the Financial Component. The coordination table ("La mesa transversal"), introduced in 2012 and led by CONAVI, was initially meant to be the main coordination platform for the NAMA. During the meetings, advancements and indicators were reviewed. However, after 2017, with the end of the NSP Technical Component and the retraction of GIZ, the coordination table

²¹ For more information, see Annual Report 2017: as the programme has a limit of 36 months, this limits the time SHF-GOPA have to originate loans and deliver houses to the final user. This fact of course delays disbursement of the resources and also causes delays in the implementation of the overall programme.

disappeared, and no efficient centralised approach to steering the Financial Component was in place. There was also no advisory committee to partially fill this gap.

At the NSP level, NSP management meetings were usually between SHF and KfW and did not include the national stakeholders previously involved in the Technical Component. The coordination challenges between governmental institutions in the NAMA caused an inefficient flow of information between the technical and financial implementing partners of the NSP. For example, it was reported that the studies carried out by the Technical Component could have been better used to inform the Financial Component. In addition, coordination challenges within the Technical Component between GIZ and CONAVI, for example the sharing of expenditure information, as well as between CONAVI and INFONAVIT were also brought up by ELE interviewees.

However, the level of transparent steering and coordination improved significantly during the implementation period, and by the second half of the project, there was effective coordination between SHF and KfW/GOPA²² (as the implementing and delivery partners of the Financial Component respectively), as well as between KfW/GOPA and GIZ (the delivery partners of the two NSP components). The establishment of a new intersectoral coordination system, promoted by the Financial Component, and the coordinated public policy approach implemented by SEDATU-CONAVI, INFONAVIT and SHF greatly improved communication between all the actors of the Housing NAMA. This meant that, by the end of the project, the processes were well structured and organised, and no operational problems had been observed. Also, the distinct roles of the Technical and Financial Components in achieving the outputs and outcomes were clear and created synergies between the various efforts, complementing, for example, the previous advancements in the policy framework and the increased supply of LCH by SME housing developers.

According to an interviewee, there was no advisory committee, and the management was done by SHF in consultation with KfW. Although KfW was participating in the coordination, it was difficult to reach momentum at the beginning since there were many issues to look into closely to avoid corruption or other issues linked to the subsidies.

In the future, it would be necessary to share more information between the national entities. It was reported that some energy officials have one vision, and SEMARNAT and CONAVI another, although each institution has its stakes within the transformation process towards energy efficiency. There must be regulations on new developments that make structural changes, generate comprehensive strategies so that what is encouraged in one agency does not conflict with other agencies. Institutions must also simplify technical steps for the financial process.

Although the disbursement of the subsidies was mainly on schedule, and the NSP tried to decrease the amount and complexity of the paperwork involved in its financial support, according to several interviewees, **the bureaucracy was still perceived as too complex by the stakeholders/participants, and it should be further simplified.** Small SMEs were hindered by what they perceive as long bureaucratic processes for credit and also the variability of the interest rates. E.g., the cost of the bridge loan to SMEs was simply too high. They likewise perceived the bureaucratic process as too

²² GOPA is an external international consulting company, hired by KfW, to support the technical assistance of the Financial Component.

cumbersome – a simple agreement (i.e., a respective clause in the supplier’s contract) is much easier to handle for them than a credit approval process. Thus, no loan contract under these conditions was ever signed.

To sum up, the overall NSP efficiency was assessed as problematic, and consequently marked as “amber”, although the situation has improved significantly since the beginning of the project. The delivery of outputs was perceived as timely and of the right quality standards, including the structure and steering of the project. However, some delivery problems, like bureaucratic challenges or coordination loopholes, were identified during the analysis. Moreover, the delays in the start of the Financial Component and, therefore, the limited overlap and synergies with the Technical Component also affected the optimal implementation of the former.

3.4 Impact of the NSP

Impact

4. What evidence is there that the NSP has been contributing to the intended impact in the ToC (incl. transformational change)?

The NSP was expected to contribute to building a self-sustained market for LCH in Mexico, bringing about a less carbon-intensive development pathway for the housing sector as a whole. Below we use the Transformational Change Framework illustrated in Figure 2 (Section 1.2.1) and further explained in Annex B to unpack the different dimensions of the NSP’s pathway to such transformational impact.

Dimension 1: Producing a demonstrational effect and promoting learning

The members of the **NSP team could recognise a high degree of learning about the operation of the Mexican institutions that regulate the social housing sector in Mexico.** The NSP understood the institutional structure of the housing sector, identifying SEDATU and CONAVI as responsible for public policies, INFONAVIT and FOVISSSTE as institutions that offer housing credits to workers, and SHF as responsible for providing financing to developers. In addition, together with these institutions, the NSP defined the beneficiary group, SMEs and low income-houses, and the technical and financial needs that should be addressed. The NSP defined two financial products (guarantees for bridge loans and subsidies) in consensus with stakeholders and beneficiaries and established a suitable operating mechanism for all parties with the participation of financial intermediaries (the same participating in ECO CASA with SHF). An important quality before project implementation was that **the NSP achieved the consolidation of all the housing institutions and construction companies through cross-sectional tables and the establishment of rules of operation**, which allowed the program to be maintained despite changes in government, and it made possible the institutional accompaniment in the implementation period.

Another characteristic that laid solid bases was to **start the Financial Component based on existing instruments in the Mexican housing sector, such as the housing and eco-technology loan programs, the Green Mortgage of INFONAVIT and ECO CASA of SHF**, in addition to taking advantage of the platform of the Single Housing Registry (RUV) that has allowed traceability of houses built through the NAMA and functions as MRV system.

Additionally, **the SISEVIVE tool** (the Green Housing Evaluation System, SISEVIVE for its acronym in Spanish, is a tool designed to report on the energy efficiency and environmental performance of housing and establishes evaluation criteria in the housing industry in Mexico.²³ The SISEVIVE calculation method is based on the comparison of the house to be built with respect to a housing designed and equipped in a conventional manner called baseline.²⁴ SISEVIVE determines a rating based on the global performance index, IDG.) was used in the Financial Component, continuing the previous work of the Technical Component. SISEVIVE set minimum efficiency performance and led to standardised measurement of savings and mitigation. SISEVIVE IDG ratings are stored in the RUV, and the information functions as an MRV system.

The demonstrational effect of the NSP helped increase capacities and awareness about the best way to implement LCH developments and identify regions of the country with potential for collaboration. It also helped identify and address important lessons about the institutions to be involved in the NAMA, the appropriate financial mechanisms for SMEs, the technical capacity needs of developers and stakeholders that were subsequently covered by the TA of the Financial Component.

Based on the ELE evidence, there are advanced signals that the NSP has had a demonstrational effect, including through the promotion of learning from the Financial Component: TA for SMEs and financial intermediaries, two financial mechanisms to support SMEs (bridging loans and subsidies), SHF as part of the NSP team and as the main institutional counterpart, and continuity to the technical aspects worked on in the Technical Component of the NSP using SISEVIVE and RUV.

Dimension 2: Caused a catalytic effect

The design of the NSP was focused on producing systemic change, particularly in terms of creating a market for LCH and addressing investment barriers. The ELE found important evidence that the NSP has indeed advanced in producing such systemic change:

- **New technologies** were introduced into the Mexican market, with energy-efficient materials being made more available and new suppliers emerging. As eco-technologies and materials, such as solar water heaters, low-emissivity glass, and insulating panels for walls and ceilings, were necessary to meet the energy efficiency requirements to access the NSP financial support, their demand increased. As a result, energy and GHG emission savings were achieved.
- **National capacities** in developing, funding, and supporting efficient housing were improved across a wide range of stakeholders, in particular SME developers, officials of housing institutions, financial organisations, and consultants. This capacity is expected to be sustained, making it more likely that these organisations and individuals will continue to promote or adopt LCH. For example, some companies in certain regions are **replicating efficient houses** thanks to the dissemination of best practices and LCH demand. Developers are also **considering energy efficiency in other housing segments** such as middle-income households,

²³ <https://www.lowcarbonarchitecture.com/portfolio/cursos-sisevive/#:~:text=El%20SISEVIVE%20es%20una%20herramienta,GIZ%20y%20la%20Embajada%20Brit%C3%A1nica.>

²⁴ <https://www.gob.mx/cms/uploads/attachment/file/84276/SISEVIVECONUEE.pdf>

in which there is greater purchasing power that allows users to pay incremental costs for efficient materials and technologies.

- **Some public policies are now requiring efficient technologies**, which should provide some long-term and sustained momentum towards LCH. This is the case, for instance, of the Green Mortgage from INFONAVIT, ECO CASA from SHF, and CONAVI programmes.

However, there remain systemic barriers that put transformational change in the housing sector at risk. Among the main ones are that developers of energy-efficient low-income social housing still require and rely upon subsidies, and that federal policies do not prioritise low-carbon social housing. In addition, the finance required to deliver the scale of changes needed in the housing sector has not been mobilised. These are important barriers to scaling up the results and increasing the supply of LCH.

The NSP has also had some influence on wider NAMA or NDC implementation. The SISEVIVE tool was disseminated in sustainable housing programmes, and the RUV platform was strengthened. The application of the energy efficiency criteria defined in the SISEVIVE tool made the standardisation of the measures of accumulated benefits by LCH possible and provided certainty to the data. This was an indispensable condition to include the housing sector in federal climate change programmes such as the Special Program on Climate Change (PECC), or the NDC. However, the SISEVIVE tool needs the GDI calculation methodology to be simpler. Also, the coordination between housing programmes and those climate and energy focused institutions driving NDC implementation is not clear. The wider policy framework also does not prioritise energy efficiency in the housing sector.

In conclusion, the ELE confirms that there are interim signals of the NSP resulting in a catalytic effect that can lead to a transformational change in the Mexican housing sector.

Dimension 3: Contributing to additional, large scale and sustained GHG reductions

Finally, there are early signs that, as a result of the catalytic, demonstrational, and learning effects described above, the NSP may result in additional, large-scale and sustained GHG emissions reductions in the future. At the moment, according to the monitoring of the NSP's M1 mandatory core indicator, the 5,570 LCH units built during the Financial Component implementation (2017 to June 2021) are estimated to mitigate 0.14 MtCO₂e throughout their life cycle.

Although the sector's transformational change is still incomplete, there is some evidence that can provide some clues on whether the change will materialise in the mid- and long-term:

- **National capacities, a market for efficient materials and technologies, standards and tools** supported by the NSP are likely to remain in the mid-term and probably will increase (see section 3.2).
- **Efficient practices are being replicated.** Some companies that did not participate in the NSP have adopted energy efficiency to be competitive (although complete evidence is lacking on the level of efficiency they offer and the financial mechanisms to cover the associated costs), and it could motivate more companies to build LCH. Additionally, some participant SMEs replicated energy efficiency building techniques for middle- and high-income market segments. **Construction standards are expected to improve in the medium- to long-term.** It is a natural tendency for Minimum Energy Performance Standards (MEPS) to increase

efficiency levels, which will help to have more savings in the future. Additionally, it is expected that over the years, the Mexican NOM-020-ENER standard about envelope efficiency will have greater compliance in the country.

- **New generations are more sensitised to environmental issues.** To the extent that the population is more aware of the impacts of climate change, it could demand more sustainable products.
- **Commercial financial institutions are open to financing LCH to SMEs.** Although it is still not possible to see products of the large banks aimed at SME developers, interest has been triggered by the NSP, and it could materialise in the coming years through credit lines with a focus on LCH.
- As previously mentioned, **INFONAVIT, SHF and CONAVI now have high energy efficiency requirements in their housing programmes**, as a consequence of their participation in the NSP. However, the NSP also acknowledged that even more GHG mitigation could be achieved by pointing to the massification of cheaper LCH measures, even if they individually have less energy efficiency potential compared to the requirements of the Financial Component²⁵.

In conclusion, the evidence confirms that the NSP achievements along the transformational change framework are of the levels expected by the end of the project (see Figure 2). Therefore, the “impact” of the NSP has been marked as “green”.

3.5 Sustainability of the NSP

Sustainability

5. What is the likelihood that the outcomes will be sustained after the end of the NSP funding period?

The mid-term evaluation used a set of criteria to assess the sustainability of the NSP, which, for continuity, have also been used by this ELE and adapted to the findings obtained. These criteria are:

- **Technology:** private and/or public institutions promote/support energy-efficient or low-carbon technologies; there is the production and a market for energy-efficient technologies; and major academic institutions are researching and teaching about energy-efficient or low-carbon technologies.
- **Economy:** SMEs develops a business model with LCH as a product. That is, LCH units are built, there is demand for these houses by target customers (low-income workers), and this business model is profitable for the SMEs. Therefore, an LCH market is established.
- **Finance:** there is (increasing) willingness to finance LCH actions, and finance mechanisms are available and suitable for LCH.
- **Society:** society (including key social groups and leaders) is aware of the urgent need for LCH.
- **Policy:** there is political support for LCH; public policy is aligned between the various levels (inter-sectoral, international-national, federal-state, state-municipal, etc.); regulations are aligned at different levels; and enabling mechanisms (e.g. subsidies) are in place.

²⁵ The ECO CASA, green mortgage and CONAVI programmes require lower levels of efficiency compared to those required by the NSP Financial Component, which implies lower incremental costs. The costs depend on the level of qualification in the IDG of the SISEVIVE tool.

- **Institutions:** institutional capacity and inter-institutional coordination to drive the LCH transformation are solidly established.

Technology: A market for LCH technologies such as solar heaters and LED spotlights, as well as materials that reduce thermal load such as insulation and low-emissivity glass used by SME developers has been created largely thanks to the NSP Financial Component, and it is expected to remain or grow in the coming years. The technologies installed have an expected life that will last for several years. Moreover, houses have a forecasted life of at least 40 years, thus ensuring that energy savings will be sustained in the long-term.

INFONAVIT, which is the main public housing institution with 66% of total housing credits in 2016²⁶, now requires that its procured housing developments use energy efficiency technologies. In addition, in its ECOCASA products, SHF requires the use of eco-technologies, and CONAVI maintains sustainability parameters in its social housing programme. This scenario allows to mobilise efficient technologies and maintain the LCH market.

Technical capacities on LCH have been created, particularly among technicians, professionals, consultants, government officials, financial institutions, developers and end-users, which will remain and, as the LCH market consolidates, will likely increase in the coming years.

Economy: Based on the ELE interviews, some companies will continue building low-cost LCH, which allows them to have a market in the medium-term. These companies now align with the NAMA house typology (efficient houses with at least 80% IDG reduction compared to a conventional house, using the SISEVIVE rating) and will continue to efficiently build and promote LCH as a permanent product. Middle-income households seem interested in LCH features, and they represent a good potential market segment for green technologies for both new and existing houses. Middle- and upper-income households represent good market segments as they have fewer problems in absorbing the costs of LCH technologies. Retrofitting appears to be a promising option too, since the investment required is much lower than purchasing a new home.

At the same time, the social housing market segment appears to require financial incentives/subsidies to incorporate LCH technologies. In fact, as the price of social houses is set by housing institutions, including more expensive eco-technologies is not an economically-viable investment for neither the developer nor the low-income buyer, in particular against the background of subsidised energy tariffs.

Finance: Although there is currently limited placement of private resources to finance the construction of LCH by SME, commercial banks appear interested in placing credit lines for similar schemes as developed in NSP in coming years. The participation of private institutions will allow financial intermediaries to offer more resources to LCH developers with attractive interest rates.

Furthermore, low-income buyers and SME developers will keep receiving financial support through the Green Mortgage from INFONAVIT and ECOCASA from SHF. This context demonstrates that demand-side financial incentives will likely be maintained after the end of the NSP.

However, ELE interviews revealed that some developers feel that, currently, bridge loan costs and commissions associated with commercial banks are high, and the subsidised interest rate is not

²⁶ https://sniiv.sedatu.gob.mx/doc/analisis/2016/Revista_Julio_Septiembre_2016.pdf

sufficient to take a loan. Further promotion of and capacity building on financial products among SME developers is also required.

Society: It is expected that future consumers will continue to have an interest in efficient technologies. There is greater awareness on the user's side, and better building practices and marketing promotion on the developer's side. Indirect NSP beneficiaries (customers) have received benefits in comfort, environment quality, best practices, and economic savings that were disseminated, helping generate interest in other users.

Policy: The subsidy for efficient housing granted by the federal government through CONAVI changed its destination due to the new policies to support social housing (direct subsidies for self-construction), which had an impact on some SME developers who stopped participating in the NSP. This policy will continue for the next three years and could discourage SME participation since they will not have any type of subsidy upon the termination of NSP support. Fortunately, there are sustainability policies in housing institutions (SHF, INFONAVIT, CONAVI) that will compensate for the absence of subsidies.

