



## **Draft Discussion Paper**

# **Energy Savings Insurance: International Focus Group Discussion**

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# 1 Introduction

## Background

The Energy Savings Insurance (ESI) model was first developed by the Inter-American Development Bank (IDB) in 2014, with the support of Basel Agency for Sustainable Energy (BASE), as a mechanism to build investor confidence and improve access to low-cost finance for energy efficiency projects. It combines four financial and non-financial elements to support the identification and structuring of technically robust and bankable projects: standard performance contract, technical validation, energy savings insurance product, and concessional financing. Since its conceptualisation, the ESI model has been endorsed as a promising climate finance instrument by the Global Innovation Lab for Climate Finance in 2014-15 (The Lab, 2015<sup>[1]</sup>) and in the G20 Energy Efficiency Investment Toolkit in 2016 (G20 EEFTG, 2014<sup>[2]</sup>).

The ESI model has been fully implemented in two Latin American countries (Colombia and El Salvador) and partially implemented or under way in a further six countries (Mexico, Chile, Brazil, Perú, Argentina, and Paraguay) with financial support from international donors like the Danish Energy Agency (DEA), the Clean Technology Fund (CTF), and the Green Climate Fund (GCF). It is now being replicated in European countries (Italy, Spain, Portugal, Slovakia, Croatia, Greece) with the European Union's Horizon 2020 funding, as well as in emerging economies (Morocco, Mongolia, Nicaragua) with funding from international donors (see Table 1.1). Other countries like China, Vietnam, Mauritius, Turkey, India, Indonesia, and the Philippines have also expressed interest in the model. Previous ESI programmes have mainly been targeted for small and medium enterprises (SMEs) across sectors, notably healthcare, tourism, hospitality, agriculture, fishing, forestry, and industry.

**Table 1.1. Overview of previous or ongoing ESI programmes**

Country	Implementation dates	Implementation status	Funder(s)	Lead implementer	Lead implementer type
Argentina			GCF, BICE	BICE	Public bank
Brazil			DEA	Bandes, BRDE and Goiás Fomento	Regional development banks
Chile			DEA	Banco Estado	NDB
Colombia	2016-2022	Pilot complete	CTF, DEA	Bancóldex	NDB
Croatia	2021-2024		EU	DOOR	CSO
El Salvador*	2019-2022	Pilot complete	GCF, BANDESAL	BANDESAL	NDB
Greece	2021-2024	Under implementation	EU	CRES	Public entity
Italy	2018-2020	Operational	EU	FIRE	NGO
Mexico			CTF	FIRA	NDB
Mongolia	2020-ongoing	Design started in 2020; Pilot launched in 2023	GCF	Xacbank	Private bank
Morocco	2022-ongoing	Under implementation	CECG	SIE	Public super ESCO
Nicaragua					
Paraguay			GCF, AFD	AFD	NDB

Perú	2016-2021	Closed operations in 2021	DEA	COFIDE	NDB
Portugal	2018-2020		EU	BCSD	NGO
Slovakia	2021-2024		EU	SIEA	Public entity
Spain	2018-2020		EU	EnergyLab	NGO

Note: In El Salvador, the ESI Project was started in 2016 with funding from the Government of Denmark and then supported by GCF. GCF support covers both energy efficiency projects with and without the use of ESI.

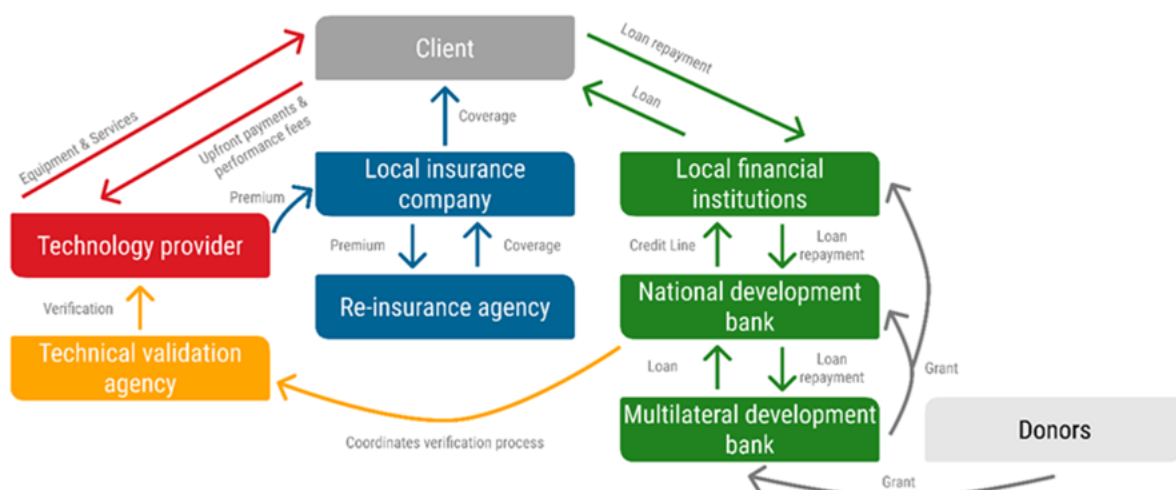
Source: Author's compilation.

## Conceptual framework

The ESI model is a de-risking package consisting of four financial and non-financial elements designed to build investor confidence in energy efficiency projects (The Lab, 2015<sup>[1]</sup>). A generalised conceptual design of the ESI model is illustrated in Figure 1.1.

1. The **standard performance contract** establishes the responsibilities of the supplier in terms of supply and installation of equipment, corresponding guarantees, and the promised energy savings relative to a benchmark (established by the supplier using standardised methodologies). It also commits the customer to timely payments, access to facilities, and adequate maintenance of the equipment. In some cases the contract may also include a “guarantee reserve” clause, which stipulates that around 25% of the total project costs paid by the customer will be set aside, to be released only when the supplier demonstrates that contracted energy savings have been delivered.
2. The **technical validation** is carried out by an independent agency who evaluates and confirms the project's technical potential to achieve the promised savings and verifies on site that the project has been built according to specifications approved in the initial evaluation. This agency also determines which party is entitled to compensation in case of disagreements on the achieved performance and actual savings generated by the project. The validator's roles are defined in the standard contract and its decisions are binding for both parties.

Figure 1.1. Conceptual design of the ESI model



Source: Adapted from (The Lab, 2015<sup>[1]</sup>)

3. The **energy savings insurance** is a financial risk mitigation instrument that partially covers the energy savings commitment made by the technology supplier under the performance contract for a specific

period of time. If the project does not achieve the pledged savings, the insurance agency will financially compensate the client (once the guarantee reserve amount is exhausted). The energy savings insurance is usually structured either as a surety bond or a bank guarantee, depending on the regulatory context and insurance market maturity. The insurance is activated upon technical validation of the project and is further backed by a reinsurance agency.