Institutions: Housing institutions in Mexico have strengthened capacities and improved processes for the operation, evaluation, and financing of LCH. The national capacities built in Mexican institutions are one of the main legacies of the NSP, which, if well used, will trigger further development. In addition, sustainability has been mainstreamed into Mexican housing institutions as a consequence of the NSP's technical assistance, allowing it to permeate as a commodity in the housing supply.

Some of the achievements and changes facilitated by the NSP are likely to be sustained, in particular, the market for LCH, national capacities, and some financial instruments developed, among others. However, the achievements are partial, and many challenges remain for the coming few years, especially around the political commitment to LCH by the federal government, institutional coordination and the affordability of private financing.

Despite the progress made by the Financial Component of the NSP, there are still areas of opportunity to consolidate financing to SMEs for the construction of LCH. Among the main ones are:

- Generating more attractive financial instruments to have greater participation of SMEs for financing, and,
- Mobilising more resources from private entities, such as commercial banks, to consolidate the market.

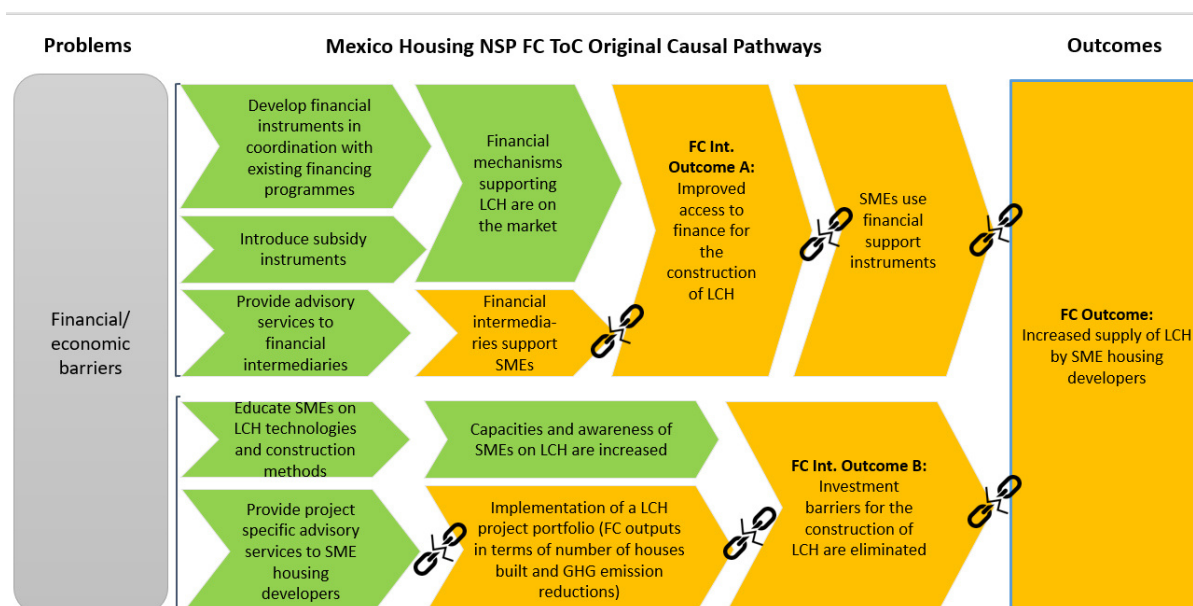
These lack of these aspects represent challenges for the LCH sector in the coming years and could complicate maintaining or increasing the NSP outcomes after the support period.. Consequently, the NSP sustainability has been marked as “amber”.

4. Conclusions

This section goes back to the NSP Theory of Change to test to what extent the original causal pathways and assumptions behind them have held.

Figure 4 presents an overview of the progress of the NSP Financial Component along its ToC causal pathways towards its intended outcomes. It is an updated adaptation of the results framework presented in the mid-term evaluation, identifying two causal pathways underpinning each of the two Intermediate Outcomes and leading to the final Outcome of the Financial Component.

Figure 4. Overview of NSP Financial Component Causal Pathways Assessment at End-line



The two causal pathways of the Financial Component are the following ones:

- **Causal pathway underpinning Intermediate Outcome A:** If financial instruments are developed in coordination with existing financing programmes, subsidy instruments are introduced, and advisory services are provided to financial intermediaries, then there would be improved access to finance by SME developers for the construction of low-carbon housing (Intermediate Outcome A). This will motivate SMEs to use the financial support instruments, contributing to increasing the supply of low-carbon housing in Mexico (Financial Component's Outcome).
- **Causal pathway underpinning Intermediate Outcome B:** If SMEs are educated about eco-technologies, construction methods and suppliers and project-specific advisory services are provided to SMEs, capacities and awareness of SMEs on LCH will be increased, and a portfolio of LCH projects will be implemented (Financial Component outputs in terms of the number of houses built (Output 1) and GHG emission reductions (Output 2)). As a result, investment barriers for the construction of LCH are eliminated, contributing to an increase in the supply of low-carbon housing in Mexico (Financial Component's Outcome).

The ELE has collected evidence to confirm that the causal pathway underpinning Intermediate Outcome A partially occurred. Indeed, improved access to finance for LCH was achieved thanks to the combined effect of the subsidy and the technical advisory services provided by the NSP to SMEs in relation to LCH. However, the targets of the performance indicators were mostly far from being achieved, and therefore the expected intermediate outcome was not reached with the projected depth.

Overall, the ECOCASA Programme and the NSP worked together, in a coordinated manner, to deliver these results, which led to construction companies applying and accessing financial support. Furthermore, the ECOCASA project will likely continue providing financial support to expand LCH in Mexico after the NSP concludes.

The NSP's Financial Component rightly focused on the subsidy for its implementation, despite the initial idea of maintaining the loan guarantee. Regardless of the delays that this change implied, the direct support seemed to be more convenient than low-interest rate credit, and it was effectively used by SMEs. The simplification of the application procedure during NSP implementation also helped promote the use of financial support. The Financial Component also resulted in some financial intermediaries being more prone to keep financing sustainable housing projects after their involvement in the NSP, as they are now more aware of the business opportunities related to this incipient market.

The second causal pathway associated with the elimination of investment barriers for the construction of LCH (Intermediate Outcome B) can only be partially confirmed by the ELE. The technical support of the NSP Financial Component successfully lowered the investment barriers by creating a market through increased awareness about the benefits of sustainable housing (improved demand), and enough capacities to adequately install the eco-technologies and increase the constructive quality of the houses (improved supply).

Nevertheless, the ELE finds it highly likely that the NSP's targets about financial resources leveraged for the construction of LCH, GHG emissions reduction and total number of low-carbon houses built will not be achieved completely. The effects of COVID-19 and the change of government priorities regarding the housing sector have slowed down the development of the NSP's LCH project portfolio. Consequently, the expected GHG savings is lower than planned. In addition, the design of the NSP's financial instruments resulted in a majority of project proposals located in temperate climate zones, which will generally yield fewer energy savings than in other zones with more extreme climates.

Since the project portfolio developed has been limited, there is only initial evidence of local private banks to have been convinced to structure green lines for sustainable houses, as SHF has done. In addition, in terms of the effectiveness of the NSP to align the policy framework with its objectives, it can be observed that housing policy changed negatively for sustainable housing by the end of the NSP implementation period, and therefore the NSP's long-term impact is at risk. This means that some key barriers to the construction of LCH persist.

Formal process tracing tests were applied as an additional analysis to check the validity of the NSP ToC and assess the strength of the evidence collected by the ELE. The results of the process tracing tests did not contradict the findings presented above (see Annex E). In summary, process tracing confirmed that, at this point in time, for the causal pathway underpinning Intermediate Outcome A,

there is initial evidence of improved access to finance for SMEs to develop LCH projects and therefore, the intermediate outcome and outcome are observed, and the NSP's hypotheses in the causal pathway are confirmed. Limitations remain regarding the availability of financial products and interest from developers and final users after the NSP ends (sustainability). For the causal pathway underpinning Intermediate Outcome B, process tracing confirmed that initial evidence of the relevant outputs, intermediate outcome and outcome is observed; however, it is not possible to confirm or reject the hypotheses within the causal pathway because they are incomplete. As the Financial Component targets in terms of implementing an LCH project portfolio were not reached, it is not possible to confirm whether the persisting market barriers would have been overcome.

5. Lessons and recommendations

5.1 Key lessons

There was a wide range of suggestions from those interviewed on what worked well within the NSP, and therefore could be replicated by others, and what could have been improved, and therefore should be learnt from by others. The evidence gathered during the ELE, and the analysis made based on it, have been used by the ELE Team to draw the following lessons.

1. The parallel and coordinated implementation of the Technical and Financial Components can lead to better results

The Technical Component ended in 2017, while the implementation phase of the Financial Component began in 2016, leaving only about a year of time overlap between the two. There is evidence to claim that a longer overlap between the implementation periods of both components would have been beneficial. In fact, even in that short time, the Financial Component was able to learn a great deal from the Technical Component, for instance, from the cost-effectiveness analysis of technologies and the ECOASA Certification Programme. Both component teams understood that the success of the Financial Component would have depended on the ability to deliver technical assistance (TA) to the different stakeholders involved in designing, disbursing and receiving the financial assistance from the NSP. The Technical Component proposed in 2017 to extend some areas of work to support the Financial Component, but this request was declined. Therefore, the Financial Component tendered out its TA activities, but this further delayed its implementation.

Nevertheless, once the TA was in place, its benefits have been evident. Having the TA from the Financial Component to accompany the investment grants and guarantees proved to be essential for the success of the NSP, as it helped SHF to better channel these resources and complement the earlier NAMA achievements by SEMARNAT and CONAVI. Also, the TA team offered technical advice to LCH projects registered as well as in the process to register to the NSP, which unburdened the developers and helped them to focus on the construction.

2. Technical assistance for Financial Components is often necessary

A lesson directly linked to the previous one is that Financial Components often require a TA element to support the design and implementation of the right financial instruments. On the one hand, the potential beneficiaries of the instruments (in this case the SME housing developers) are likely to require introduction in the different types of financial products, their application process and their cost and benefits. On the other hand, financial institutions and intermediaries would often need support in understanding the technical and economic characteristics of green technology solutions, which are usually not in their portfolios. Financial institutions and intermediaries may also not be used to work specifically with the types of beneficiaries and tools that the NSP requires, and therefore they may need assistance or training in the application of these instruments. For example, in the Mexico Housing NSP, private banks were less used to dealing with SME developers, which work in very different ways and scales compared to large ones: they have lower economies of scale, lower pace in

return on investment, and they generally have fewer resources to accommodate burdensome bureaucratic processes.

While a possibility is for the Technical Component to be responsible for the TA in support of the Financial Component (if they overlap), the model of the Mexico Housing NSP with an independent supplier contracted through the Financial Component can also work. In the latter case, the procurement process needs to be included in the original design to avoid delaying the rest of the Financial Component's implementation.

3. Less bureaucracy enhances project participation

In the beginning, the NSP was not very clearly explained to the stakeholders. For example, the application process raised continuous surprises, and some SMEs thought there was no assurance that the money would be actually disbursed. Small developers were hindered in their participation by what they perceived as long bureaucratic processes for credit access and the variability of the interest rates. In particular, the cost of the bridge loan was simply too high for the SMEs. As already mentioned in Section 0, they likewise perceived the bureaucratic process as too cumbersome and inefficient. Simpler agreements would have been much easier for them to handle than a credit approval process.

The NSP learned that simplified application processes and disbursement procedures through improved harmonisation with the legal departments can enhance project participation and reduce necessary capacity development through TA. The simpler the system is, the less paperwork training is necessary, and the fewer loopholes exist.

4. Intersectoral alignment, attention to the local context and coordination to raise political support at the governmental level is key to success

As the Mexican Government had already pathed the way for the Mexico Housing NAMA some years before the NSP started in 2014 (e.g. by introducing the earlier mentioned round table meetings in 2012 or strengthening governmental programmes like the Green Mortgage), the preparative work was very beneficial for the overall success of the NSP. Intersectoral alignment is very relevant to generating systemic change, as it enables the smooth exchange of information and harmonisation of approaches between the involved institutions.

Although the NSP was generally aligned to the government priorities, the design of the NSP, in particular the formulation of the indicators, could have given greater attention to the local context, in order to improve coordination to raise political support. For example, it was reported that a major problem with the initial project design was to come to a consensus regarding the comfort levels required in a low-carbon house, given there is a big difference in what the comfort level standard is in Europe and Mexico. It is important not to impose solutions from one country or region to another without checking their relevance. Given the long duration of the project, the design should have also considered the political calendars and the risk of a change in government.

A key lesson from the NSP was to shift from a short-term to a long-term vision, especially given the nature of climate change, and support stakeholders to see the long-term savings. The NSP, therefore, focused on affecting the market environment for LCH, which should have a long-term impact, rather than going for immediate, but short-lived benefits of an energy efficiency retrofit initiative.

5. Different eco-technologies can work better in different climates, and if they are not strategically selected, they do not maximise impact and benefits

In general, the NSP improved the quality of the houses constructed, and the end-users improved their living standards. It also facilitated more access to different energy-efficient products in the market and created real competition. In order to do so, it was in some cases necessary to investigate different types of materials to adapt to different climates. Some companies developed their insulation products and applications, and the NSP provided them with recommendations of types of adequate and applicable materials. Other SMEs that struggled with selecting the right eco-technology materials and suppliers were also provided strategic advice by the NSP's TA. An upscaling strategy strengthening the collaboration also with larger suppliers of eco-technologies at the end of the implementation could have expanded the impact and outreach of the Financial Component.

6. SMEs need easier and more timely access to financing products

Financial support for LCH developers is a necessity in developing countries like Mexico to overcome the upfront additional capital investment required to purchase and apply eco-technologies. This is particularly true for SMEs, who have limited cash-flows but do not have easy access to financing from banks. The NSP learned that the higher was the incentive, the more companies and developers participated. Furthermore, because of the special cash-flow needs of SMEs, the timing of the financial instruments is crucial. SME developers may need some part of the cash up-front to implement measures with eco-technologies.

7. Grants are not aligned with the interests of financial intermediaries

While grants are very attractive for developers, they are not so attractive for financial intermediaries, who gain little from offering them. They have also proven to be complex, particularly as they are linked to government subsidy programmes, which changed during the implementation period, although the NSP tried to decrease the amount and complexity of the bureaucracy throughout the implementation (see section 3.3). There was also slow uptake of the investment grants due to the lack of promotion by the financial intermediaries.

5.2 Recommendations

5.2.1 Recommendations to the political implementing partners and the NSP Team for the continuation of the NAMA for Sustainable Housing in Mexico

As the NSP comes to an end, there are some specific recommendations for the political implementing partners of the NAMA for Sustainable Housing in Mexico that arise from this evaluation:

- 1. To obtain or expand results, it is necessary to establish effective mechanisms for intergovernmental coordination and alignment of interests and actions** (e.g. through a hub or organisation, rather than a project committee), to reach a common language, join efforts for financial support to projects and raise political buy-in for LCH on an intersectoral and long-lasting level.

2. **Stakeholder consultations should be involved in developing new LCH projects so that they respond to the local and emerging needs and context**, e.g. hot water and heating needs by region, gender issues, mandatory technical requirements, etc. The participatory budget²⁷ consultations initially applied in Brazil could serve as an example.
3. **Increase commitment and ownership by involving the most promising actors at the respective level of action**, for example, by finding new partners at the city or state level.
4. **Housing institutions in Mexico (SHF, INFONAVIT, FOVISSSTE, CONAVI, etc.) should continue to use the SISEVIVE tool, simplify the calculation method and evolve to a universal, efficient construction label that includes the application of the Mexican NOM-020-ENER standard.** The label can help financial institutions grow confidence in financing LCH.
5. **Enhance participatory processes involving the homeowners and developers**, for example, in calculating savings through DEEVi (software for energy efficiency simulation). Technical results of DEEVi should be made accessible to developers and homebuyers in a more comprehensive way. SMEs reported that they would like to operate the software by themselves. However, the DEEVi calculation tool needs more robust competencies to be developed, upgraded, and adequately used. The lack of local competencies has created a dependency that will be difficult to overcome.
6. **Prioritise LCH applications according to the different climate zones.** In temperate climates, eco-technologies produce fewer energy savings than they would in areas of extreme temperatures. Packages of appropriate eco-technologies covering the entire house must be put together. Because the ultimate goal is emission reductions, more priority should be given to projects in extreme climates, where more substantial technical and financial support is required to maximise the efficiency benefits across the entire house.
7. **Focus on introducing eco-technologies with high carbon-saving potential and the massification of cheaper LCH measures**, even if they individually have less mitigation potential.
8. **The cash flow needs of the developers should be adequately considered during the financial support design.** Since many SME developers need cash up-front to implement measures with eco-technologies, paying out subsidies only after the houses are sold can be a stumbling block (counterproductive).
9. **Explore the participation of commercial banks in financing LCH.** Banks are becoming more receptive to open green finance lines, representing an opportunity to keep expanding the LCH market. It might be better for the government and/or other donors to allocate funding for technical and financial assistance to the private sector and banking systems already active in assigning credits. This could have a longer-term impact than providing subsidies to financial intermediaries that might not evolve. Increasing the number of due diligence assessments and the respective quantity of eligible financial intermediaries could be considered. Alternatives

²⁷ For more information regarding participatory budget, please see: https://en.wikipedia.org/wiki/Participatory_budgeting

to direct subsidies could also be considered, as well as expanding the benefit ceiling so that higher-cost homes can also benefit.