4. **Concessional credit lines** are used to finance insured projects with funding from international donor agencies and/or multilateral development banks (MDBs). Local financial institutions can access these credit lines to provide further loans at preferential terms, including lower interest rates, longer grace periods, and extended tenures. The grant component of donor funding is also used to provide additional incentives to investors and technology providers, including free technical validation, subsidised insurance costs, specialised technical support, capacity building services, expedited credit evaluation, and preparation and dissemination of success cases in events and electronic platforms.

## The case for ESI

In 2016, the IDB and DEA jointly produced an ESI Toolkit to support national development banks and other agencies in designing and implementing energy savings insurance programmes in their own countries (Magallón, Kern and Gampp, 2016<sup>[3]</sup>). The Toolkit identifies four main barriers to energy efficiency investments: lack of priority, lack of trust, lack of access to finance, and lack of experience.

1. **Lack of priority** – Given their wide range of competing investment needs, firms tend to prioritise investments that can tangibly grow their productivity or fulfil an immediate need. Investments in energy efficiency, such as upgrading existing equipment before the end of its useful life, require firms to change their usual behaviour and allocate significant resources or acquire debt. Although energy savings from such investments would make the investment viable and service their debt, firms do not account for savings when calculating returns and thus hesitate to invest in such projects.
2. **Lack of trust** – Firms often do not trust technology providers' claims that energy efficiency upgrades can deliver promised energy savings. Since most technology providers are unable to offer pay-per-use services, firms have to finance capital-intensive energy efficiency projects either on balance sheet or by taking out a loan, thus bearing the entire downside risk if promised energy savings do not materialise.
3. **Lack of access to finance** – Firms (particularly SMEs) willing to invest in energy efficiency projects often have trouble accessing finance with sufficiently long tenures that allow for the savings accrued to be used to pay back the loan. Local financial institutions currently do not recognise savings as collateral, as their risk models cannot reflect the benefits from lower expenses.
4. **Lack of experience** – Local financial institutions often lack the capacity to evaluate energy efficiency project proposals based on future savings, given their limited experience financing such projects. Thus, firms willing to invest in energy efficiency upgrades are unable to access long-term commercial financing at competitive rates.

The four elements of the ESI model can help increase energy efficiency investments by addressing each of the abovementioned barriers and benefiting all parties involved. The energy savings insurance product allows technology providers to back the performance of their products and distinguish themselves from lower-quality providers, which improves firms' trust in them and boosts their sales. Firms receive contractually guaranteed compensation if projected energy savings are not realised, which increases their confidence and makes them more comfortable investing in energy efficiency. The standard contract and the independent technical verification procedure further boost the confidence of the firms, insurance providers, and financial institutions in the technology provider's products and lowers transaction costs in financing such projects.

Further, concessional credit lines from national development banks or MDBs structured to suit energy efficiency projects, such as through longer loan terms or grace periods, reduce the cost of capital and improve access to finance for energy efficiency investments. The ESI model also establishes a structured capacity building programme to guide financial institutions on the assessment, approval, and instrumentation of energy efficiency loans. Insurance companies and local financial institutions can thus improve their technical capacity and grow their businesses by tapping into a new market segment, with the help of the concessional credit lines and reduced transaction costs.

## Designing an ESI programme

The ESI Toolkit identifies seven steps in designing an ESI programme (Magallón, Kern and Gampp, 2016<sup>[3]</sup>). While some of these may need to be tailored to local context, an indicative list of the stages and corresponding expected outcomes is provided below.

1. **Market assessment:** this involves conducting pre-feasibility and feasibility studies to gain a deeper understanding of the demand and supply side of energy efficiency finance. Using a combination of desk research (literature review, data collection and analysis) and stakeholder interviews (potential clients, technology providers, financial sector), this stage identifies priority sectors with attractive energy efficiency business opportunities and suitable technologies to cover under an ESI pilot.
2. **Financing structure:** this involves designing a suitable financing model (i.e., concessional credit line) for the ESI pilot that may also address the access to finance barrier with risk mitigation instruments as needed (e.g., credit guarantee). The outcome of this stage will determine the appropriate financial actors to involve (national development banks, intermediary financial institutions) and the financing terms (loan tenors, grace periods, etc.) to be offered to clients.
3. **Standard performance contract:** this involves adapting existing contract templates (e.g., based on models used in other markets) to the local regulatory context by engaging legal support and seeking stakeholder inputs from firms, technology providers, financial institutions, insurance companies. The expected outcome of this stage is a publicly distributed standardised performance contract with clauses specifying (i) the basic responsibilities of all parties, (ii) monitoring and reporting procedures, (iii) dispute resolution mechanism, and (iv) internal risk mitigation structures (e.g., guarantee reserve mechanism) to act as a backstop before third-party insurance is triggered.
4. **Energy savings insurance:** this involves determining the appropriate structure for an ESI product (e.g., bipartite insurance or tripartite surety bond, bank guarantee, etc.) based on the local context, identifying insurance and reinsurance companies willing to participate in the programme, and developing a risk coverage structure and pricing methodology. This stage leads to the generation of at least one insurance policy to be made available to the firms participating in the ESI pilot programme.
5. **Validation and verification procedure:** this involves defining appropriate validation and verification procedures for different project phases (credit evaluation, project installation, operational phase) and designating a neutral and well-established entity to carry out these procedures.
6. **Marketing and communications plan:** this involves conducting market research and developing a targeted strategy to inform potential clients about the ESI pilot programme and build their confidence in its ability to deliver results. The objective is to establish sustained demand for the ESI programme beyond the pilot stage.
7. **Capacity building:** this involves equipping key stakeholders (technology providers, insurance providers, financial institutions) with the necessary tools and training to participate in the ESI pilot programme. Topics to be covered in such a training depend on the status quo in the market and will be informed by the results from initial market assessment and stakeholder consultations.

## Case study process and structure

This discussion paper compiles case studies prepared by the OECD CEFIM team highlighting international experience with the ESI model in three countries – Colombia, El Salvador, and Mongolia. The case studies were prepared with the intention of synthesising key lessons and best practices from international experience to benefit other emerging and developing economies interested in implementing the ESI model in their own contexts.

The process of preparing the case studies involved identifying emerging economies where diverse ESI financing and implementation models have been used and conducting desk research and stakeholder interviews to collect details on those experiences. The OECD CEFIM team benefited greatly from the expertise of colleagues at the IDB and BASE, who kindly provided data and substantive inputs for the case studies.

Each country case study is structured as follows.

1. **Programme overview** provides basic details of the ESI programme in the country, including dates and status of implementation, sectors and technologies covered under the pilot, and targets and outcomes (if any).
2. **Background and rationale** explains the energy efficiency policy and market context in the country and identifies the motivation behind designing and implementing an ESI programme.
3. **Implementation framework** describes the structure and design of the ESI programme, including the names and roles of the different organisations involved and the strategy adopted for attracting participation in the ESI programme.
4. **Enabling tools** describes the process of developing the standard performance contract, validation and verification protocols, and the energy savings insurance product, along with details of how these tools were adapted to the country context.
5. **Financing model** provides an overview of how the concessional credit line is financed, including the role of blended finance from international donor organisations.
6. **Key outcomes and lessons learned** synthesises the main findings and unique aspects of each case study that can provide lessons for other countries looking to implement their own ESI programmes.

# 2 Case Study: Colombia

## Programme overview

The ESI pilot programme in Colombia was launched by the Inter-American Development Bank (IDB) in June 2016 and concluded in December 2022. The programme was jointly funded by the DEA, CTF, and IDB. DEA provided initial technical support for ESI development with a budget of USD 300,000 with CTF and IDB providing an additional USD 48 million in the form of loans to Bancoldex to fund energy efficiency projects (both with and without the inclusion of ESI Financing model) (GFL, n.d.<sup>[4]</sup>). As of November 2022, the ESI programme in Colombia had issued 262 energy savings insurance policies and helped mobilise investments worth USD 29.8 million (both through the ESI credit line and independently). This programme has achieved approximately 6,273 tonne/year of avoided carbon dioxide (CO<sub>2</sub>) emissions.

The ESI pilot programme initially covered SMEs in the hospitality and healthcare sectors where significant market potential was identified. Eventually it was expanded to cover firms in the manufacturing, commercial, and other services sectors. Twelve energy-efficient and renewable energy technologies with high potential in those sectors were eligible to be covered in the programme, namely light-emitting diode (LED) bulbs, heating, ventilation, and air conditioning (HVAC) systems, boilers, cogeneration units, solar thermal, motors, ovens, air compressors, cooling systems, motorcycle and cab fleets, biogas, and solar PV. Geographically, the coverage of the programme extended to 23 departments in Colombia, with most projects located in Valle del Cauca, (17%), Antioquia (16%), Risaralda (13%), and Caldas (13%).

## Background and rationale

Economic progress and population growth have contributed to rising energy consumption in Colombia since the early 2000s, including a sharp increase in electricity demand, despite overall improvements in energy intensity (in terms of units of energy consumed per unit of gross domestic product) (IEA, n.d.<sup>[5]</sup>). To mitigate growing energy demand, Colombia's Ministry of Mines and Energy adopted an Indicative Action Plan 2017-2022 defining energy efficiency targets, objectives, and strategies for the largest energy-consuming sectors (including transport and industry) (CCAC, 2016<sup>[6]</sup>).

However, before the ESI pilot programme began, there were no specific support schemes addressing barriers to the uptake of energy-efficient technologies in Colombia. Firms and businesses lacked confidence in the savings potential of energy-efficient technologies and had no experience with performance-based contracts for energy efficiency services. Technology providers offered energy-efficient products on the market but faced low demand and limited sales. The ESI pilot programme was thus designed and implemented jointly by IDB and Bancóldex, one of the Colombian national development banks, in 2014 to address the trust barrier and to boost the market for energy efficiency in Colombia. Bancóldex has a mandate to support the sustainable development of Colombian businesses (particularly SMEs) and to act as a public policy instrument to strengthen the entrepreneurial ecosystem in Colombia. As energy efficiency is a sector with massive potential for cost savings and sustainable green growth, lending actively to this sector was already within Bancóldex's mandate.



## Implementation framework

The implementation framework for the ESI pilot programme in Colombia was set up by IDB with Bancóldex as the lead implementing agency. IDB undertook active efforts to identify and engage relevant institutions to create mutually beneficial partnerships and develop confidence-building tools for the market (see Enabling tools). For instance, the Colombian Institute of Technical Standards and Certification (ICONTEC), a non-profit organisation with previous experience as a certifier for the Clean Development Mechanism, was engaged to provide the validation and verification services for energy efficiency projects participating in the ESI pilot programme. Similarly, Seguros de Vida Suramericana (SURA), Colombia's largest insurance company, was involved to develop a suitable energy savings insurance policy. Several private banks with some existing interest and technical capacity in energy efficiency lending and project evaluation, such as Bancolombia, Davivienda, BBVA, and Banco de Bogotá, were also involved in the programme as intermediaries in the disbursement of energy efficiency credit lines (LaGuardia Foundation, 2014<sup>[7]</sup>).

Colombian government agencies, such as the Ministry of Finance and the National Planning Department, were involved in approving the structure and operations of the programme, given that it was a multilateral banking scheme and required government sign-off. Technical entities of the Colombian government were also consulted to seek their feedback in the process of structuring the programme. Apart from their role in approvals and consultations, the Government of Colombia was not directly involved in the implementation process.

Strong partnerships among different organisations within the ESI implementation framework played a significant role in creating demand and establishing a new market for insurance-backed energy efficiency services in Colombia. Since market confidence in energy efficiency technologies and services was poor, Bancóldex and IDB had to take a proactive approach to target potential clients and technology providers and convince them to participate in the programme. Existing clients of Bancóldex and SURA were approached first to test demand before a more comprehensive marketing and communications plan was put in place. Technology and equipment suppliers were also trained by IDB to better market energy-efficient products and create awareness about the ESI programme.

## Enabling tools

The energy savings insurance policy was developed by SURA by adapting an existing surety bond insurance structure commonly used in construction projects. A mechanism to cover shortfalls in contracted energy savings was included in the bond structure, thus making it a performance guarantee. Adapting an existing insurance policy had the dual benefit of being resource and time efficient as well as avoiding potential regulatory complications. Under the programme rules, the technology provider had to secure the insurance policy by providing real guarantees to SURA once the performance contract was signed and the technical validation was complete. About 80% of the surety policy risk was in turn reinsured by Swiss RE (LaGuardia Foundation, 2014<sup>[7]</sup>).

However, the energy savings insurance policy was only one piece of the puzzle to improve market confidence. It was crucial to develop other tools and methodologies to underpin and enable the actual insurance policy offering. IDB and Bancóldex thus had to develop a standard energy performance contract and invent a standard certification process to validate energy efficiency projects and reduce transaction costs in financing them. These standard products would then need to incorporate some technology- or sector-specific elements or details (for instance, baseline energy consumption stipulated in the contract) to make them work for each technology or sector covered in the ESI pilot programme.

A standardised methodology based on ISO 50001 protocols was developed to establish the process of validating not only the technical quality and potential of the supplier's proposal but also verifying the proper

installation and execution of the project and monitoring the eventual energy savings. Similarly, a standardised energy performance contract was adapted from a construction completion contract by including a defined percentage of promised energy savings relative to a benchmark, a reference energy price, a monitoring and evaluation schedule, validation protocols, insurance activation criteria, a compensation mechanism for unrealised savings including a guarantee reserve, and a dispute resolution clause defining the independent validation entity (ICONTEC) as the arbiter. The contract also stipulated that arbitration costs in case of conflict were to be paid by the losing party (LaGuardia Foundation, 2014<sup>[7]</sup>).