10. Grant procedures should be simplified, for instance, not via a flexible cost reimbursement scheme, but through fixed lump sums (e.g. for m²) or other objective variables.

11. SHF should work on financial training and promoting financial products in the SME sector. There are opportunities to improve training for SMEs to understand the benefits of financing offered by institutions such as SHF. There are also challenges for the dissemination of these schemes and attracting a greater number of SMEs.

12. A shift of the risk towards government institutions (SHF), for example through a guarantee fund, should be explored by the government of Mexico. SHF thinks loan guarantees are fundamental instruments as they can ensure the sustainability of the NSP after the investment grants are depleted. A long-term (governmental) support programme could enhance the sustainability in this regard. The incentives of the guarantee programme are aligned to the interests of financial intermediaries and are well received by SMEs as long as they represent low interest rates.

5.2.2 Recommendations to the NAMA Facility for the review, approval, and management of future interventions

The evaluators read the NAMA Facility's General Information Document for the 7th Call for NSPs and understand that projects already undergo thorough assessments at both the project outline phase and detailed preparation phase (DPP). However, based on the lessons identified by this ELE, the ELE team identified the following recommendation to improve the general NAMA Facility processes to review, approve, and manage NSPs:

1. Consider monitoring the level of engagement of the political implementing partners through the regular progress reporting. Just with active and committed partners, and a high level of ownership, sustainable results can be achieved.

5.2.3 Recommendations to future NSP applicants

These recommendations are for future NSP applicants:

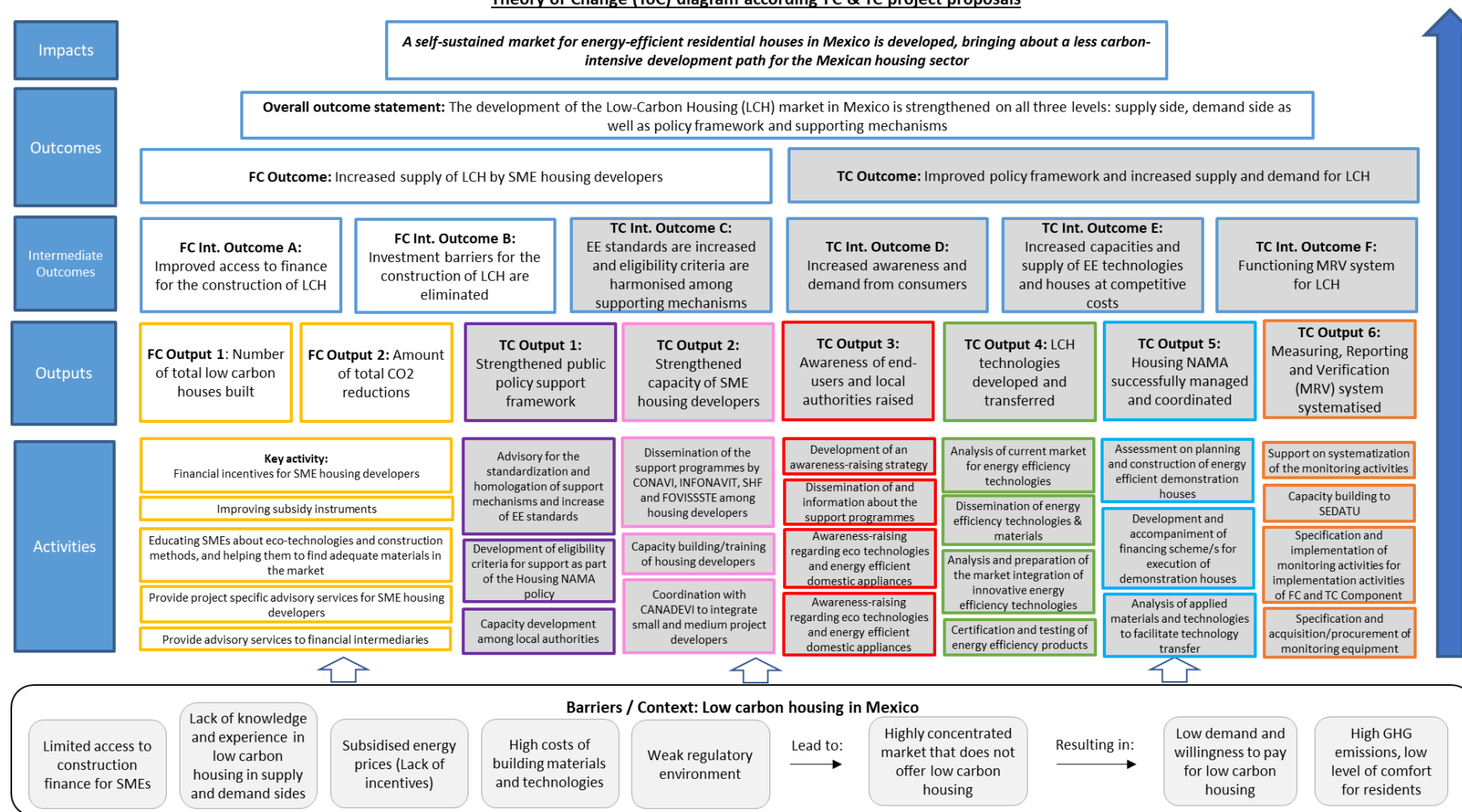
- 1. Ensure there is enough overlap in implementation time between both components** to build synergies, avoid disconnects, and increase impact.
- 2. Ensure the existence of well-established governance and regular coordination** through meetings and information exchange between the delivery organisations of the Technical and Financial Components and key stakeholders.
- 3. The Technical Component should have the specific mandate, expectation, and scope to support the Financial Component and vice versa.** For example, this NSP's Technical Component could have placed a stronger focus on channelling SMEs to apply for financial support. However, this was not possible due to the lack of overlap. Furthermore, a key objective of Technical Components should be to help build a project portfolio for the Financial

Component. It is well known that investment decisions require time, particularly when these imply new technologies or innovations or entering new markets. Therefore, focusing on identifying bankable projects in the volume and quality set by the NSP must always be at the centre of the efforts.

4. **As it proved successful in this NSP, future NSPs could consider allocating budget for TA through the Financial Component**, especially if the parallel implementation of the NSP components is not possible. The TA elements can be better delivered by a contracted technical supplier, as it is unlikely that the delivery partner of the Financial Component has the technical capacity required in-house.
5. **If TA activities are outsourced, they should be designed by the NSP before the procurement of the TA implementing entity** (to the extent possible by the respective procurement guidelines). Failure to do so risks bringing about inefficiencies and delays in the Financial Component implementation.
6. **Financial Component delivery organisations must simplify the bureaucratic steps to access their financial support within the limited legal framework**, like the application processes and disbursement procedures, through improved harmonisation with the legal departments of the financial intermediaries.
7. **Ex-post quality assurance systems, such as through spot-checks**, could be considered to decrease excessive bureaucracy in the financial instruments' application process.

Annex A Theory of Change of the Mexico Housing NSP

Theory of Change (ToC) diagram according FC & TC project proposals



Legend: Element covered by this ELE Element not covered by this ELE

Key assumptions underpinning the NSP Theory of Change

ToC element	Underpinning assumptions
Impact	<ul style="list-style-type: none"> • LCH offers benefits to SME developers. • LCH qualifies for higher-value markets. • Because of the Mexico Housing NAMA, a 100% penetration of the average efficiency standard Eco Casa 2 is applied across all four Mexican major climate zones and building types from 2015 to 2020 (assumption of 600,000 housing units per annum), achieving cumulative emission reductions ranging from 13.5 Mt CO₂e until 2020 to 108 Mt CO₂e after 20 years of the life span of the eco-technologies applied (see project proposal, 2.3).
Outcome	<ul style="list-style-type: none"> • Suitable financial offers are the reason for SME developers not implementing LCH yet. • SME developers qualify for climate finance. • SME developers are willing to enter and qualify for climate finance mechanisms.
Intermediate outcomes	<ul style="list-style-type: none"> • SME developers are willing to change their production systems towards LCH. • There is SME developers demand for mitigation service practices. • There are suitable service providers who are willing to enter offering mitigation services. • SME developers and service providers qualify for SHF financial offers. • The Mexican government aims to reduce emissions in the housing sector. • The Mexican government broadens/builds its own programmes and initiatives to facilitate LCH.
Outputs	<ul style="list-style-type: none"> • Trained SME developers apply proposed technologies/practices. • Trained service providers offer mitigation services to SME developers. • The Mexican government and private actors (SME developers and service providers) are willing to invest in LCH. • A solid business case exists for mitigation service providers. • National and sub-national public capacities can be strengthened. • LCH offers co-benefits to SME developers such as increased demand, decreased production costs due to increased production efficiency and adaptational benefits in view of changing climatic conditions.

Annex B Capturing NSP-induced Transformational Change

Introduction

This is a brief guidance developed by AMBERO/OPM outlining a framework to consistently evaluate the NAMA Support Projects' (NSPs) progress towards bringing about Transformational Change (TC).

Transformational change is embedded in the NAMA Facility's goals and Theory of Change (ToC), and NSPs are the main way through which the NAMA Facility will achieve this TC. Therefore, NSPs need to be aiming to achieve this level of change, and the Evaluation and Learning Exercises (ELEs) of NSPs should evaluate their progress.

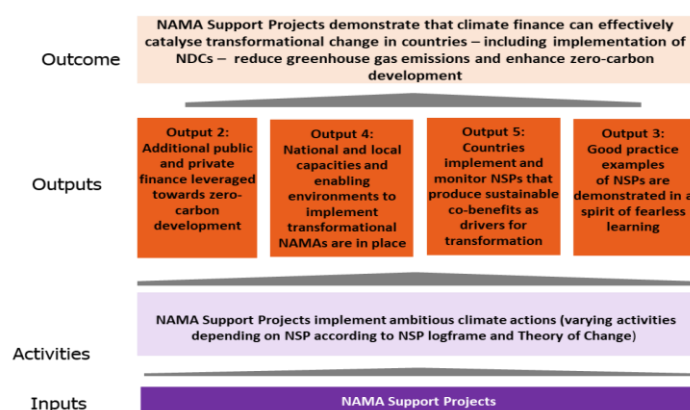
In a way, the key elements of transformational change are already monitored through the NSP Mandatory Core Indicators M1-M5, part of the NAMA Facility M&E Framework²⁸. At the same time, ELEs already assess transformational change by NSPs through ELE Questions. However, currently, clearer guidance to identifying the signals or evidence of NSP-induced transformational change is needed.

The purpose of this brief document is to clarify whether and how transformational change is expected in NSPs, and provide guidance to both NSP and ELE teams on how to characterise the elements and evidence of NSP-induced transformational change.

Breaking down NSP-induced transformational change

The NAMA Facility defines TC as *"Catalytic change in systems and behaviours resulting from disruptive climate actions that enable actors to shift to carbon-neutral pathways"*²⁹. TC lays at the centre of the NAMA Facility's ToC, as shown in the extract in Figure 1.

Figure 1. Relevant elements of the original TOC for the ELEs

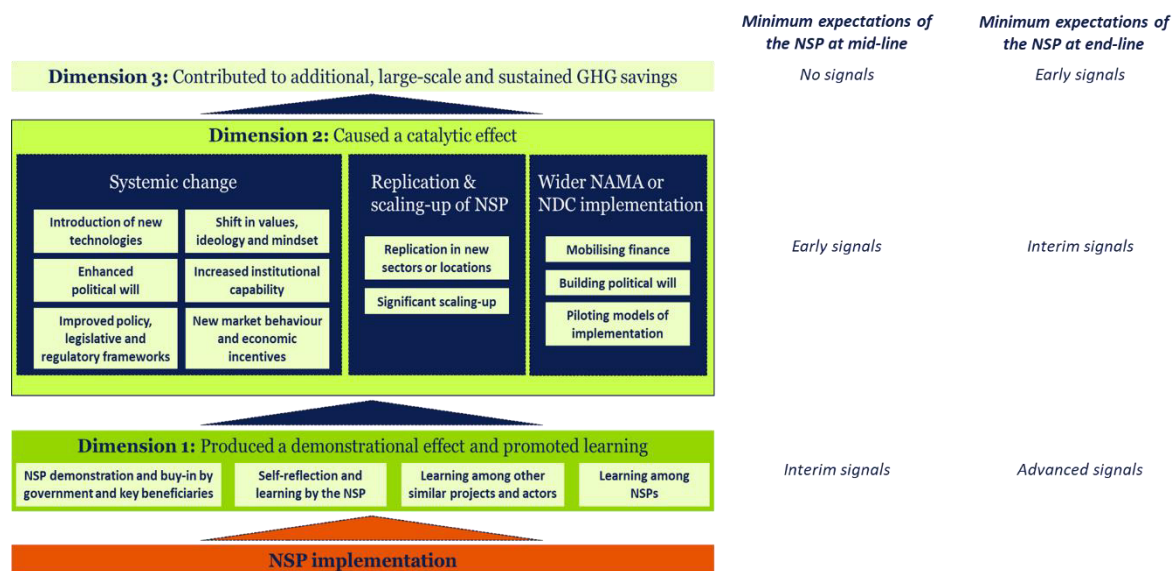


²⁸ <https://www.nama-facility.org/publications/monitoring-and-evaluation-framework/>

²⁹ <https://www.nama-facility.org/concept-and-approach/transformational-change>

The NAMA Facility ToC explains how TC is expected to be achieved through its outputs and outcome. The ToC is broad, and there are different ways in which TC can be achieved through the NSPs. These dimensions simplify the different possible pathways for TC outlined in the ToC.

Figure 2. Dimensions of NSP-induced transformational change



There are three dimensions that interact and reinforce each other to produce NSP-induced TC (Figure 2):

Dimension 1: Produced a demonstrational effect and promoted learning. The most direct way in which an NSP can contribute to transformational change is to produce a demonstrational effect and learning process which could imply that: a) the NSP's innovative approach has been proven valid and bought into by government and other key beneficiaries; b) self-reflection and learning by the NSP in a spirit of 'fearless learning' have been observed; c) effective sharing of lessons and experience with and by other similar projects and actors (including other NSPs) has occurred. By mid-line, NSPs are expected to show interim signals³⁰ of achieving this demonstrational effect and learning process, which should have become clear evidence (advanced signals) by the end-line. This dimension relates to output 3 in the NAMA Facility ToC and the [NAMA Facility Learning Strategy](#). The demonstrational effect and learning generated by the NSP are enablers of achieving a catalytic effect (Dimension 2).

Dimension 2: Causing catalytic effect. In order to achieve the additional, large-scale and sustained GHG emission reductions (Dimension 3), the NSP needs to cause a virtuous catalytic effect in the operating country or region. This can take the form of one or more of the following catalytic changes:

- **Kick-starting wider NAMA or NDC implementation**, by mobilising finance, building political will, and/or piloting models of implementation;
- **Replication of the NSP's demonstrated approach** in other sectors or locations, and/or significant scaling-up of the NSP; and/or

³⁰ See Table 3 below for the definition of the levels of signals or evidence.

- **‘Systemic’ change enabled by the NSP**, which could be supported by the one or more of the following: a) introduction of new technologies; b) increased institutional capability; c) improved policy, legislative and regulatory frameworks; d) enhanced political will; e) shift in values, ideology and mindset; f) new market behaviour and economic incentives.

By mid-line, NSPs are expected to have produced some early signals of one or more of these changes, which by the end of the project should have been strengthened into interim signals or evidence that the catalytic effects are likely to be completed in the near future. The catalytic effect relates to outputs 2, 4 and 5 in the NAMA Facility ToC, and Mandatory Core Indicator M3 (catalytic impact self-assessment) and M4-M5 (public/private finance mobilised).

Dimension 3: Contribution to additional greenhouse gas (GHG) savings. This is linked to the outcome in the NAMA Facility ToC and Mandatory Core Indicator M1 – Reduced GHG emissions. It implies that the NSP has resulted in *additional, large-scale and sustained* GHG savings³¹. Within the lifetime of the project, NSPs are not expected to have achieved this. Yet, by the end of the project, there should be signs that this is likely in the future (*early signals*).

Measuring NSP-induced transformational change

The NAMA Facility has a specific M&E framework that allows to track the progress of the NSPs towards the achievement of the NAMA Facility’s goals, including transformational change. The NAMA Facility Mandatory Core Indicators and the ELEs are both central parts of this M&E framework, and they can be used to assess the NSPs’ advancement towards transformational change.

As shown, the TC dimensions come directly from the NAMA Facility ToC (and from BEIS’s thinking on TC included in the ICF KPI 15 (see Annex 1 below)). Since the NSPs are expected to be aligned to the overall NAMA Facility ToC, then it should be possible to map the dimensions of transformational change in the NSP ToCs. All NSPs are required to monitor their progress using a series of Mandatory Core Indicators and NSP-specific indicators. The NAMA Facility Mandatory Core Indicators partially capture the elements of the TC framework in Figure 2 (see Table 1).

Table 1. How the NAMA Facility Mandatory Core Indicators capture transformational change

TC dimension	Core Indicators
1. Produced a demonstrational effect and promoted learning	Not captured but left to the NSP-specific indicators.
2. Caused a catalytic effect	M2: Number of people directly benefiting from NSP – To a certain extent captures NSP scaling up M3: Degree to which the supported activities are likely to catalyse impacts beyond the NAMA Support Projects (potential for scaling-up, replication

³¹ Additional = the GHG savings achieved are in addition to those achieved by the direct implementation of the NSP. Large-scale = the additional GHG savings will have a significant impact on overall GHG savings in the geography/sector. Sustained = there is no chance of the GHG savings being reversed.

	<p>and transformation) – The TC framework presented can be used to break down / clarify the TC elements and guide the self-assessment.</p> <p>M4-M5: [additional] public/private finance mobilised – These indicators capture the NSP’s scale-up potential and the catalysation of wider NAMA and NDC implementation.</p>
3. Contributed to additional, large-scale and sustained GHG savings	<p>M1: Reduced GHG emissions – The NSP M&E Plan distinguishes between direct and indirect GHG savings and has a long temporal scale</p>

Concerning the ELEs, Table 2 provides some suggestions of potential questions that could be integrated into ELE methodologies to capture the specific elements of the TC framework in Figure 2.

Table 2. How the ELEQs can capture transformational change

Transformational change dimension	Examples of relevant ELE sub-questions
1. Produced a demonstrational effect and promoted learning	<ul style="list-style-type: none"> How successfully did the NSP produce a demonstrational effect of best practices for systemic low-carbon transformation? To what extent have the government and other key NSP beneficiaries bought into these practices? What is the evidence that the NSP has learnt from its successes and failures throughout its implementation? How was learning from this NSP shared with other NSPs, and did they make any changes to their approach as a result?
2. Caused a catalytic effect	<ul style="list-style-type: none"> Systemic change: How did the NSP result in systemic change [i.e. were national and local capacities and enabling environments (e.g. new technologies, policies, regulations, incentives, behaviours) to implement transformational NAMAs strengthened]? Replication/Scaling-up: a) How much additional public and/or private finance has been leveraged by the NSP towards zero-carbon development? b) What is the evidence that the NSP approach will be replicated in new sectors and/or locations? Wider NAMA or NDC contribution: How has the NSP contributed to the implementation of the NDC or wider mitigation actions in the same sector?
3. Contributed to additional GHG savings	<ul style="list-style-type: none"> Are there signals that the NSP will contribute to additional, large-scale, sustained GHG savings (beyond direct savings of the NSP)? What were the distinct roles of the financial and technical components in contributing to these savings? What is the likelihood that the additional GHG savings will be sustained in the medium to long term (i.e. 10–15 years and beyond), meaning there is no risk of backsliding or reversing?

In the section dedicated to the OECD DAC criterion “*Impact*” of ELE Reports, sub-headings referring to the three TC dimensions are used to present the evidence observed to that point in time. These sub-

sections present the findings related to the relevant questions in Table 2 and describe the NSP's progress along the TC dimension according to the signal levels defined in Table 3.

Table 3. Transformational Change “Signals” assessment by ELEs

Signal level	Definitions
No evidence	Evidence suggests little to no progress is being made in line with the ToC causal pathways to Transformational Change.
Early signals	There is emerging evidence of the transformation related to the dimension, or the foundations for the transformation have been laid by the NSP, but no signals of the change are present.
Interim signals	Evidence shows some signals that the transformation related to the dimension is underway, and it is likely to continue.
Advanced signals	Evidence shows strong signals that the transformation related to the dimension is underway, and there is little doubt that it will continue.

Annex C Evaluation and Learning Exercise Matrix

This evaluation and learning exercise matrix is based on the Theoretical Framework provided (version October 2020). It presents the key evaluation questions according to the agreed evaluation criteria and different elements that help the evaluators assess the evidence to answer the questions.

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	Who can answer this question	Source of information Data gaps
			1 RELEVANCE		
1	To what extent does the NSP address an identified need (by the national government, SMEs and project developers)?	<ul style="list-style-type: none"> The NSP design responds to the beneficiaries' needs and strategic priorities at the time of adoption, and continues to respond to priorities given the evolving challenges and priorities in the Mexican residential housing sector. NSP is aligned with the needs of housing authorities, energy and environment policies, SMEs and housing developers. 	<ul style="list-style-type: none"> The Financial Component will improve access to finance for the construction of low carbon housing 	<ul style="list-style-type: none"> Direct beneficiaries (government, SMEs, housing developers, end-users) NSP Team TSU Independent verifiers (Industry associations, non-NSP consultants working on housing sector, Development Partners, academics) 	<ul style="list-style-type: none"> In-depth interviews Semi-structured key informant interviews (KIIs) Context analysis Document review (Project concepts and progress reports) National plans, strategies and other policy instruments such as norms, standards, etc.
1.1	How well does the NSP align with government and agency priorities in regard to GHG emissions from the housing sector?	<ul style="list-style-type: none"> The project is in line with Government targets on housing-related emissions (incl. NDC, sectorial plans, etc.) and energy efficiency goals (National Strategy³²). 	<ul style="list-style-type: none"> The NSP's Financial Component will support Mexico's overall emission reduction targets for the housing sector (climate and energy components) 	<ul style="list-style-type: none"> Direct beneficiaries from government NSP Team TSU Academics and researchers Building, environment and energy NGO 	<ul style="list-style-type: none"> In-depth interviews Semi-structured key informant interviews (KIIs) National plans, strategies on housing, climate change and energy Data from the NSP monitoring system
			2 EFFECTIVENESS		

³² http://www.dof.gob.mx/nota_detalle.php?codigo=5585823&fecha=07/02/2020

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	Who can answer this question	Source of information Data gaps
2	To what extent has the NSP achieved intended (and unintended) outcomes?	<ul style="list-style-type: none"> ▪ The degree to which there is evidence of the expected results / Interim Outcomes in the ToC: <ul style="list-style-type: none"> ○ Public and private finance for efficient houses development leveraged and accessed by SMEs ○ Investment barriers have been removed ○ Capacities have been built among SME Developers ○ Functioning MRV (Monitoring, Reporting and Verification) system for efficient houses is in place ○ The strength of the NSP contribution to the realisation of those outcomes (see the link between outputs and outcomes) ▪ For each of the outcomes consider the major constraints and opportunities experienced (success and hindering factors) 	<ul style="list-style-type: none"> ▪ The Financial Component will facilitate the progressive incorporation of SME's into the low carbon housing market 	<ul style="list-style-type: none"> ▪ Direct beneficiaries ▪ NSP Team ▪ TSU ▪ Independent verifiers ▪ Academics and researchers ▪ Building, environment and energy NGO 	<ul style="list-style-type: none"> ▪ In-depth interviews ▪ Semi-structured key informant interviews (KIIs) ▪ NSP proposal ▪ Progress reports ▪ Data from NSP monitoring system / logframe
2.1	Were there additional outputs and/or outcomes obtained that were not planned in project design (incl. unintended outcomes)?	<ul style="list-style-type: none"> ▪ There is evidence of the NSP's contribution to additional (intended and unintended) results ▪ If there are positive unintended results, the NSP team has been able to capitalise on them to sustain the intended outcomes ▪ If there are negative unintended results, the NSP team has been able to appropriately identify, address and learn from them. 	<ul style="list-style-type: none"> ▪ The Financial Component of the NSP has contributed towards Technical Component outputs and outcomes ▪ The NSP management has been appropriately designed to identify, address/capitalise from, and learn from unintended outcomes 	<ul style="list-style-type: none"> ▪ Direct beneficiaries ▪ NSP Team ▪ TSU 	<ul style="list-style-type: none"> ▪ NSP proposal ▪ Progress reports ▪ In-depth interviews ▪ Data from the NSP monitoring system ▪ Semi-structured KIIs

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	Who can answer this question	Source of information Data gaps
2.2	Did changes in the NSP-operating context like COVID-19 or elections impact (positively and/or negatively) the effectiveness of the project? If so, to what extent (greatly, partially, negligibly)?	<ul style="list-style-type: none"> The level of Financial Component/NSP contribution to the achievement of the results compared to exogenous factors. Several assumptions and causal pathways outlined in the TOC remain valid, after adaptations and refinements. 	<ul style="list-style-type: none"> The Financial Component/NSP is the main cause of the achievement of the intended and unintended outcomes. However, negative side effects from the national elections in 2018 and COVID-19 2020/21 resulted in lower performance of the indicator than expected and target goals were underachieved. 	<ul style="list-style-type: none"> Direct beneficiaries NSP Team TSU Independent verifiers Academics and researchers Building, environment and energy NGO 	<ul style="list-style-type: none"> In-depth interviews Semi-structured key informant interviews (KIIs) NSP proposal Progress reports Data from NSP monitoring system / logframe
			3 EFFICIENCY		
3	To what extent was the delivery of outputs timely and to expected quality standards?	<ul style="list-style-type: none"> Timeliness of the delivery of outputs and outcomes (incl. budget spending) If there are delays in the implementation, what have caused them (endogenous or exogenous factors) and how seriously have they impacted the NSP implementation? The effectiveness of the measures adopted to reduce the delays The level of satisfaction of the NSP direct beneficiaries 	<ul style="list-style-type: none"> Financial Component activities run smoothly, on time and on budget. Coordination with other projects of the Mexican government focusing on financing efficient houses and using synergies with further projects (by development cooperation and Mexican government) within the housing sector will add to the efficiency of the Financial Component. The cooperation with housing developers and financial institutions will support efficient information dissemination and stakeholder identification. 	<ul style="list-style-type: none"> Direct beneficiaries NSP Team TSU Academics and researchers Building, environment and energy NGO 	<ul style="list-style-type: none"> NSP proposal Progress reports In-depth interviews Data from the NSP monitoring system Semi-structured KIIs Official standards

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	Who can answer this question	Source of information Data gaps
3.1	Structure & steering: Was the NSP managed, coordinated, and implemented effectively?	<ul style="list-style-type: none"> The chosen implementation mechanism is conducive to achieving the expected outcomes The Financial Component is tailor-made for achieving the planned outputs Communication and visibility are implemented according to an integrated approach Financial Component and Technical Component interact synergistically Stakeholders are participating and collaborating actively in the intervention 	<ul style="list-style-type: none"> The Proposed NSP structure has been implemented with minor modifications. Financial Component and Technical Component activities are well aligned and reinforce each other. Coordination with other projects at the national or local tiers of government has been positive. 	<ul style="list-style-type: none"> Direct beneficiaries NSP Team TSU 	<ul style="list-style-type: none"> NSP proposal Progress reports In-depth interviews Semi-structured KIIs
			4 IMPACT		
4	What evidence is there that the NSP has been contributing to the intended impact in the ToC (incl. transformational change)?	<ul style="list-style-type: none"> The strength of the evidence that key outcomes are going to be achieved and the robustness of the causal links/pathways to the intended impact (namely increase in demand of efficient houses, supply eco-technologies and efficient envelope materials and GHG emissions reduction and co-benefits) The extent of how transformative the NSP is likely to be based on current evidence 	<ul style="list-style-type: none"> Direct: Financial Component activities will be key to initiating a self-sustained market of efficient houses that will bring additional large-scale and sustained GHG savings. Indirect: Financial Component initiatives will build mitigative capacity in México and the build-up of institutional capacities to undertake a larger number of efficient houses in the future. 	<ul style="list-style-type: none"> Direct beneficiaries NSP Team TSU Independent verifiers Academics and researchers Building, environment and energy NGO 	<ul style="list-style-type: none"> NSP proposal Progress reports In-depth interviews Data from the NSP monitoring system Semi-structured KIIs
			5 SUSTAINABILITY		
5	What is the likelihood that the outcomes will be sustained after the end of the NSP funding period?	<ul style="list-style-type: none"> The extent of the evidence supporting the NSP sustainability (e.g. evidence of self-sustaining institutional structures, official standards and political and financial commitment of key stakeholders) There is little or no risk of backsliding or reversing 	<ul style="list-style-type: none"> Financial Component activities will help strengthen the financial conditions and environment for a self-sustained market for energy-efficient houses in Mexico and the capacities built will stay and serve other private or public related 	<ul style="list-style-type: none"> Direct beneficiaries NSP Team TSU Independent verifiers Academics and researchers Building, environment and energy NGO 	<ul style="list-style-type: none"> NSP proposal Progress reports In-depth interviews Data from the NSP monitoring system Semi-structured KIIs

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	Who can answer this question	Source of information Data gaps
			initiatives, beyond the scope and duration of this NSP project. <ul style="list-style-type: none"> ▪ The Financial Component will help build political will to scale up the models of support and implementation 		
			6 LEARNING		
6	What key lessons can be learnt to the benefit of the legacy of this NSP, other NSPs and the NAMA Facility as a whole?	<ul style="list-style-type: none"> ▪ The NSP's generation of important lessons for: 1) its legacy; 2) other projects and/or NSPs; 3) the NAMA Facility as a whole. 	<ul style="list-style-type: none"> ▪ The NSP will generate important lessons for sustain its legacy, other projects and/or NSPs, and the NAMA Facility as a whole. 	<ul style="list-style-type: none"> ▪ Direct beneficiaries ▪ NSP Team ▪ TSU ▪ Independent verifiers 	<ul style="list-style-type: none"> ▪ Progress reports ▪ In-depth interviews ▪ Semi-structured KIIs ▪ Literature review
6.1	What can the NAMA Facility learn from the fact that the Technical Component ended in 2017 and the Financial Component being further implemented until now?	<ul style="list-style-type: none"> ▪ The actual overlap of the Technical Component & Financial Component ▪ The mutual contributions to common outputs/outcomes ▪ The timing of Technical Component & Financial Component activities was adequate and resulted in the achievement of the expected outcomes 	<ul style="list-style-type: none"> ▪ The timing of the activities of both components was well aligned and contributed to the successful implementation of the NSP 	<ul style="list-style-type: none"> ▪ Direct beneficiaries ▪ NSP Team ▪ TSU ▪ Independent verifiers 	<ul style="list-style-type: none"> ▪ Progress reports ▪ In-depth interviews ▪ Semi-structured KIIs ▪ Literature review

Annex D Evidence and answers to the ELE matrix

The following table has been part of the ELE analysis effort to link the answers to the ELEQs with the evidence from the ELE sources that underpins them. The strength of the evidence is assessed following the methodology explained in Section 2 and the legend in Table 5. The codes found in the answers' text are the references to the specific sources (interviews, workshops, documents). Each code refers to a specific source and follows this legend: NT = NSP Team; SH = NSP Stakeholder; TP = Third Party; AR19 = Annual Report 2019; SAR20 = Semi-Annual Report 2020.