## Financing model

Projects that successfully completed validation by ICONTEC and obtained an energy savings insurance policy from SURA were able to access Bancóldex's credit line at special conditions, such as preferential rates, grace periods and extended tenure.

Three credit lines were extended by Bancóldex under the ESI pilot programme, offering a total amount of USD 48 million (one of the credit lines totalling USD 20 million was dedicated exclusively for ESI projects, while the two remaining credit lines were open to energy efficiency projects in general) of long-term credit to SMEs through a network of 8 intermediary banks. The credit lines were each set up by blending resources from CTF and IDB in equal parts, and supplemented by a grant amount of USD 1 million grant offered by CTF to support development of the energy efficiency market in Colombia. The grant component was used to provide additional incentives to investing firms and technology providers utilising the Bancóldex credit line, such as free validation of projects, specialised technical advice for project preparation, subsidised insurance costs, expedited credit evaluation and loan disbursement, and access to bespoke capacity building services for technology providers, local financial institutions, and investing firms. Blended finance from international donors thus made it possible for Bancóldex to offer concessional terms on their credit lines as well as additional financial and non-financial incentives to encourage participation in the ESI programme.

## Key outcomes and lessons learned

After December 2022, the ESI programme in Colombia entered a new phase. IDB's concessional credit lines will still be available for SME energy efficiency projects in all economic sectors along with risk mitigation incentives (like subsidised validation services) for projects that access the credit line. However, it is no longer deemed necessary to subsidise insurance costs, as energy savings insurance policies independent of Bancóldex credit lines and incentives are became available in the market at competitive prices during the pilot stage itself. To illustrate, out of the 262 energy savings insurance policies sold by SURA during the pilot phase, only around 5% were linked to the IDB-Bancóldex credit line. In fact, the energy saving policy proved to be such a low-risk product during the pilot (default ratio being less than 1%), SURA made the decision to evolve the policy from a surety bond to an insurance, so that technology suppliers are no longer obliged to pay part of the insurance claim under the guarantee reserve clause in case of non-compliance.

The ESI programme in Colombia was one of the first such programmes implemented in any market and certainly faced unique challenges, not least the lack of an energy efficiency market in the country and poor levels of confidence in such services. The Colombian case illustrates how a well-designed ESI programme can quickly build market confidence in the commercial viability of insurance-backed energy efficiency projects and establish sustained demand for the same. It also illustrates the benefits of adapting existing tools and methodologies to the energy savings context rather than developing them from scratch to save time and resources. The programme has thus also contributed internationally by providing templates for

standard performance contracts, validation protocols, and energy savings insurance policies for other markets to adapt.

Another key lesson emerging from the Colombian experience is the importance of strong and strategic partnerships based on a deep understanding of the market. Bancóldex was able to establish demand, attract customers, and address gaps by leveraging these partnerships and the technical capacity of its partners. The simultaneous development of all elements required in the ESI model was also made possible by the strategic division of labour across partners. Finally, the Colombian experience teaches the value of looking at both financial and non-financial indicators when assessing the impact of an ESI programme. The pilot delivered good numbers in terms of projects covered, insurance policies sold, and investments mobilised (see Programme overview). However, one of the most significant outcomes of the Colombian pilot programme was arguably the tremendous impact on market confidence thanks to the judicious design of enabling tools and methodologies.

# 3 Case Study: El Salvador

## Programme overview

The ESI pilot programme in El Salvador funded by GCF began in 2018 under the leadership of its national development bank Banco de Desarrollo de El Salvador (BANDESAL) and in partnership with IDB. Earlier work on ESI supported with funding from the government of Denmark began in 2016. <sup>1</sup> The pilot programme was jointly funded by IDB and the Green Climate Fund (GCF) and had a total project value of USD 41.7 million (see

Financing model).<sup>2</sup> It covered the replacement of energy-intensive motors, air conditioners, refrigerators, and boilers used by SMEs. The programme aimed to insure 100 firms, achieve 36.5 GWh of energy savings, and avoid 562,037 tonnes of CO<sub>2</sub> equivalent of emissions over a 15-year period. The pilot programme was closed in December 2022, but the concessional credit line will continue to operate independently until 2024. As in the case of Colombia, the project and funding covered both energy efficiency projects with and with ESI.

## Background and rationale

Promoting energy efficiency and the culture of energy savings was a key goal of the National Energy Policy 2010-2024 of El Salvador, which provided a strong rationale for the development of the ESI programme.<sup>3</sup> In 2020, this policy was replaced by the National Energy Policy 2020-2050 which reaffirms the country's commitment to using "modern, efficient, and cost-effective infrastructure" for energy consumption.<sup>3</sup> These policy priorities contribute towards El Salvador's target of 640 Kt CO<sub>2</sub>eq annual emissions reduction from fossil fuel burning activities by 2030, compared to 2019 business-as-usual levels, as set forth in its updated Nationally Determined Contributions (NDC) of January 2022.<sup>4</sup>

Despite the policy background and high potential, energy efficiency investments in El Salvador were very limited at the inception of the ESI programme due to poor demand and inadequate financing conditions. A market assessment study conducted by BANDESAL and IDB showed that firms, particularly SMEs, lacked trust in the potential returns from energy efficiency investments and in the quality of technology or service providers. There were no consumer mandates for energy efficiency or any Energy Service Companies (ESCOs) in the country, which further restricted market demand.

Supply of finance for energy efficiency, and in general for SMEs, was equally limited. Due to an overall lack of liquidity and depth in the country's financial system and a concentration of assets in short-term instruments, long-term lending for productive investments (such as equipment upgradation) was uncommon. For illustration, in 2013-2014, only 19% (USD 1,498 million) of total lending in El Salvador was for productive investments; of this, only 7% (USD 509 million) was in the form of medium- and long-term

finance to SMEs.<sup>1</sup> Investments in energy efficiency were limited by the lack of availability of credit with sufficiently long maturity periods to cover the longer payback periods on such investments.

The motivation behind the ESI programme in El Salvador was thus threefold – creating an enabling environment for the promotion of efficiency investments in the country, improving access to financing at adequate terms and conditions for SMEs, and developing a pipeline of technically-robust, bankable, energy efficiency projects.

The ESI programme was positioned as a comprehensive package of tools to build confidence in energy efficiency investments and facilitate longer-term lending to the sector. The development of risk-sharing contracts, independent technical validation procedures, and insurance products, was expected to significantly lower investment risks for banks and SMEs (see

Enabling tools). BANDESAL's involvement was natural given its unique position as a long-standing lender to the SME sector and its vast network of first-tier local financial institutions.<sup>1</sup> The programme was set up with the hope that once investors and financiers were made aware of the low risks and high returns of energy efficiency projects, they would continue to invest in and finance them with little or no recourse to additional concessional public support.<sup>1</sup>

## Implementation framework

The programme was implemented by a network of actors under BANDESAL's leadership. Validation and verification services were provided by two international certification agencies – ICONTEC, which had previously been involved in the ESI programme of Colombia, and the Spanish Association for Standardization (AENOR). The Salvadoran insurance company Aseguradora Suiza Salvadoreña (ASESUISA) developed the surety policy for the programme.<sup>1</sup> A network of 11 local financial institutions were involved in the disbursement of energy efficiency credit lines, including Banco Azul, BANCOVI, Banco Hipotecario, Banco Industrial, among another others.<sup>1</sup> Local banks did the risk evaluation for every client that approached them, and projects that were approved at this stage could access the credit line from BANDESAL.