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
			1 RELEVANCE	
1	To what extent does the NSP address an identified need (by the national government, SMEs and project developers)?	<ul style="list-style-type: none"> The NSP design responds to the beneficiaries' needs and strategic priorities at the time of adoption, and continues to respond to priorities given the evolving challenges and priorities in the Mexican residential housing sector. NSP is aligned with the needs of housing authorities, energy and environment policies, SMEs and housing developers. 	<ul style="list-style-type: none"> The Financial Component will improve access to finance for the construction of low carbon housing 	<ul style="list-style-type: none"> The NSP has supported the wider Housing NAMA, and related programs, therefore it is aligned with the National Government agenda [Very strong evidence: NT1, NT2, NT4, NT5, NT6, SH14, TP27, TP28, TP30, PR13, PR19, AR14, AR16, AR18]. For instance, the NSP was in coordination with several organizations and programs involving the improvement of public policy around financial and regulatory aspects of sustainable housing [Strong evidence: NT5, TP25, TP26, TP28, TP30, AR14, AR17]. However, some stakeholders added that the federal administration that initiated the NSP implementation was better aligned with the NSP's objectives than the one at present [Strong evidence: NT4, NT5, TP22]. Nevertheless, SHF was able to drive this change and nurture the programme [Medium evidence: NT2, NT6, NT7, PR13, AR16, AR17] The NSP has supported the wider Housing NAMA, and related programs, therefore it is aligned with the National Government agenda [Very strong evidence: NT1, NT2, NT4, NT5, NT6, SH14, TP27, TP28, TP30, PR13, PR19, AR14, AR16, AR18]. For instance, the NSP was in coordination with several organizations and programs involving the improvement of public policy around financial and regulatory aspects of sustainable housing [Strong evidence: NT5, TP25, TP26, TP28, TP30, AR14, AR17]. However, some stakeholders added that the federal administration that initiated the NSP implementation was better aligned with the NSP's objectives than the one at present [Strong evidence: NT4, NT5, TP22]. With the change of government, the focus has changed, and the housing policy turned its focus on existing houses and self-construction primarily. Thus, the objectives, concerning

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<p>sustainable building, were not anymore on the highest priority [Strong evidence: NT1, NT2, NT3, NT4G, NT7, TP25, TP26, TP30, PR19, AR16, SAR18, AR18, SAR19, AR19, M&E20].</p> <ul style="list-style-type: none"> ■ In addition, the elimination of federal subsidies imposed an additional risk to the implementation of the Financial Component in relation to the initial plan [Medium evidence: NT2, NT3, NT4, AR16, AR18, SAR19, AR19]. ■ The lack of leadership from the government to coordinate all the stakeholders involved in this area was a large risk and a missed opportunity for higher synergies and impact [Strong evidence: NT1, NT3, TP22, TP30, SAR18]. ■ Additionally, economic deceleration and COVID-19 have changed priorities towards more pressing matters [Strong evidence: TP23, TP26, PR19]. ■ The impact expected to be accomplished by the NAMA supported by the NSP is not possible to achieve over 5 years, therefore, more support by the government is needed to improve the long-term impact chances [Single source: NT7]. ■ For instance, the lack of technical support personnel at SHF hampered the optimal implementation of the Financial Component [Medium evidence: SAR15, AR15, SAR18, AR18, SAR19, AR19]"
1.1	How well does the NSP align with government and agency priorities regarding GHG emissions from the housing sector?	<ul style="list-style-type: none"> ■ The project is in line with Government targets on housing-related emissions (incl. NDC, sectorial plans, etc.) and energy efficiency goals (National Strategy³³). 	<ul style="list-style-type: none"> ■ The NSP's Financial Component will support Mexico's overall emission reduction targets for the housing sector (climate and energy components) 	<ul style="list-style-type: none"> ■ Developers considered appropriate the support provided by the NSP [Very strong evidence: NT1, NT7, SH8, SH9, SH10, SH11, SH12, SH13, SH14, SH16, SH17, SH21, TP23, TP24, TP30, PR19, SAR20, SAR21]. ■ In particular, the technical assistance and capacity building activities helped them increase their awareness of the business and sustainability opportunities related to low carbon housing [Strong evidence: NT1, NT4, SH21, PR13, PR19]. ■ Furthermore, they believe that without the technical assistance, the impact would have been much less [Single source: NT4]. ■ -In order to better respond to the needs of project developers, the financial instruments were adjusted during the Financial Component operation [Very strong evidence: NT6, NT7, SH8, TP24, AR20]. ■ -For instance, the price of houses is established by INFONAVIT and FOVISSSTE, therefore, SMEs cannot increase construction costs [Weak evidence: NT6, PR13]. ■ Thus, the subsidy was an appropriate incentive to include eco-technologies that in addition, were just entering the Mexican market and so their costs and availability were not yet convenient for developers [Strong evidence: NT1, NT6, NT7, PR13, PR19, SH20].

³³ http://www.dof.gob.mx/nota_detalle.php?codigo=5585823&fecha=07/02/2020

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ SME's also consider the support useful in terms of making their product more attractive to their clients [String evidence: SH9, SH11, SH12, SH14, SH16, SH17, TP23], which motivates them to continue with the incorporation of eco-technologies as a differentiator from then onwards [Strong evidence: SH8H, SH14, SH17, TP23, TP25, TP30]. ▪ Finally, large developers can access low-cost loans therefore the focus of the NSP on SME's is correct [Single source: SH9]. ▪ The initial financial instruments were not appropriate for SME's since there was no good analysis on the cost increase of bridge loans [Medium evidence: NT4, ER18]. ▪ More local involvement in the design of the project would have been better for the programme [Medium evidence: NT7, ER18]. ▪ Subsidies are not the most appropriate mitigation tool [Single source: NT2]. ▪ SMEs need also financial support before and after the construction of the households [Weak evidence: NT2, SAR15]. ▪ The strengthening of the demand for sustainable housing also needs to be supported and the NSP did not focus on it [Very strong evidence: NT3, SH19, TP30, SAR17]. ▪ An important hurdle for the access of SME's to the support instruments were the administrative requirements, timing and flexibility [Strong evidence: NT3, NT6, PR19, SAR17, SAR21, ER18]. ▪ The needs and objectives of different SME's are not the same, and the lack of an organization that gathers all developers was a barrier to getting a common message back and forth [Medium evidence: NT3, SH15]. ▪ In addition, not all developers are interested in implementing measures promoted by the NSP [Strong evidence: SH12, SH15, SAR15, AR20, SAR21]. ▪ The NSP is focused on SME's and a low segment of the market (50-55% of homes), however, large developers and other housing segments might have allowed a greater expansion of the program [Strong evidence: SH13, SH15, TP30, ER18, SH20].

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
			2 EFFECTIVENESS	
2	To what extent has the NSP achieved intended (and unintended) outcomes?	<ul style="list-style-type: none"> ▪ The degree to which there is evidence of the expected results / Interim Outcomes in the ToC: <ul style="list-style-type: none"> ○ Public and private finance for efficient houses development leveraged and accessed by SMEs ○ Investment barriers have been removed ○ Capacities have been built among SME Developers ○ Functioning MRV (Monitoring, Reporting and Verification) system for efficient houses is in place ○ The strength of the NSP contribution to the realisation of those outcomes (see the link between outputs and outcomes) ▪ For each of the outcomes consider the major constraints and opportunities experienced (success and hindering factors) 	<ul style="list-style-type: none"> ▪ The Financial Component will facilitate the progressive incorporation of SME's into the low carbon housing market 	<ul style="list-style-type: none"> ▪ The access to finance for SME's was improved through the NSP [Very strong evidence: NT2, NT7, SH10, SH11, SH12, SH13, SH14, SH15, SH16, SH21, TP24, TP27, TP30, AR20]. ▪ For SME's, the NSP's direct support is more convenient than low-interest rate credit [Strong evidence: SH11, SH12, SH14, TP24]. ▪ This benefit allowed them to improve their commercial offer and access other government supports [String evidence: NT2, SH10, SH11, SH12, SH14, SH19]. ▪ The simplification of procedures was key to facilitating access to financing from SMEs [Strong evidence: NT7, SH10, SH12, SH15]. ▪ It was also mentioned that it seems that some SME's have been motivated to enter the formal financial system because of the NSP [weak evidence: AR17, M&E20]. ▪ On the other hand, some financial intermediaries seem more prone to keep financing sustainable housing projects [Medium evidence: SH13, TP30]. ▪ The technical support of the Financial Component of the NSP successfully lowered the investment barriers by creating a market through increased awareness about the benefits of sustainable housing (Improved demand) [Very strong evidence: NT1, NT2, NT5, SH8, SH8, SH11, SH12, SH14, SH15, SH16, SH17, SH19, SH21, TP24, TP30L] ▪ and enough capacities to adequately install the eco-technologies properly and increase the constructive quality of the houses (Improved supply) [Very strong evidence: NT2, NT3, NT5, SH8, SH9, SH11, SH13, SH14, SH15, SH16, SH17, SH19, SH21, SH23, TP24, TP25, TP30, AR20, SAR21]. ▪ In particular, awareness of the relation between energy efficiency and climate change and the benefits in terms of the increased level of comfort and long-term savings has increased [Strong evidence: NT4, NT5, SH8, SH9, SH11, SH15, SH16, SH17, SAR21]. ▪ In this respect, one stakeholder said: "New generations are more sensitized with environmental issues and the NSP provided the kind of solutions that citizens are demanding" [Single source: SH11]. ▪ These awareness and capacities were reinforced by the demonstration projects [Single source: NT3] and it is expected that the capacities will keep building on into the future [Strong evidence: NT3, SH11, SH16]. ▪ Furthermore, some interviewees consider that without the capacity building activities, the overall impact would have been far less [weak evidence: NT4, NT5]. ▪ For instance, it is also mentioned that the most important outcome was awareness creation since the topics, objectives and information were made known to more than 300

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<p>companies, including providing advisory services to financial intermediaries, which could have lowered their technology risk perception [Strong evidence: NT4, NT5, TP28].</p> <ul style="list-style-type: none"> One interviewee mentions that: "Today there are better houses with the same low investment. There were economic changes in the construction process with respect to the finished house with the two supports (Technical Component & Financial Component) " [Single source: NT4]. Some developers argue that to stay competitive and improve their offer, they are incorporating EE features with or without the support from the NSP [Strong evidence: SH9, SH16, TP30L]. Furthermore, some of them mentioned that even when the cost was higher, they still were able to sell those houses because clients value the EE improvements [Medium evidence: SH16, TP30]. The supply of materials was at reasonable prices and an incipient market was developed which has facilitated access to the eco-technologies [Very strong evidence: NT1, NT4, SH10, SH21, TP26, TP27, TP28, TP30]. The NSP provided the government with a technical framework for certification and standardization and to better focus the support instruments to projects that had the better performance [Strong evidence: NT1, NT5, TP25, TP27, TP28, TP30, AR20]. Some interviewees argue that the NSP made the housing sector work in the same direction, by strengthening capacities and institutions and motivating that more resources are available for sustainable housing [Medium evidence: TP25, TP26, TP27, TP28]. Also, the NSP strengthened the ECOCASA project that will continue to expand low carbon housing in Mexico [Single source: NT2]. SHF is committed to continuing to expand this line of support into the future, and as part of the financial market, it is expected that can help bring private financial institutions on board as well [Weak evidence: NT7, SAR18]. SHF will continue with the national social housing programme and retrofit and self-production will be added to the support packages [Single source: NT7]. In addition, KfW is involved in developing a green financial market in Mexico also [Single source: NT7]. " In the initial design, the analysis did not foresee the impact of the guarantee, but later it was realized that bridge-loan costs would increase too much and became not competitive against the interest rates offered by large private banks [Medium evidence: NT4, SH14]. This change of approach resulted in delaying the start of the Financial Component. Thus, it could be concluded that the timing considered for the preparation of the financial

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<p>instruments was not properly estimated and flexibility in its application could have also been better [Very strong evidence: NT7, SH14, SH20, TP23, AR16].</p> <ul style="list-style-type: none"> ▪ -n this direction, there is some evidence that some developers might have not applied because of the complexity of the application process [Single source: NT7]. ▪ The final design of the financial instrument resulted in most project proposals from certain climate zones (template). ▪ Unfortunately, in areas where carbon savings could be higher (extreme climate), there was a lack of interest/applications [Strong evidence: NT1, TP24, AR20, SAR21]. ▪ To overcome this issue, perhaps the amount of the financial incentives should have considered also the climate zone of the projects and the associated emission reductions [Strong evidence: NT2, TP24, AR20]. ▪ In addition, the impact of COVID-19 and the change in direction of housing policies implemented by the latest government resulted in not reaching the NSP goals in terms of emission reductions and the total number of low carbon houses built [Strong evidence: NT5, NT6, SH10, SH20, AR20, SAR21]. ▪ As a result of the change in administration, there were relevant changes in personnel at SHF which also affected the momentum the Financial Component implementation had at that point [Single source: NT7]. ▪ There is some evidence that focusing the work in the low-income sector and SME's was a challenge, as they are very price-sensitive e.g., a house slightly more expensive, but with much better technical standard, might still be less attractive to these target groups [Strong evidence: NT2, SH13, SH19]. ▪ Nevertheless, some argue that there was no thorough review of the fate of the subsidies, and some went to large developers despite the intention to focus on SME's. The reason might be related to the fact that there was a subsidy for anyone who filled out a DEEVi [Single source: NT4]. ▪ Others argued that expanding the benefits to higher-cost homes could have contributed better to improving the effectiveness of the NSP, among other reasons, because the market is growing mainly in these segments. The NSP was very focused on a low segment of the market (50-55% of homes), however, in cities with the greatest expansion today, the costs of housing are above the limits established by the Financial Component of the NSP [Single source: SH13]. ▪ In addition, SMEs are more accustomed to working with private banks to satisfy these more developed segments, therefore, this is another adjustment that the NSP could have had to increase its impact [Medium evidence: SH13, TP23].

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> At the end of the NSP's implementation period, credits are still expensive and difficult to obtain for SME's. Financial intermediaries argued that there is still not much experience in developers and therefore there is a lot of risks [Weak evidence: NT4, NT7]. On the other hand, local private banks have not structured green lines for sustainable houses, like SHF has done [Very strong evidence: NT7, TP25, ER18, SH20]. In this direction, some argue that it might have been better to allocate funding to private banking, that was already active in assigning credits. This could have contributed more to promoting transformational change than subsidies to an institution that might not evolve [Single source: TP23]. In addition, there seems to be a lack of participation from larger international banks in the Mexican "green" financial market which results in a reduced offer, competition and cross-learning [Single source: NT7]. It was also difficult to find private investors. There was a positive outcome with the subsidised loans and provision of advisory services, but the mobilisation of private financing was "tricky" [Single source: NT7]. The Financial Component mainly focused on SMEs, while the Technical Component worked with companies of all sizes. Perhaps, there could have been useful to have the Technical Component and Financial Component work with the same variety of companies [Single source: NT7]. Since SME's need easier access to financing products, perhaps it would have been useful not to limit the financial support to certain financial intermediaries, in addition, to have at least part of the incentives disbursed not only at the end of the project [Very strong evidence: NT7, SH14, SH20, TP23, AR18, SAR21]. Also, some argue that one of the reasons for the slow uptake of the investment grants could have been the lack of promotion by the financial intermediaries since there was no incentive for them [Medium evidence: AR18, ER18]. In the same direction, perhaps accessing funds earlier in the process could have helped the developers secure some products at better prices [Single source: SH15]. In terms of the effectiveness of the NSP to align the policy framework with its objectives, it was observed that housing policy changed negatively for sustainable housing by the end of the NSP's implementation period and therefore long-term impact is at risk [Very strong evidence: NT5, SH10, TP25]. Also, some added that not enough efforts were made by the NSP to generate high-level policy changes that could have helped transform the sector's future pathway [Weak evidence: TP23, TP25].

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> For instance, to only inform the regulators (e.g. through certification or labelling), is not enough to influence and improve the market. House owners are not so easy to be influenced, thus, only with stronger regulations, this can be reached [Single source: TP24]. It was also argued that the program focused the efforts on strengthening the supply side, but the bottleneck has been more on the demand side [Very strong evidence: NT3, SH10, SH16, TP30]. In this direction, there is some evidence that the NSP did not have a big impact on the market, particularly because customers were less aware of the intended outcomes and benefits associated with sustainable housing [Strong evidence: SH10, SH16, TP30]. Nevertheless, some argue that in terms of strengthening the supply, some equipment was still expensive and therefore it was not always possible to incorporate it [Medium evidence: TP26, SH20]. Some stakeholders mentioned that the NSP is not a well-known program among most of the house developers [weak evidence: SH9, SH20]. Others mentioned that the technical assistance was good, but perhaps the internal capacities of the companies were not sufficiently strengthened so that they are able to continue implementing the improvements in future projects [Single source: SH19]. Also, the lack of support that can be foreseen once NSP concludes is seen as a threat to the long-term impact goals set by the program [Single source: SH19]. One interviewee had the opinion that financial aid should operate on a much smaller scale to not make the country dependant on International Funding and push for more influence from local policies since the government should lead the transition [Single source: TP23].
2.1	Were there additional outputs and/or outcomes obtained that were not planned in project design (incl. unintended outcomes)?	<ul style="list-style-type: none"> There is evidence of the NSP's contribution to additional (intended and unintended) results If there are positive unintended results, the NSP team has been able to capitalise on them to sustain the intended outcomes If there are negative unintended results, the NSP team has been able to appropriately identify, 	<ul style="list-style-type: none"> The Financial Component of the NSP has contributed towards Technical Component outputs and outcomes The NSP management has been appropriately designed to identify, address/capitalise from, and learn from unintended outcomes 	<ul style="list-style-type: none"> The portfolio of projects will remain and could be supported by new financial instruments [Single source: NT1]. Aligning different stakeholders by introducing a technical group was one of the main achievements. "Coordinación Nacional de Autoproducción" is the actual space that took this function. Establishing a holistic and common view across different stakeholders was probably the major achievement (including the private sector, which is particularly difficult sometimes) [Medium evidence: NT5, TP28]. The NSP also improved the personal commitment of the stakeholders that were directly involved [Single source: SH17]. Urban development criteria weren't a priority at the design stage but ended up being a successful area of work for the NSP [Medium evidence: NT5, TP27].