Although the initial market assessment had identified significant market potential in the technologies chosen for the ESI pilot, the programme faced considerable challenges in attracting participation from SMEs and technology providers at the initial stage. Firms were unaware about the various programme offerings, technology providers did not have the technical capacity to market their energy-efficient products based on their savings potential, and financial institutions lacked the technical capacity to adequately evaluate the risks and provide attractive terms on energy efficiency projects. IDB and BANDESAL thus used a targeted approach to create demand, working with business and industry associations to identify and engage specific firms to utilise the ESI-linked credit line. They also undertook capacity building efforts for technology providers, technical validators, local financial institutions, and insurance companies in partnership with existing initiatives to boost participation in the ESI programme.

While these efforts boosted SME demand for the ESI-linked credit line, they were insufficient to sustain it. The COVID-19 pandemic context exacerbated the already low levels of demand, as SME priorities shifted more firmly towards economic recovery measures. Post-pandemic recovery needs forced the ESI programme to adapt and align its efforts with businesses' priorities. Moving forward, a revamped marketing and dissemination strategy is needed to sell insurance-backed energy efficiency projects as good

investments and continue to attract demand for the ESI credit line so that the industry may eventually become self-sustaining.

## Enabling tools

The ESI programme in El Salvador had the advantage of learning from the experience of two of its regional predecessors – Colombia and Mexico – in developing enabling tools for the local context. Two of the actors involved in the Salvadoran ESI programme, IDB and of ICONTEC, had already gained experience in the design and implementation of similar programmes in other contexts and were able to facilitate the sharing of best practices. The design of the standard performance contract, the validation protocols and methodologies, and the energy savings insurance product was thus based on the formats and templates that emerged from the Colombian and Mexican experiences, with feedback from local stakeholders to tailor to the Salvadoran context.

However, the development of the energy savings insurance product in El Salvador faced certain regulatory and market challenges. Local insurance sector regulations stipulate the maximum coverage and duration of the energy savings insurance policies that can be offered to different technology providers, depending on their sizes and profiles, which limits their efficacy as confidence-building tools. For instance, policies can usually be offered only for a maximum of one year, but typical energy efficiency projects are based on multi-year performance contracts given their longer payback periods. Insurance policies can be renewed annually to cover the entire duration of a contract, but limits on their initial coverage can significantly dampen investor confidence. To overcome this drawback, the programme worked to reduce the default risk of technology providers by 20-50% to maximise the amount of insurance coverage they could obtain.

In addition, insurance companies also faced a shortage of demand for their policies due to the disproportionate importance given to capacity building over marketing and information dissemination. While this approach contributed to the timely development of insurance policies and other ESI tools under the ESI programme, it also meant that the programme was unable to market itself and draw sufficient demand for participating insurance companies. Eventually, this led insurance companies to leave the programme and offer the ESI insurance policy independently.

## Financing model

The programme had a total value of USD 41.7 million, including both reimbursable and non-reimbursable components.<sup>2</sup> GCF provided a USD 20 million concessional loan to IDB, which was intermediated to BANDESAL under a sovereign guarantee by the Republic of El Salvador. BANDESAL added an equivalent USD 20 million of its own resources to create a concessional credit line for local financial institutions, which in turn could provide loans to SME energy efficiency projects at favourable terms. Loan repayments from the sub-loans were then used to set up a dedicated revolving fund to finance additional projects.<sup>1</sup>

The objective of the GCF loan was to ensure that its concessionality was passed on the final beneficiaries (i.e., SMEs) in the form of lower interest rates (3.17%) and longer maturity periods in the local credit market. The maturity periods (5 years on average) were established in accordance with the costs and returns of eligible technologies to ensure that monetised energy savings could be used to cover recurrent loan obligations. Part of the concessionality of GCF resources was transferred to final beneficiaries as a “success fee”, either in the form of a rebate or an ex-post reduction in the market interest rate. For instance, GCF concessionality allowed BANDESAL to lower its business-as-usual intermediary fee charged to the local financial institution from 6.5% to 3.625%, thus allowing the final SME beneficiaries to access cheaper credit than available in the market.<sup>1</sup>

GCF complemented the concessional loan with a non-reimbursable grant of USD 1.7 million, which was used to develop and deploy the non-financial instruments and risk-sharing mechanisms within the ESI model.<sup>1</sup> In particular, the GCF grant component was used (i) to develop a financing strategy, including tailored concessional credit lines and an energy savings insurance product; (ii) to develop non-financial tools and mechanisms, including a standardised energy performance contract and adequate protocols for monitoring, reporting and verification of energy savings; (iii) to engage local financial institutions in the deployment of the new financial, non-financial, and risk mitigation products; (iv) to identify and engage firms and technology providers to support the demand for financing through the development of technically-robust, bankable projects; and (v) to undertake capacity building efforts for key market stakeholders as needed.<sup>1</sup>

## Key outcomes and lessons learned

The ESI programme in El Salvadoran teaches the importance of tailoring programme elements for the national context, while incorporating international best practices. Existing templates and formats developed under ESI programmes in other countries are valuable resources that foster efficiency, but at the same time, it is crucial to seek feedback and input from key market stakeholders to ensure that the design of the ESI programme elements properly accounts for the local context. For instance, as in the case of El Salvador, insurance sector regulations can differ vastly from country to country and have a significant impact on how energy savings insurance products can be structured and positioned within the programme. Engaging sector experts as consultants and involving the national insurance regulators in the initial stages of the design process can help achieve optimal results.

Further, the programme struggled to sustain a sufficient level of demand for the credit line due to prioritisation of capacity building over marketing and information dissemination efforts (see

Implementation framework). While astute design of enabling tools and capacity building programmes tailored to the local context are critical to build market confidence, it is equally important to undertake marketing and communications efforts at every stage of the programme implementation to ensure that demand is consistent and robust. Comprehensive market assessment and research, targeted awareness campaigns, and dissemination of success stories are important components of a successful demand creation strategy. The importance of a holistic demand creation strategy is thus another key lesson learned from the Salvadoran experience.

# 4 Case Study: Mongolia

## Programme overview

The ESI programme in Mongolia is being implemented by XacBank, a Mongolian commercial bank, with support from BASE. XacBank received a USD 296,300 grant from the GCF in 2020 to implement the program by tailoring and developing the ESI model elements for the Mongolian context. This will complement an existing USD 60 million credit line, operated by XacBank and co-funded by GCF, known as the “Micro, Small, and Medium Enterprises (MSME) Business Loan Programme for Greenhouse Gas (GHG) Emissions Reduction”, which aims to promote the use of energy efficient and renewable energy solutions in the Mongolian MSME market. The credit line has been operational since 2017, providing access to over 240 MSMEs, and the ongoing development of the ESI programme is expected to reduce investment barriers and contribute to its success.

A timeline of twelve months was initially budgeted for developing the ESI programme elements using the GCF grant, but the onset of the COVID-19 pandemic and associated restrictions led to several delays. The ESI programme in Mongolia has now completed development stage activities and a pilot programme was launched in February 2023. An initial market assessment conducted by BASE estimated that the programme will mobilise a total of USD 36 million in energy efficiency investments and contribute to energy savings of 39 GWh and GHG emissions reductions of 234,206 tonnes of CO<sub>2</sub> equivalent within 5 years of its inception. **Error! Bookmark not defined.**

## Background and rationale

National energy consumption in Mongolia has been experiencing a rising trend over 2010-2018, and several energy efficiency and conservation policies have been enacted to mitigate this trend. The Energy Conservation Law of 2015 provided a legal framework to implement a policy aimed at improving the efficiency of energy use, creating a culture of energy conservation, and promoting the use of energy-efficient technologies<sup>2</sup>. The National Energy Conservation Programme for 2018–2022 was later enacted to accelerate the implementation of the Energy Conservation Law and to increase the competitiveness of industry as well as generate savings for small businesses and households<sup>3</sup>.

A 2016 energy audit of 15 large energy users in Mongolia demonstrated that the country has high potential for energy efficiency – power saving measures alone can conserve 260 million kWh worth USD 10.3 million (MNT 35 billion)<sup>4</sup>. Despite the high potential for energy efficiency projects to decrease energy costs of

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<sup>2</sup><https://www.eria.org/uploads/media/Research-Project-Report/2020-17-Mongolia-Energy-Efficiency/Mongolias-Energy-Efficiency-Indicators-2019.pdf>

<sup>3</sup> <https://policy.asiapacificenergy.org/node/3760>

<sup>4</sup><https://gggi.org/project/project-reference-profiles-mongoliamn04-promoting-energy-efficiency-and-esco-development-in-mongolia/>



businesses and increase production efficiency, there remain significant investment barriers such as limited awareness and priority, lack of trust in technology/providers, difficulty with access to finance.

The decision to implement an ESI programme in Mongolia was made by XacBank in 2019 in order to catalyse the energy efficiency and renewable energy market segment and boost lending to these projects under their MSME Business Loan Programme. The main beneficiaries of the ESI programme are thus expected to be XacBank's clients, notably SMEs with relatively large energy consumption which face significant investment barriers in developing energy efficiency or renewable energy projects. The ESI programme was conceived as a strategy to make these types of investment opportunities a priority for businesses, to build trust and credibility among key actors, and to improve the risk-return trade-off perception.

XacBank is uniquely suited to launch this programme and demonstrate the ESI model in Mongolia, being the only Mongolian bank with a green lending business. It plays a pioneering role in bringing international finance for energy efficiency in Mongolia and setting up demonstration projects that reduce the risk perception of energy efficiency in the country. Eventually, as more commercial banks are attracted to the green finance sector (for instance, through the Mongolia Green Finance Corporation), the ESI programme is expected to expand and benefit more clients.

## Implementation framework

XacBank's Eco Banking Department is the lead implementing unit for the ESI programme in Mongolia, responsible for the overall coordination, oversight, monitoring, reporting, and management of the credit line and grant funding. The Ministry of Environment and Tourism (Environment and Climate Fund) of Mongolia provided approval for the grant application process, being a National Designated Authority of GCF. XacBank hired BASE to be its implementation partner and support the development of ESI mechanisms for the Mongolian context, drawing from its extensive experience with similar programmes in Europe and Latin America.

As a first step, BASE conducted the initial market assessment in 2017 to identify potential for the ESI model in Mongolia. This process led to the identification of several key market stakeholders that can potentially be involved in the ESI implementation framework. For validation and verification services, BASE identified two international companies, Societe Generale de Surveillance SA (SGS) and Bureau Veritas (BV), both of which are highly experienced and credible and have the necessary expertise and capacity to build a team in Mongolia. The provision of validation services is also open to local qualified companies. Tenger Insurance was identified as the most suitable insurance company to participate in the ESI pilot programme, given its position as one of the top 5 insurance companies in Mongolia with a good understanding of the energy efficiency market and a bilingual leadership team to facilitate international experience sharing. As the programme expands and the local insurance sector gains more experience with sustainable energy and surety policies, more companies will be brought within its fold.

The ESI programme in Mongolia will follow a "first mover" approach to create demand, based on trends identified in the initial market assessment. Interviews with several technology providers found that when one firm becomes a first mover and demonstrates the benefits of a project or product, others follow. BASE and XacBank thus aim to identify locally reputable first mover SMEs to engage in the pilot phase of the programme. These first movers will then become an important part of the promotion and communication activities of the programme. In addition, the programme is exploring the possibility of embedding the ESI elements directly within the XacBank credit line, such that any firms trying to access energy efficiency loans from this credit line will have the opportunity to benefit from reduced interest rates if they obtain an insurance policy through the ESI programme.<sup>2</sup> BASE is also promoting the use of the ESI model for public

procurement and is exploring with the Mongolian Energy Regulation Commission the possible integration of the ESI model within the new public procurement procedure that is being implemented by the Ministry of Finance for energy efficiency improvements in public buildings.

## Enabling tools

Some ESI mechanisms, such as the standard energy performance contract and the validation and verification protocols and methodologies, can be developed straightforwardly by adapting existing international templates and best practices. This was done by engaging legal consultants with relevant experience to build on the existing templates and adapt these mechanisms to the Mongolian laws and regulations, local language, and in accordance with the requirements of the bank and the insurance company. The validation body, URECA has adapted validation methodologies applied in Europe and will test them during the pilot test stage of the Mongolia ESI model implementation. In some countries, the local validation entity may decide to develop their own methodologies, while in others as in the case of Mongolia, it was considered more practical to adapt existing methodologies. BASE was also closely involved in the adaption process to ensure the quality of outcomes and the correct integration of enabling tools with the risk coverage product. This significantly reduces the time and resource intensiveness of the ESI programme.

It was recommended by BASE that all paperwork and formalities (such as proposals, formats, validation processes, reporting and authorisations) and information sharing (among clients, technology providers, the insurance provider, and the bank) be carried out through an online management information system (MIS). The MIS can also be used to generate periodical impact reports and track energy savings and CO<sub>2</sub> reductions achieved by the programme. The GCF grant component will be used to hire a web programmer to develop an MIS, which will greatly improve the efficiency and reliability of project information management. In Mongolia, both the project validation services and the development of the online platform were done by URECA.