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
		address and learn from them.		<ul style="list-style-type: none"> ■ In the ECOCASA Rental component, there are several low-carbon housing developments, which are being certified that are coming from the experience of the NSP. Also, some NGOs are working on sustainable housing and SHF is being involved. [Single source: NT7]. ■ There could be a co-benefit in reputational terms for the financial intermediary. For them, the business cycle does not end with the construction of the homes but extends to the supply of credit for the purchase of the homes. In this sense, eco-technologies are beginning to be a market differentiator that can favour them [Single source: SH13] ■ Air quality is one of the big problems due to the use of LPG. Therefore, also the promotion of water heater provides co-benefits in this regard. [Single source: TP24] ■ There were also several benefits generated from the MRV system, such as collecting and compiling data from the different institutions, for example, SEDATU. [Single source: TP27] ■ EE standards were also adopted at the local level in some jurisdictions. [TP28] ■ Reliance on international cooperation for the implementation of this NSP, without making it necessarily locally appropriate, could result in disappointment in the market when the incentives are not available anymore. [Single source: TP23] ■ The NSP was not able to spill over to additional programs and other sectors, for example in retrofits, people still think that there are barriers to implementation. [Single source: TP23]
2.2	Did changes in the NSP-operating context like COVID-19 our elections impact (positively and/or negatively) the effectiveness of the project? If so, to what extent (greatly, partially, negligibly)?	<ul style="list-style-type: none"> ■ The level of Financial Component/NSP contribution to the achievement of the results compared to exogenous factors. ■ Several assumptions and causal pathways outlined in the TOC remain valid, after adaptations and refinements. 	<ul style="list-style-type: none"> ■ The Financial Component/NSP is the main cause of the achievement of the intended and unintended outcomes. ■ However, negative side effects from the national elections in 2018 and COVID-19 in 2020/21 resulted in lower performance of the indicator than expected and target goals were underachieved. 	<ul style="list-style-type: none"> ■ Since the change of government, the developer was more sensitive to developing more homes until there was a published national housing plan, SHF and KFW agreed to simplify documentation to verify NAMA homes owned. [Single Source, NT4] ■ The presidential elections did not have considerable negative impacts [Very strong evidence, SH8, SH9, SH12, SH13, SH14, SH16, SH17, SH21, TP23, SAR18]. ■ COVID-19 didn't have a real impact on the LCH projects [Medium evidence, SH12, SH15, SH16]. ■ The COVID-19 could have incentivized the sale of houses [Weak evidence, SH11, SH9] ■ Many procedures that became electronic facilitated the management of the project in general [Single source, SH16] ■ Change of government affected more strongly the NSP planning [Weak evidence, NT1, NT2] The COVID-19 impacted the work stoppage, delaying the project in time. [Strong evidence, NT1, NT2, NT6, SH13, SH14, SH16, SAR20] ■ COVID-19 had several effects: Working conditions at financial intermediaries and SHF. Working conditions on construction sites and within construction companies. Supply chains. The economic situation of individual households. The economic situation of construction companies. [Very strong evidence, NT3, SH21, TP23, SAR20, SAR21]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> Several projects in the pipeline were cancelled [single evidence, NT3] There was a big impact as the developers were relying on the grants and the government changed some rules of the game/policies. [Very strong evidence, NT5, SH10, SH11, SH15, SH19, TP25, SAR18, SAR19, PR19, AR19, SAR21] The prices of certain materials increased [Weak evidence, SH14, SH16]
			3 EFFICIENCY	
3	To what extent was the delivery of output activities timely and to expected quality standards?	<ul style="list-style-type: none"> Timeliness of the delivery of outputs and outcomes (incl. budget spending) If there are delays in the implementation, what have caused them (endogenous or exogenous factors) and how seriously have they impacted the NSP implementation? The effectiveness of the measures adopted to reduce the delays The level of satisfaction of the NSP direct beneficiaries 	<ul style="list-style-type: none"> Financial Component activities run smoothly, on time and budget. Coordination with other projects of the Mexican government focusing on financing efficient houses and using synergies with further projects (by development cooperation and Mexican government) within the housing sector will add to the efficiency of the Financial Component. The cooperation with housing developers and financial institutions will support efficient information dissemination and stakeholder identification. 	<ul style="list-style-type: none"> The SMEs are very pleased and extremely grateful for the funding and technical support received from the NSP team. [Strong evidence: SH8, SH9, SH11, SH12, SH14, SH15, SH16, SH17, SH19, SH21, AR20] For example, during the pandemic, the timely payment of subsidies helped the developers to cover their loan payments or, if necessary, to have the cash flow for their operations, especially for companies that were more vulnerable according to the timing of their bridging loan and the progress of their work at the beginning of the pandemic. The disbursement was perceived timely as expected (after ~3 months). [Strong evidence: SH10, SH11, SH21, AR20, SAR21] The Technical Component jobs (CONAVI) were duplicated for SHF where time was lost. [Single source: NT4] The NAMA leaves an important base in articulation, technical base, MRV, concepts and learnings for other topics beyond housing. [Single source: TP27] NAMA arrived after projects were already under development. [Single source: TP28] The operation in parallel of the two components could have been more convenient but unfortunately, the Financial Component took too long to get started. There was a negative impact on the implementation time available to operate the financial instruments (due to the general project design, initial terms, lack of flexibility and tendering/procurement processes). [Medium evidence: NT1, NT2, NT3, NT4, NT5, NT6, SAR14, AR17, M&E20] Through COVID-19, there accumulated a delay in the project and the Financial Component goals (the agreed number of houses and thus the overall reduction of CO2 emissions) were not met within the agreed project time. [Medium evidence: NT2, NT6, AR20] The reason is that the disbursement of investment grants to developers depends on the construction and sales of new houses built according to the NAMA energy efficiency standard. And if construction and demand for these types of houses slow down, fewer investment grants are being paid out than foreseen. It is unlikely that all project funds will be spent by the time the project closes. [Single source: SAR21] Times of a large developer and not of an SME was considered. [Weak evidence: NT4, AR17]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ Lags in time with DEEVi certifications, basically due to confusion of where the responsibilities were, or problems with the calculations. [Single source: SH13] ▪ The time taken for the final payment was longer than expected. [Strong evidence: SH12, SH17, SH21, AR17, SAR21] ▪ A small adjustment in the financial support could be the faster disbursement of the money (not only at the end, when the houses are finished but rather before or during the construction period) to help the developers with their cash flow. [Single source: SH17] ▪ The signing of the developer contracts with the NSP took a little longer than expected [Single source: SH16] ▪ Inside the institutions changed many times and the program walked slowly, as the new staff needed time to get a grip of their new role and their tasks. [Medium evidence: TP25, AR19]
3.1	Structure & steering: Was the NSP managed, coordinated, and implemented effectively?	<ul style="list-style-type: none"> ▪ The chosen implementation mechanism is conducive to achieving the expected outcomes ▪ The Financial Component is tailor-made for achieving the planned outputs ▪ Communication and visibility are implemented according to an integrated approach ▪ Financial Component and Technical Component interact synergistically ▪ Stakeholders are participating and collaborating actively in the intervention 	<ul style="list-style-type: none"> ▪ The Proposed NSP structure has been implemented with minor modifications. ▪ Financial Component and Technical Component activities are well aligned and reinforce each other. ▪ Coordination with other projects at the national or local tiers of government has been positive. ▪ The NAMA Steering Committee has an adequate structure and functions and has been crucial to achieving the expected goals. 	<ul style="list-style-type: none"> ▪ The current steering and coordination between SHF and KfW/GOPA, as well as between KfW/GOPA and GIZ was very good. The processes were well structured and organized, no operational problems were observed. [Strong evidence: NT1, NT2, NT3, NT4, NT5, TP23, TP24, TP25, TP26, TP30, AR17] ▪ The coordination table “La mesa transversal” led by CONAVI was the main coordination platform for the NSP, till 2018. It was directed by CONAVI. During the meetings, the advancements and indicators were revised. [Strong evidence: NT1, NT5, TP27] ▪ The installation of an intersectoral coordination system, promoted by NAMA, and the coordinated public policy approach implemented by SEDATU-CONAVI, INFONAVIT and SHF was undoubtedly a great contribution to improving communication between all actors. [Very strong evidence: SH17, TP28, AR18, AR19, AR20] ▪ The distinct roles of the financial and technical components in achieving the outputs and outcomes were clear and created synergies between the various efforts. [Medium evidence: NT2, TP28] ▪ The decrease of bureaucracy (e.g. simplified application processes and disbursement procedures) enhanced the project participation. [Strong evidence: NT7, TP27, PR19, AR20, SAR21] ▪ The connections and assistance the TA of the Technical Component provided to SMEs were very helpful and covered the needs of the developers. They were on the point and service-oriented (far better than any other government program). E.g. the support with the paperwork and “bureaucratic stuff”. [Strong evidence: SH8, SH9, SH10, SH11, SH12, SH13, SH14, SH16, SH19, SH21, PR19] ▪ Everything has been fluid and very transparent. [Single source: SH11]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ The previous/initial coordination was not very good managed. It started slowly. [Medium evidence: NT4, NT5, AR17] ▪ In general, there occurred a lot of conversation, but it was not institutionalised. [Single source: NT7] ▪ In addition, the change of the government and the phase-out of the Technical Component limited the further exchange of information and coordination, e.g. between CONAVI and the Financial Component. [Strong evidence: NT7, TP22, TP25] ▪ After 2018, the coordination table disappeared, and since then, there is no efficient centralized approach in the project management. [Medium evidence: NT1, TP23] ▪ There was no advisory committee. It was difficult to reach momentum at the beginning since there were many issues to investigate closely to avoid corruption or other issues linked to the subsidies. [Single source: NT3] ▪ Regarding coordination, the steering committee was missing for a hole sustainable housing strategy in Mexico. The problem was to set resources (e.g. tender) in a proper way and to the appropriate place. It therefore lost strength and meaning for a while. Institutionally additional work was required for better implementation by the government role, to make sure, that a correct steering committee from the housing sector in Mexico works. [Single source: TP23] ▪ The meetings were between SHF and KFW and did not include the Technical Component. On the other hand, the Technical Component was for CONAVI, not for SHF. In general, the coordination between the governmental institutions seemed to be challenging. That caused an inappropriate flow of technical vs. financial information. [Medium evidence: NT4, TP24] ▪ E.g. in the past six years, NAMA reports were presented at a Climate Change event, but the reports have not been shared. [Single source: TP22] ▪ The use of studies could have been better. [Single source: NT5] ▪ There's were differences and issues between GIZ and CONAVI, for example, sharing of information the expenditure from GIZ. [Single source: NT1] ▪ Better coordination between CONAVI and INFONAVIT could have been more beneficial for the NSP. [Single source: NT5] ▪ For the future it would be necessary to share more information. Energy officials have one vision, SEMARNAT another, each institution has its part of the process. [Single source: TP22] ▪ Institutions must simplify technical steps for the financial process. [Single source: NT4] ▪ There must be regulations on new developments that make structural changes, generate comprehensive strategies so that what is encouraged in one agency does not conflict with other agencies. [Single source: TP22]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ The bureaucracy was a too complex, it could be simplified. Small SMEs were hindered by what they perceive as long bureaucratic processes for credit and also the variability of the interest rates. [Strong evidence: SH8, SH10, SH17, PR19, AR17, AR18] ▪ E.g. the cost of the bridge loan to SME's was simply too high. They also perceived the bureaucratic process as too cumbersome – a simple agreement (i.e. a respective clause in the supplier's contract) is much easier to handle for them than a credit approval process. Thus, no loan contract under these conditions was ever signed. [Single source: PR19] ▪ The challenge for earlier disbursement is: how to mitigate any potential misuse if you make earlier payments (earlier than final construction/ house sold) [Single source: NT7] ▪ The problems were more commercial than with NSP. [Single source: SH19]
			4 IMPACT	
4	What evidence is there that the NSP has been contributing to the intended impact in the ToC (incl. transformational change)?	<ul style="list-style-type: none"> ▪ The strength of the evidence that key outcomes are going to be achieved and the robustness of the causal links/pathways to the intended impact (namely increase in demand of efficient houses, supply eco-technologies and efficient envelope materials and GHG emissions reduction and co-benefits) ▪ The extent of how transformative the NSP is likely to be based on current evidence 	<ul style="list-style-type: none"> ▪ Direct: Financial Component activities will be key to initiating a self-sustained market of efficient houses that will bring additional large-scale and sustained GHG savings. ▪ Indirect: Financial Component initiatives will build mitigative capacity in México and the build-up of institutional capacities to undertake a larger number of efficient houses in the future. 	<ul style="list-style-type: none"> ▪ The availability of materials and technologies has been improved. [Very Strong evidence, NT1, SH13, TP25] ▪ The market has increased the supply of EE technologies and materials which is a good sign that demand has been increasing and pulling this market growth. [Very strong evidence, NT1, SH19, TP24, TP25] ▪ The rules of operation in CONAVI developed, supported by the NSP, also is a long-term impact. [Medium evidence, NT1, TP25] ▪ Private funds have been leveraged because of the NSP funding. [Single source, NT1] ▪ NSP rose successful awareness about sustainable development [Very strong evidence, NT2, SH8, SH16, TP25] ▪ Also, the continuation through ECOCASA shows a long-lasting continuation of the transformational change. The NSP strengthened the ECOCASA project. [Weak evidence, NT2, NT7] ▪ With KfW and the Ministry of Environment of Germany, SHF is trying to continue to work on future leverages. (Single source, NT2) ▪ At the national level, SHF and CONAVI will continue with the national social housing programme. [Strong evidence, NT7, TP3, TP26] ▪ 'Demonstration projects were helpful to increase capacities and awareness. [Medium evidence, NT3, SH17] ▪ Today there are better houses with low investment, there were economic changes in the construction process with respect to the finished house with the two supports. [Single source, NT4]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> Without help from the subsidy, many companies seek to continue EE measures at the customer's expense. [Single source, NT4] Mainly the RUV is very reliable, is mandatory to register to get finance support. The RUV made life easier for everyone. [Weak evidence, NT4, NT5, NT7] The financial instruments were created for SMEs from the NAMA. [Single source, NT6] The EE standards were developed [Single source, NT6] Green bond measurement and certification tools for credit in LCH were developed [Single source, NT6] NAMA allowed the development of financial intermediaries [Single source, NT6] Also, the national capacities were built from the Financial Component-NSP [Weak evidence, NT6, NT4] The Financial Component is catalytic for sustainability and transformational change [Single source, NT7] The buyers can be convinced very easily about the benefits of LCH. [Single source, SH8] Large developers are incorporating EE features with or without support from the NSP. [Single source, SH9] On the commercial issue, sustainable houses should not be changed. [Single source, SH11] The program laid the foundation for building efficient houses. [Single source, SH11] Some programs oblige eco-technologies, in middle segments work, but the strength of the NAMA is affordable housing. [Single source, SH11] New generations are more sensitized to environmental issues and the NSP provided the kind of solutions that citizens are demanding. [Medium evidence, SH12, SH13, SH16] The NAMA has been well received; it is a decisive factor for the purchase. [Weak Evidence, SH14, SH21] Another project started without the NAMA program; the NAMA equipment is preserved. [Medium evidence, SH14, SH15, SH16] Now the task is, to find institutions that can substitute the NAMA activities and continue the introduced initiatives. [Single source, SH17] The application of the technologies can be transferred to supplying higher-income segments or industries. [Single source, SH19] As developers, Shalom is a pioneer. [Single source, SH21] The NAMA provided contacts with suppliers, [Single source, SH21] In the development of the project, new suppliers emerged from closer areas. [Single source, SH21]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ NAMA gave to the country many studies, professionals, information, benefits in different sectors [Single source, TP25] ▪ In the beginning there was a lack of supply and prices were also higher. [Single source, NT1] ▪ The technical hurdles were higher than expected. [Single source, NT2] ▪ SISEVIVE and RUV have some limitations. [Single source, NT7] ▪ It is difficult to find private investors. [Single source, NT7] ▪ The impact takes 15-20 years to change the system. [Single source, NT7] ▪ More support and policies by the government are needed to improve the long-term impact changes [Very strong evidence, NT7, SH13, SH19, TP23, TP25, TP30] ▪ There were not enough companies following the example [Weak evidence, SH10, SH16] ▪ More companies acquiring and accepting this kind of program would be necessary, to be more widespread and more competition in the market. [Single source, SH10] ▪ The follow-up can be lax and therefore the impacts can be lost in the long term. [Single source, SH13] ▪ SMEs are focused on staying in business and may not have enough strength to maintain momentum on their own [Single source, SH13] ▪ Cost and penetration are not the same for other technologies [as solar panels]. [Single source, SH19] ▪ Customers were reluctant to the new construction methods. [Medium evidence, SH21, TP30] ▪ in the state, no company produces this type of material. [Single source, SH21] ▪ It would be necessary to try other products that are more suitable for users, other materials. [Single source, SH21] ▪ There must be regulations on new developments that make structural change. [Single source, TP22] ▪ There are not enough “Unidades verificadoras” in the municipal government to evaluate and make sure that every single house passes. [Single source, TP23] ▪ Mexico is very bad in implementing and maintaining the standards in such a broad sector with different actors. [Single source, TP23] ▪ More efforts should have been done to local governments, to be able to promote and evaluate sustainable housing. [Weak evidence, TP23, TP25] ▪ There was no territorial implementation strategy [Weak evidence, TP23, TP22]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ We could move on to other resources and include current issues, for example implementing small-scale microfinance institutions through the needs of the communities, social and environmental needs would be solved. [Single source, TP27] ▪ The EE must prevail, in massive housing, it does not work. [Single source, TP30] ▪ Self-production with NAMA is very complicated, self-produced housing does not consider eco-technologies [Single source, TP30] ▪ The [potential] change in the Social Housing subsidy scheme in early 2019 generates uncertain scenarios for the development of social housing in Mexico [Single source, AR18]
			5 SUSTAINABILITY	
5	What is the likelihood that the outcomes will be sustained after the end of the NSP funding period?	<ul style="list-style-type: none"> ▪ The extent of the evidence supporting the NSP sustainability (e.g. evidence of self-sustaining institutional structures, official standards and political and financial commitment of key stakeholders) ▪ There is little or no risk of backsliding or reversing 	<ul style="list-style-type: none"> ▪ Financial Component activities will help strengthen the financial conditions and environment for a self-sustained market for energy-efficient houses in Mexico and the capacities built will stay and serve other private or public related initiatives, beyond the scope and duration of this NSP project. ▪ The Financial Component will help build political will to scale up the models of support and implementation 	<ul style="list-style-type: none"> ▪ Today it is easier to make a simple Financial Component. [Single source: NT1] ▪ There were a lot of learnings on the subject as a whole, in particular related to what eco-technologies can work better on different climates and where the focus should be put on. [Single source: NT1] ▪ It is expected that the capacities will keep building on. [Very strong evidence: NT3, SH12, SH14, SH15, SH15, TP24, TP25] ▪ Technical measures have been designed to last a long time. [Medium evidence: NT3, TP27] ▪ KfW is designing a new credit line with SHF, incorporating retrofitting [Single source: NT3] ▪ SHF was able to drive this change and nurture the programme. [Medium evidence: NT7, ER18] ▪ Substantial change has been made by the NSP in Mexico. [Very strong evidence: NT7, TP25, TP26, AR19] ▪ There is an expectancy that future customers will continue to have an interest in efficient technologies. [Very strong evidence: NT2, SH8, SH9, SH12, SH13, SH14, SH15, TP25, TP30, AR20, ER18] ▪ For low-income housing, the social impact of the NSP support might be higher. [Weak evidence: SH9, SH15] ▪ There is potential in applying green technologies in existing houses and retrofit. [Medium evidence: SH10, TP27] ▪ Companies/market will continue building LCH [Very strong evidence: SH11, SH14, SH15, SH16, SH21, TP25, TP27, AR20] ▪ Larger banks could be more interested in participating in this market. [Medium evidence: SH13, TP25] ▪ The impacts will probably be seen in the long term. [Single source: SH15]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> Low-income buyers will keep receiving government support (HV & ECOCASA) and at the same time, the government is requesting the developers to incorporate EE features. [Very strong evidence: SH15, SH17, SH21, TP25, TP28, PR13, TP26] Middle-income buyers seem to be interested in these EE features, but still, they are learning. [Weak evidence: SH15, SH19] Around 70% of the buyers recognize the EE benefits. [Single source: SH15] For the future it would be necessary to share the information with all the institutions involved. [Single source: TP22] The current government is open Mexico to international cooperation and to support what Mexico wants. [Single source: TP23] Climate change is becoming more and more relevant, also in the minds of the peoples [Single source: TP24] The country has green credits, [Single source: TP25] Public institutions massified the program with low resources. [Single source: TP25] The DEEV with the Mexican conditions helped the builders a lot to design the houses. [Single source: TP25] In some cases, people stopped asthma attacks with intervened homes, there is an inventory of benefits [Single source: TP25] Compliance with international commitments is present and there are efforts to incorporate them [Single source: TP26] SHF has developed a wide range of financial instruments that will help small developers to be part of the following stages of financing without a subsidy. [Medium evidence: AR17, SR18] The useful life of the components can be tracked, there is no risk [Single source: TP27] The probability is high since the focus is installed on the offer. [TP28] Standards have been upgraded and will continue that trend [Medium evidence: TP28, AR19] With CONUEE, savings will continue to be measured [Single source: TP30] In 2020, Climate Bond Initiative certified ECOCASA Programme as a green Low Carbon Residential Building programme in Mexico. To SHF, this certificate allows the emission of a Green Bond to refinance ECOCASA Programme. [Single source: SAR20] Some developers have turned to commercial banks for financing [Single source: SAR21] There was low awareness/commitment. [Medium evidence: NT7, SH13] There is an opportunity to cut red tape as much as possible [one tender instead of 2]. [Single source: NT1]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ DEEVi (calculation tool) needs stronger competencies to be developed, upgraded and properly used [Medium evidence: NT3, NT7] ▪ The lack of local competencies has created a dependency that will be difficult to overcome [Single source: NT3] ▪ Capacities probably will last less. [Medium evidence: NT3, TP23] ▪ It is necessary to find a strategy to get the informal market [Single source: NT3] ▪ In low-income housing, sustainability will not be viable. [Medium evidence: NT4, SH21] ▪ In the new administration, there is no talk of EE/sustainability in the houses. [Strong evidence: NT4, SH13, AR19, AR20] ▪ Financial intermediaries were open to cooperating with efficient technologies, but when the subsidy by CONAVI ended there was no advantage to continue. [Single source: NT6] ▪ The risk of investments is high and there is not so much openness to finance SMEs developers. [Medium evidence: NT6, SH11] ▪ more local involvement in the design of the project would have been better for the programme. [Medium evidence: NT7, SH21] ▪ The company is not anymore in this business of eco-efficient houses. [Single source: SH10] The purchase rate will decrease. [Single source: SH11] ▪ Higher EE standards in housing should be part of the regulations. [Single source: SH12] ▪ Country regulations are not always aligned with city level regulations. [Single source: SH12] ▪ EE standards set at the national level are not always applied at the local level. [Single source: SH12] The government is not pushing enough to expand the growth of this new market. [Medium evidence: SH13, TP23] ▪ Price is still the main criterion for choosing a new house. [Single source: SH15] ▪ INFONAVIT standards are lower than those defined by the NAMA [Single source: SH16] ▪ If there are no incentives/subsidies, it is not possible to incorporate eco-technologies [Very strong evidence: SH17, SH19, AR19, ER18] ▪ The mere benefit of the interest rate is not enough to incorporate the improvements promoted by NAMA. [Medium evidence: SH19, TP23] ▪ There is no institutional coordination [Single source: TP22] ▪ Certain rejection of many projects during this administration occurred because of that focus, pushing Agendas that were not local. [Single source: TP23]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ The inertia of some programs, HV and ECOCASA continue with less force. [Single source: TP25] Implementation is partial [Single source: TP26] ▪ Flexibility elements could be inserted to keep track of time more easily. [Single source: TP27] ▪ The sustainability of the NSP, however, will largely depend on how the new Mexican Government further defines and implements the Social Housing programmes. [Single source: AR18] ▪ Developers feel that currently bridge loan costs and commissions compared to commercial banks are high. [Single source: SAR21]
			6 LEARNING	
6	What key lessons can be learnt to the benefit of the legacy of this NSP, other NSPs and the NAMA Facility as a whole?	<ul style="list-style-type: none"> ▪ The NSP's generation of important lessons for: 1) its legacy; 2) other projects and/or NSPs; 3) the NAMA Facility as a whole. 	<ul style="list-style-type: none"> ▪ The NSP will generate important lessons to sustain its legacy, other projects and/or NSPs, and the NAMA Facility as a whole. 	<ul style="list-style-type: none"> ▪ Technical assistance is essential, also for the Financial Component, and especially for SMEs. TA resources are required to accompany subsidy schemes as they supported SHF to better channel investment grants. TA helped the developers to choose technologies, promotion, TA for the SMEs participating in the program, capacity building, helping SHF for the type of loans, etc. educating the entire ecosystems. Additionally, some co-benefits arose such as the cost-effectiveness analysis of technologies and ECOCASA Certification Program. [Strong evidence: NT6, SH8, SH10, SH15, AR17, AR18, AR19, AR20, SAR21] ▪ Technical Component worked mainly with the awareness, training, and consultancy in the energy evaluation of all types of small, medium, and large developers. Financial Component specifically focused on the needs of small developers whose challenges go beyond assistance in training and energy evaluation and the relevance of financing issues became very evident, being more complex and riskier for financial intermediaries due to changes in the sector. Besides different requirements and needs, SMEs conduct their business in a more complex environment: expensive financing products, longer terms for project completion, low pace in return of investment and housing sales, etc. Also, these differences vary according to each SMEs segment, mainly linked to the size and experience of the SME. [Medium evidence: NT2, NT5, NT7] ▪ Decrease of bureaucracy enhances project participation: Simplify application processes and disbursement procedures through improved harmonization with the legal departments; Not a flexible cost reimbursement, but through fix lumps sum (e.g. for m²) (simplify); The simpler the system is, the fewer loopholes exist; Quality assurance system ex-post through spot-checks. [Medium evidence: NT7, TP26]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> There is an opportunity in calculating savings, the DEEVi (the software they created to model energy efficiency). They would like to be able to do it themselves. [Single source: SH21] The project improved the quality of the products (houses) and the clients improved the living quality and his company helped in this process. [Weak evidence: SH10, SH19] The access to different EE products in the market is also relevant so real competition is created. [Single source: SH15] Financial support is a real need in developing countries like Mexico because it can provide awareness and motivation among developers that might think that the incremental costs are too high to deal with. This NSP proved that this wasn't the case and that the costs were lower than expected. The program provided new access to much more clients. [Medium evidence: SH8, SH12, SH14] The higher the incentive, the more companies and developers would participate. NAMAs must include funding. So far, SME's don't have easy access to financing from banks. [Strong evidence: SH10, TP22, SH12] For the implementation of the investment grant component of the NAMA Facility program, it is necessary to also consider the cash flow needs of the developers who need cash upfront to implement measures with eco-technologies. Thus, paying out subsidies only after the houses are sold has proven to be a stumbling block which was removed by paying out part of the subsidy upfront. [Weak evidence: AR17, AR18] Expand the benefit ceiling so that higher-cost homes can be part of the benefits given that the market is growing mainly in these segments. [Single source: SH13] Not limit the financial support to certain financial intermediaries. Banks are opening green finance lines, which could also represent an opportunity to keep expanding the LCH market. It might have been better to reallocate funding of the second and third round in the private sector and banking systems, that were already active in assigning credits. This could have been contributed more resources to transformational Change than subsidies to an institution that might not evolve. More resources in other tasks, not direct subsidies. [Very strong evidence: NT9, SH12, TP23] It would be ideal to be able to continue incorporating EE measures into future housing and more extensively. [Single source: SH16] Although the consequences of the pandemic on the housing sector at first seemed out of control and out of the project's scope, the support offered to house developers both financially and technically has meant that impact has been milder than might have been expected. [Medium evidence: AR20, SAR21, M&E20]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ In temperate climates, there is no difference in efficient eco-technologies vs extreme climates where there are more differences. Eco-technology packages must be put together. Where there are extreme climates, strong technical support is required where the whole-house approach is worth it. [Medium evidence: NT4, SH11] ▪ The Mx Housing NAMA was very mature when started, which was very beneficial for the overall success. NAMA helped a lot to facilitate coordination and synergies between the various efforts. Initial strengthening to programs like HV was perfect, as financing sustainable technologies had risk. [Strong evidence: NT5, TP23, TP28] ▪ A support program needs to evaluate baselines with EE features properly. E.g. try to indicate the target goals of projects, e.g. for 2030 and explain the context and goals of Net-Zero. [Very strong evidence: SH9, SH17, TP27, PR13] ▪ The entire CO2 monitoring should be the responsibility of the Financial Component. [Single source: NT5] ▪ DKTi project was also in execution during the NSP implementation. This was contributed to the better implementation of the NSP. [Single source: NT1] ▪ Intersectoral alignment is very relevant to generating systemic change. The contribution of information was very relevant to generate the change of approach at the institutional level. For the future, it would be necessary to share more information. Energy officials have one vision, SEMARNAT another, each institution has its part of the process. [Weak evidence: TP22, TP26] ▪ Reaching a common language, raising political support are also very important learnings. [Single source: TP28] ▪ The general challenge is to shift from the short-term vision to a long-term vision, especially regarding climate change. Users don't see the long-term savings, they want everything for free. (Instead of making e.g. short term retrofit regarding EE, but rather long-term impacts in the market environment, alike the NSP tried in Mexico). [Single source: TP24] ▪ In designing the NSP there should be higher attention to what are the priorities of the government. When the concept not is written by non-national, then, it's not built within the existing local framework. [Very strong evidence: NT3, SH11, TP23] ▪ E.g., one of the biggest problems in the initial project design was to come to a consensus regarding the comfort levels, and the discrepancy between countries like Germany (and their respective high comfort level standard) and Mexico (with different, lower comfort standards) in this regard. It is important Not to impose the solutions on the countries from an external view and parameters. [Single source: TP23]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> Participatory processes should be involved so that the product is adopted and responds to new needs. For example, hot water issues by region, gender issues, technical mandatory requirements. [Single source: TP27] The detailed Preparation Phase could be overrated for the volume of funds for implementation and if the project finally is not accepted could result in reverse impacts in the host country. Therefore, financial aid should operate on a much smaller scale in order not to depend on International Funding and decrease the “overreach” of international ambitions, to guaranty more influence in local policies (and that the local government is in charge). No additional resources than necessary. [Medium evidence: NT5, TP23] When programmes are long, they need to consider the political calendars and their consequences. With the initial government, there was a big commitment (CONAVI), and the current one was not committed. Perhaps the lesson is to sync in the programme with the government calendars/agendas so that the commitment is maintained and there is no change in government. [Single source: NT7] Sustainability must be incorporated into the market by all stakeholders. Not sure if strengthening the program ECOCASA worked, and that the message of sustainable financing and sustainable housing makes for a healthy portfolio. Today there are resources in Mexico to promote this technology change. If the final consumer is happy with the results, that will back up the sustained growth of the demand. [Medium evidence: SH13, TP23] In the beginning, the program was not very clearly explained. There were little surprises along the whole application process. And there was no assurance, that the money will be disbursed. [Single source: SH8] More support by the government is needed to improve the long-term impact chances. [Single source: NT7] If a project is working on the supply side, the risk on the demand side should also be addressed, reflected and attention paid to it. [Single source: NT3] E.g., due to external effects to the NAMA, the costs of housing construction rose by 20%. [Single source: SH16] The market might not be ready or prepared for all the implementation required. [Single source: SH17] Link the subsidy scheme between supply and demand. Take advantage of the carbon credits that could be generated. The SMEs saw NAMA more as a requirement to sell than an improvement in supply. [Single source: SH19] DEEVi (calculation tool) needs stronger competencies to be developed, upgraded, and properly used. The lack of local competencies has created a dependency that will be difficult to overcome. Mexico should develop their tools with local capacities involved. For