While designing the risk coverage product, the programme had the option of structuring it either as a surety product or a bank guarantee, depending on the costs, risks, market acceptance, and suitability for the programme. Usually, a third-party surety policy is considered more effective as a confidence-building tool and is widely used in other country programmes, but the local insurance industry in Mongolia lacks experience with this type of product and would need to be trained accordingly. Ongoing consultations with the Financial Regulatory Commission of Mongolia will help decide the appropriate structure for such a product. BASE will then work closely with the insurance provider and underwriter to understand risks, define the relevant due diligence criteria, and establish a premium rate to be charged to the technology provider. The objective is to keep the premium costs low and calculated as a percentage of the insured amount. While the insurance product developed under this programme will cater to XacBank's clients at first, other banks entering the green financing industry will also be able to partner with Tenger Insurance for the same purpose.

## Financing model

In June 2017, XacBank received a USD 20 million concessional loan from GCF to implement the MSME Business Loan Program for GHG Emissions Reduction in Mongolia to promote the use of energy efficient and renewable energy solutions in the Mongolian MSME market. This enabled XacBank to create a USD 60 million concessional credit line by blending its own resources and to provide financing to MSMEs at more favourable terms.<sup>3</sup> This credit line will be the main financing mechanism for the ESI programme currently being developed in Mongolia. While in principle there is no operative limitations on the project

value, in order to keep transaction costs reasonable (ideally not exceeding 3-4% of the project value) in relation to the investment cost, a practical minimum project cost of about USD 20,000 is considered reasonable as projects below this size will not consider the extra cost necessary to implement the insurance. **Error! Bookmark not defined.**

Later in 2020, XacBank received a grant of USD 296,300 from GCF to develop the various non-financial mechanisms within the ESI model for the Mongolian context. This grant was used to engage local and international consultants with relevant experience and expertise (including BASE) to develop a standard energy performance contract, insurance policy, an online MIS, and the formats, protocols and methodologies for validation, verification, monitoring, and reporting within the ESI programme. It was also used to define the financing strategy, including the financing criteria, evaluation process, due diligence protocols, internal flow of information, and the integration of ESI mechanisms in the credit assessment process. Finally, the grant will finance activities such as the training and capacity building of bank officials and other stakeholders as needed, and the development and implementation of a marketing and promotions strategy, particularly to reach clients in rural or isolated areas where XacBank does not have a strong presence.

### Key outcomes and lessons learned

The ESI programme in Mongolia is still at a relatively nascent stage, but there are several takeaways from the experience so far. This programme is unprecedented in that it is being implemented by a private bank rather than a national development bank and demonstrates the conditions and procedure for such an approach to work. It also uses innovative strategies to create and sustain demand for the programme, such as by potentially embedding the insurance product and other enabling tools as a requirement to access the credit line at more favourable rates, and by targeting and engaging first mover SMEs. Above all, the experience of developing ESI mechanisms in Mongolia teaches that understanding and tailoring to the local context is of utmost importance. The majority of the current efforts in Mongolia are focused on contextualising the programme elements to the local regulatory and commercial context to ensure the success of the newly-launched pilot programme. A key outcome so far is the importance of establishing alliances with reputable technology providers that can see the ESI model as a value added service for their clients and having the backing of a bank with recognised prestige such as XacBank also facilitates access to financing.

# 5 Summary and lessons learned

## Summary and comparison

Each of the three case studies described in the preceding sections provides interesting insights into the rationale and implementation design of ESI programmes in different country contexts. The key facts across case studies are summarised and compared in Table 5.1.

**Colombia** was among the first few countries to adopt the ESI model in 2016 and provide a proof of concept for other countries to replicate. The country faced several challenges in ESI implementation, including poor demand for energy efficiency products and services, and a lack of precedent or best practices from other markets on which to build programme elements. IDB and the Colombian national development bank, Bancóldex, thus had to use innovative, targeted, and partnerships-based approaches to attract demand for the programme and to identify and adapt existing contracts, insurance products, and validation methodologies available in the market to reduce the resource- and time-intensiveness of ESI preparation. The programme thus also contributed internationally by providing templates for developing ESI enabling tools that were then adapted by other countries to their respective contexts. Along with the concessional credit line and additional incentives, the programme successfully created a self-sustaining market for insurance-backed energy efficiency services in the country.

**El Salvador** started designing its ESI programme in 2016 (with implementation from 2018) building on the lessons learned from Colombia and Mexico, where the programme preparation had already yielded early insights and templates for enabling tools. It also benefited from the involvement of IDB and ICONTEC, which had gained experience designing and implementing ESI programmes in other contexts. However, the country struggled to align with local insurance regulations, which stipulated the maximum coverage and duration of an insurance product according to the size and profile of the technology providers, thus limiting its efficacy as a confidence-building tool. In addition, insurance companies also faced a shortage of demand for their policies due to limited marketing and information dissemination efforts under the ESI programme which eventually led some insurance companies to leave the programme.

**Mongolia's** ESI programme is the most nascent and yet to yield results, as its design started in 2020 and the pilot was launched only in February 2023. It is one of the first ESI programmes to be launched by a private bank rather than a national development bank, and the pilot design is fairly open in that it does not target any particular sector. Initially, the programme will serve Xacbank clients through the MSME Business Loan Programme, with the intention of expanding it to all types of clients once the product is well established. The programme incorporates innovative approaches, such as setting up an online management information system to foster efficiency in administrative processing, creating demand by embedding the insurance product as a requirement for firms to access the credit line, and targeting influential firms to become first movers. However, the design of the insurance product itself will have to be tailored to the Mongolian context, along with sufficient training and capacity building efforts, as the country has little experience with surety insurance policies.