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<p>instance, there is no green label for greenhouses, the market does not consider the NOM-020 and SISEVIVE documents. [Weak evidence: NT3, NT4]</p> <ul style="list-style-type: none"> It was necessary to investigate other types of materials. Support was received in the type of applicable materials, but getting other suppliers was important in order not to have long freighted. The workers were failing a bit, they do not have sufficient capacities to handle certain EE materials. [Single source: SH21] Companies developed their insulation products and applications. The labelling of existing products in the market is not always accurate. [Single source: SH9] Institutions must simplify technical steps for the financial process. [Strong evidence: NT4, SH8, SH10] Regarding the indicators that have been proposed in the ELE, they should be more proactive to measure the outcomes. [Single source: NT6] After some years of implementation, it is clear that investment grants (subsidies) are very attractive for developers. However, they are not so attractive for financial intermediaries who gain nothing from their implementation and has proven to be complex, particularly as they are linked to government subsidy programmes which changed during the time of implementation. Furthermore, one of the reasons for the slow uptake of the investment grants was the lack of promotion by the financial intermediaries. Therefore, SHF thinks the guarantee is a very important instrument as it will ensure the sustainability of the program after the investment grants are depleted. The incentives of the guarantee programme are more aligned to the financial intermediaries to promote them as opposed to the investment grants. [Weak evidence: AR18, AR19]
6.1	What can the NAMA Facility learn from the fact that the Technical Component ended in 2017 and the Financial Component being further implemented until now?	<ul style="list-style-type: none"> The actual overlap of the Technical Component & Financial Component The mutual contributions to common outputs/outcomes The timing of Technical Component & Financial Component activities was adequate and resulted in the achievement of the expected outcomes 	<ul style="list-style-type: none"> The timing of the activities of both components was well aligned and contributed to the successful implementation of the NSP 	<ul style="list-style-type: none"> When a development bank is part of the implementation, it is important to be aware that the processes are different from TA organizations as GIZ. This is a common situation in international cooperation since banks have complex and lengthy processes that normally take longer than the technical components. Perhaps contingency measures and realistic assumptions at the planning phase could help overcome these issues in a better way. [Medium evidence: NT1, NT3, NT5] Timing is a crucial issue, especially at the beginning of the implementation, in particular, the design phase. The main issues were that the design of the financial instrument had to be tender. Once the design was finished, another tender had to be carried out for the TA (Consultancy team). These times were not properly planned since the beginning so in the end there was an impact on the implementation time available to operate the financial instruments. In addition, the external factors and the short implementation period in the initial project design were not considered ideal and the technical hurdles were higher than expected. [Medium evidence: NT1, NT2, NT3]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> Has to be solved on the ministry level (BMZ) [Single source: NT7] The Financial Component took advantage of the Technical Component lessons. If they had started together, they would have avoided e.g., the gap by changing government. [Single source: NT4] Some initially planned capacity building activities, such as workshops on specific eco-technologies, could have been implemented under the Technical Component component and encouraged developers requesting financing to make use of the existing capacity building activities, but were not possible due to the lack of overlap. [Single source: PR13] The Financial Component tried to adapt (be more flexible, decrease bureaucracy) [Single source: NT2] The Technical Component also proposed in 2017 to extend some areas of work to support the Financial Component but this request was declined. [Single source: NT5] Mitigation through the close cooperation of SHF with IFONAVIT and FOVISSSTE during the programme execution and some of the activities planned under the Technical Component component to stimulate the demand for sustainable housing. [Single source: PR13] It is necessary for a successful implementation to have an overlap between both components, to avoid a two-phase implementation (design & implementation). A small overlap was insufficient to take better advantage of the synergies. [Weak evidence: NT5, NT6] Technical assistance is essential for Financial Component, to accompany any investment grant or guarantee instrument as they help the partner to better channel these resources and Also, can produce some nice co-benefits (which in this case were the cost-effectiveness analysis and ECOCASA Certification Program). [Weak evidence: NT6, AR17] For example, although the NAMA Facility investment Grant from the Financial Component has not been disbursed in 2017, the project had many spillovers derived from the technical assistance components of the Financial Component and Technical Component components. Also, TA resources are essential to accompany subsidy schemes as they supported SHF to better channel investment grants. Additionally, some co-benefits arose such as the cost-effectiveness analysis of technologies and ECOCASA Certification Program. Additionally, TA from the NAMA Facility Programme continued to promote and offer technical advice to projects registered and in the process of registering for the programme, which undoubtedly led to an easing of the burden on the affected developers. [Medium evidence: AR17, AR18, AR19, AR20, SAR21] Technical Component has to have the specific mandate and scope, to support the later coming Financial Component. [Weak evidence: NT4, NT7]

ELEQ No.	Evaluation Question	Evaluation criteria	Original hypotheses	ELE evidence
				<ul style="list-style-type: none"> ▪ The Technical Component didn't have the same focus (no focus on SMEs). Should be more harmonized to improve success. Also, the expectations of the Technical Component were different. [Single source: NT2] ▪ On the other hand, it could be rethought, if the Technical Component and Financial Component has to always work together. The Financial Component team has the idea that there was no need for collaboration. The Technical Component contributions helped the Financial Component implementation, but there was no need for parallel implementation. [Weak evidence: NT1, NT7]

Annex E Validity of the causal pathways using process tracing tests

The table below shows the result of the application of formal process tracing tests on the causal pathways of the NSP ToC to assess the strength of the evidence collected by the ELE to either confirm or reject the hypotheses behind each causal chain.

Overview on the validity of the causal pathways using process tracing tests

Formal test	Test description	Causal pathways of the NSP	Process tracing test
Smoking gun (confirmatory)	If evidence is observed, the hypothesis is confirmed. If evidence is not observed, the hypothesis is not confirmed, but this is not enough to reject the hypothesis.	Causal pathway underpinning Financial Component Intermediate Outcome A: If financial instruments are developed in coordination with existing financing programmes, subsidy instruments are introduced, and advisory services are provided to financial intermediaries, then there would be improved access to finance by SME developers for the construction of low-carbon housing (Intermediate Outcome A). This will motivate SMEs to use the financial support instruments, contributing to increasing the supply of low-carbon housing in Mexico (Financial Component's Outcome).	Causal pathway underpinning Financial Component Intermediate Outcome A: there is the initial evidence of improved access to finance for SME's to develop LCH projects and therefore the intermediate outcome and outcome are observed, and the hypothesis is confirmed. Limitations remain regarding the availability of financial products and interest from developers and final users after the NSP ends (sustainability).
Hoop test (disconfirmatory)	If the evidence is not observed, the hypothesis is rejected. If the evidence is observed, the hypothesis is not rejected, but this is not sufficient to confirm the hypothesis.	No causal pathway falls into this category	
Double decisive	If evidence is observed, the hypothesis is confirmed. If the evidence is not observed, the hypothesis is rejected.	No causal pathway falls into this category	

Formal test	Test description	Causal pathways of the NSP	Process tracing test
Straw in the wind	If the evidence is observed, this is not sufficient to confirm the hypothesis. If the evidence is not observed, this is not sufficient to reject the hypothesis.	Causal pathway underpinning Financial Component Intermediate Outcome B: If SMEs are educated about eco-technologies, construction methods and suppliers and project-specific advisory services are provided to SMEs, capacities and awareness of SMEs on LCH will be increased and a portfolio of LCH projects will be implemented (Financial Component outputs in terms of the number of houses built (Output 1) and GHG emission reductions (Output 2)). As a result, investment barriers for the construction of LCH are eliminated, contributing to an increase in the supply of low-carbon housing in Mexico (Financial Component's Outcome).	Causal pathway underpinning Financial Component Intermediate Outcome B: initial evidence of the output and the intermediate outcome and outcome is observed; however, it is not possible to confirm or reject the hypothesis because it is incomplete. As the Financial Component targets in terms of implementing an LCH project portfolio were not reached, is not possible to confirm that the market barriers to be overcome with financial support were covered completely and therefore an increased supply cannot be guaranteed.

Annex F NSP achievements against logframe indicators

Below are reported the Mexico Housing NSP logframe indicators grouped under the relevant elements of the ToC. Target and achieved figures are reported with a Red-Green (i.e. target not met-met) assessment. Only indicators relevant to the Financial Component are reported.

F.1 Impact indicators

Impact: Transformation of the Mexican housing sector from a baseline situation with largely absent energy-saving criteria to a sustainable housing sector where energy efficiency technologies have penetrated the market

#	Indicator	Baseline	Target 2021	Achieved*
M1	Reduction of (direct and indirect) GHG emissions (CO ₂ eq)	0	400,000	132,227
S1	Number of NAMA housing units built and registered	0	up to 8,000 subsidized/ up to 3,000 leveraged	3,435/ 2,305

*Note: Figure from 2020 NSP Mexico Housing Financial Component Annual Report

F.2 Outcome indicators

Outcome: Increased supply from small and medium (SME) housing developers that are incorporated into the low-carbon housing market

#	Indicator	Baseline	Target 2021	Achieved*
M2	Number of people in target group directly benefiting from the NSP	0	43,000	22,387
M3	Degree to which the supported activities are likely to catalyse impacts beyond the NSP (e.g., potential for scaling-up, replication and transformation)	Qualitative Indicator; Subject to Annual Reporting		

M4	Volume of public finance mobilized in EUR	0	120,000,000	46,893,459
M5	Volume of private finance mobilized in EUR	0	80,000,000	68,926,234
S2	Electricity consumption per housing unit financed or built	71 kWh/m2/y	80% of baseline	54%
S3	Electricity expenditure per participating household	305 \$/y/HH	80% of baseline	30%
S4	CO2 emission per housing unit financed or built per year	55 kg/CO2/m2/y	80% of baseline	44%
S5	Improving the level of comfort of houses financed or built	-	The in-door temperature within a range of 20-25°C, over 40% days in hot and humid climate zones/ In-door temperature within a range of 20-25°C, over 60% days in hot and dry climate zones/ In-door temperature within a range of 20-25°C, over 80% in temperate and semi-cold zones	52%/75%/90%

*Note: Figure from 2020 NSP Mexico Housing Financial Component Annual Report

F.3 Output indicators

Output A: Increased awareness and capacities within housing related institutions				
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#	Indicator	Baseline	Target 2021	Achieved*
P3.2	Number of regional housing institutions that have been sensitized	0	32	21

*Note: Figure from 2020 NSP Mexico Housing Financial Component Annual Report

Output B: SME's are incorporated into the LCH market				
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#	Indicator	Baseline	Target 2021	Achieved*
P7	Number of small and medium-sized housing developers that have been able to participate directly in financing and/or technical advisory by the NSP	0	0 (It appears a target was never defined)	460

*Note: Figure from 2020 NSP Mexico Housing Financial Component Annual Report

Annex G List of ELE sources

G.1 Internal documents

1. Mexico Housing NAMA Support Project, Financial Component - NSP Proposal 2013
2. Mexico Housing NAMA Support Project, Financial Component - NSP Revised Proposal 2019
3. Mexico Housing NAMA Support Project, Financial Component - Semi-Annual Report 2014
4. Mexico Housing NAMA Support Project, Financial Component - Annual Report 2014
5. Mexico Housing NAMA Support Project, Financial Component - Semi-Annual Report 2015
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16. Mexico Housing NAMA Support Project, Financial Component - Annual Report 2020
17. Mexico Housing NAMA Support Project, Financial Component - Semi-Annual Report 2021
18. Mexico Housing NAMA Support Project, Financial Component - M&E Plan 2020
19. Mexico Housing NAMA Support Project, Financial Component - Mid-Term Evaluation Report 2018

G.2 Public documents

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8. INFONAVIT, 2021. MANUAL DE VALIDACIÓN DE ATRIBUTOS DEL SISEVIVE
9. Low Carbon Architecture, website. Available in: <https://www.lowcarbonarchitecture.com/portfolio/cursos-sisevive/#:~:text=El%20SISEVIVE%20es%20una%20herramienta,GIZ%20y%20la%20Embajada%20Brit%C3%A1nica.>
10. Sistema de Evaluación de la Vivienda Verde SISEVIVE-ECOCASA. Available in: https://portal.mx.infonavit.org.mx/wps/wcm/connect/820866d3-ca0d-4d7b-b17a-7345390505b1/4_Manual_SISEVIVE.PDF?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROO-TWORKSPACE-820866d3-ca0d-4d7b-b17a-7345390505b1-n1pFSzR
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13. SEMARNAT, 2018. Sexta Comunicación Nacional y Segundo Informe Bienal de Actualización ante la Convención Marco de las Naciones Unidas sobre el Cambio Climático.
14. SHF - Requisitos ECOCASA. Available in: https://www.gob.mx/cms/uploads/attachment/file/636494/Requisitos_ECOCASA_2021.pdf

G.3 List of organisations interviewed

Institution	Position
NSP Team	
KfW Mexico	Project Managers
SHF	Deputy Director Sustainable Program
KfW Consultant	Consultant
GOPA Consultant	TA coordinator

GIZ Mexico	Project Manager
NSP Stakeholder	
Flexihogar	Public relationships & after sales.
DICCSA	Administrative manager
Organiterra	Company owner
San Gilberto	Project manager
Casillas + Casillas	Project director and sustainability analysis
ION	Technical Director
Exe Inmobiliaria	Project Manager
Taluma	General Director
Vida Nueva	Project Manager
Comvive	General Director
Hemme Constructora	legal representative
BIM	Corporate director
Casas Shalom	Project Manager
Third Party	
SEMARNAT	Urban Sustainability Director
Independent Consultant	Consultant
IABD	Senior climate change specialist
GABC	Director and consultant
CONAVI	Deputy Director of Sustainable Housing and Design
Independent Consultant	Consultant
INFONAVIT	Indicator's manager
RUV	Director of Operation

Annex H ELE Terms of Reference



On behalf of



ELE #8

NSP Mexico Housing

Final evaluation of the NSP

Background

This document describes the final Evaluation and Learning Exercise (ELE) of the NAMA Support Project (NSP) 'Mexico Housing (referred to in this document as Mexico Housing NSP). This is a work package commissioned under the Project title and contract number below.

Project title:	Project evaluation and learning exercises for the NAMA Facility
Project and reference number:	12.9097.2-108.00 / 81238912
ELE scope (mid-term/final):	Final ELE
ELE focus (TC/FC/both):	FC

1 Terms of reference

1.1 General TORs as defined in TORs for all ELEs and theoretical framework

This ELE is implemented within the general Terms of References (TORs) and following the theoretical framework, and these two documents are binding.

However, as a short reminder, the focus is on the following three questions:

- Has the NSP achieved its planned results?
- Has the NSP started to trigger transformational change?
- What can be learnt from the NSP?

1.2 Specific additional elements to be considered in this ELE

Please note below the additional elements/questions to be considered in this ELE:

- What can be learnt from the fact that the TC ended in 2017 and the FC being further implemented until now?

1.3 Specific elements/questions that will not be considered in this ELE

The general TORs and the theoretical framework allow for a prioritisation of some evaluation questions at the expense of other evaluation questions. Please note below those elements/questions which will not be considered in this ELE:

- The ELE will focus on understanding the contribution of the NSP to its intended outcomes and impact and the lessons generated, and will not undertake a thorough verification of the delivery of the NSP's outputs, e.g. reviewing minutes of meetings, counting male and female participants to events etc. However, as per ELE Theoretical Framework, "a rapid review of the quality of the data produced by the NSP M&E system will be carried out, including how regular and comprehensive it is, and how reliable the data sources are".

2 Suggested staff

The contractor suggests the following staff (see CVs attached):

- Senior International Expert A (ELE Team Leader): Tobias Kühner

- Senior International Expert B: Gerardo Canales
- Senior National Expert: René Alvarez

3 Timing

The contractor suggests the following timing:

Item	Date / period	Comment
Introductory call TSU / ELE team / NSP	22/07/2021	
Exchange of preliminary information	05/08/2021	
Availability of detailed agenda	06/09/2021	
Field phase	13-24/09/2021	Virtually
Draft report delivery	22/10/21	
Final report delivery	22/11/21	Assuming one feedback cycle. (Note that the TORs allow for more feedback cycles if necessary)

4 TSU agreement

The TSU agrees to the TORs, team and timing described above.

First Name Last Name (electronic signature)

Berlin, DD MM YYYY

Ernesta
Maciulyte

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