Table 5.1. Summary and comparison of case studies

	Colombia	El Salvador	Mongolia
<b>Implementation dates</b>	2016-2022	2019-2022	2020-ongoing
<b>Total project value in USD (loan + grant)</b>	49 million* (48 million + 1 million)	41.7 million* (40 million + 1.7 million)	60.3 million (60 million + 0.29 million)
<b>Funders</b>	CTF, DEA, IDB	GCF, IDB, BANDESAL	GCF, Xacbank
<b>Sectors covered</b>	SMEs in hospitality, healthcare, manufacturing, commercial, services sectors and SMEs from all sectors	SMEs in all economic sectors	MSMEs in all economic sectors
<b>Technologies covered</b>	LED lighting, boilers, HVAC systems, cogeneration units, solar thermal, motors, ovens, air compressors, cooling systems, motorcycle and cab fleets, biogas, and solar PV	Replacement of energy-intensive motors, air conditioners, refrigerators, and boilers	LED lighting, boilers, HVAC systems, cogeneration units, solar thermal, motors, air compressors, cooling systems and solar PV are the “ready to use” methodologies that have been prepared for the pilot phase in Mongolia. Depending on future demand the list of technologies covered may expand.
<b>Targets/outcomes</b>	262 energy savings insurance policies issued; USD 29.8 million mobilized; 6,273 tonne/year CO2 avoided	Aimed to insure 100 firms; save 36.5 GWh of energy; avoid 562,037 tonnes of CO2 equivalent over 15 years	Expects to mobilise USD 36 million; save 39 GWh of energy; reduce GHG emissions of 234,206 tonnes of CO2 equivalent within 5 years
<b>Motivation for ESI</b>	To address the trust barrier and to boost the market for energy efficiency in Colombia	To create an enabling environment for efficiency investments, improve access to financing at adequate terms for SMEs, and to develop a pipeline of bankable projects	To catalyse the energy efficiency and renewable energy market segment and boost lending to these projects under Xacbank’s MSME Business Loan Programme
<b>Lead implementing agency</b>	Bancóldex	BANDESAL	Xacbank
<b>Other implementing agencies</b>	SURA, ICONTEC, Bancolombia, Davivienda, BBVA, Banco de Bogotá, Swiss RE	AENOR, ASESUISA, ICONTEC, Banco Azul, BANCOVI, Banco Hipotecario, Banco Industrial, Integral, Creditcomer, Acacypac, G&T, Atlantidad, Pribansta, and PENTAGONO	Tenger Insurance, URECA
<b>Government agencies involved in approvals and consultation</b>	Ministry of Finance and the National Planning Department	Vice Ministry of Development Cooperation	Ministry of Environment and Tourism (Environment and Climate Fund)

Note: Project values for Colombia and El Salvador include credit lines for all energy efficiency projects, not only ESI projects. Targets outlined are for the full energy efficiency programmes and not exclusive to just ESI project.

Source: Author’s compilation.

An assessment of the strengths, weaknesses, opportunities, and threats (SWOT) in each of the country cases is provided in Table 5.2.

The three cases share certain similarities. For instance, El Salvador and Mongolia both benefited from the availability of templates developed by predecessors like Colombia, thus improving the efficiency of their ESI programme design. Colombia itself took an adaptive approach to develop those templates based on existing products and methodologies in the market with adaptations to make them suitable for the energy performance context. Further, all three countries incorporated concessionality into their ESI credit lines, thanks to the concessional financing and non-reimbursable grants extended by international donor organisations. This enabled them to offer preferential terms to SMEs at suitably long payback periods than available in the commercial market. Finally, additional incentives like training and capacity building programmes helped attract participation for the respective ESI programmes.

On the other hand, the three cases also faced different challenges and took different approaches in some respects. For example, local regulations governing the insurance sector were unique in the three markets. While it was suitable to structure the energy savings insurance product as a surety policy in Colombia, the same approach in El Salvador resulted in challenges around the maximum allowable coverage and duration on such policies depending on the technology providers' risk profiles. In Mongolia, the surety insurance market is inexperienced and thus requires great emphasis on capacity building. Further, the three countries adopted different approaches to their demand creation strategies. Colombia took a targeted approach that relied on cross-organisational partnerships arranged by IDB, identifying specific clients and directly marketing the ESI programme to them. El Salvador took a similar approach, working with business and industry associations to identify and engage specific firms to utilise the ESI-linked credit line. Mongolia too aims to create demand by targeting some influential first mover firms, but it also incorporates an innovative element by attempting to embed the energy savings insurance policy as a requirement to access the Xacbank credit line.

**Table 5.2. SWOT analysis of case studies**

	Colombia	El Salvador	Mongolia
<b>Strengths</b>	<ul style="list-style-type: none"> <li>Strong strategic partnerships among organisations helped create demand for ESI</li> <li>Existing contracts and methodologies were adapted to efficiently develop enabling tools</li> </ul>	<ul style="list-style-type: none"> <li>Emphasis on training of ESI participants built market capacity</li> <li>Worked with existing capacity building initiatives to boost synergies</li> </ul>	<ul style="list-style-type: none"> <li>The online MIS will make administrative processes more efficient</li> <li>Active involvement of XacBank and Tender Insurance via their salesforce has played an important role in creating this market</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>The lack of a precedent and best practices led to prolonged programme development stage</li> </ul>	<ul style="list-style-type: none"> <li>The customer base was too low due to insufficient marketing and dissemination</li> </ul>	<ul style="list-style-type: none"> <li>COVID-19 led to significant delays in programme implementation</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>Low claims rate allowed the local insurance industry to gain confidence and offer the ESI product independently</li> </ul>	<ul style="list-style-type: none"> <li>Existing templates and methodologies from international experience could be adapted to save time and resources</li> </ul>	<ul style="list-style-type: none"> <li>Xacbank's existing credit line can potentially embed ESI as a prerequisite to boost demand</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>Local insurance regulations restricted the coverage and duration of the ESI product</li> <li>Insufficient demand led to some trained insurance companies leaving the ESI programme</li> </ul>	<ul style="list-style-type: none"> <li>Local insurance market lacks experience structuring and offering surety bonds</li> </ul>

Source: Author's compilation.

## Lessons learned

Outcomes emerging from the three case studies provide the valuable lessons for any country that wishes to develop its own ESI programme, summarised in the following list. While this list is not comprehensive and could be further developed by analysing experiences from other countries (such as Chile, Mexico, etc.), it provides a good starting point while designing an ESI programme for a new country context.

1. All three case studies highlight the benefits of building on existing tools, templates, and methodologies to develop ESI programme elements in a time- and resource-efficient manner. This approach ensures that development stage activities are completed within the planned timeframe and budget. Templates and methodologies for standard performance contracts, project investment analysis, validation and

verification, and other steps in ESI programme design are now available in the ESI Toolkit for countries to replicate and adapt as required (Magallón, Kern and Gampp, 2016<sup>[3]</sup>).

2. The cases also highlight the importance of properly accounting for the local market and regulatory environments when designing the ESI programme. The availability of standard templates from other country experiences provides new ESI implementing countries a more advanced starting point, but they still need to conduct extensive market research and stakeholder consultations to understand the specific challenges in that country context and adapt programme elements accordingly. For instance, local insurance regulations especially tend to vary significantly across countries, and it is important to consult national regulatory bodies and seek their inputs while designing the energy savings insurance product.
3. Each country case shows the importance of developing a unique and holistic demand creation strategy based on deep local market understanding. There can be several approaches to demand creation, such as marketing and information dissemination campaigns, targeting specific clients based on market research, or establishing energy savings insurance as a pre-requisite for accessing concessional credit lines. Choosing the most effective combination of approaches entails undertaking a detailed market assessment, including consultations with key stakeholders, to understand the specific barriers to demand and identify the right solutions.
4. Finally, the role of training and capacity building efforts was also highlighted as a crucial success factor of ESI programmes. Technology providers may require training on marketing their products, technical validation entities may require training on certifying energy efficiency projects, insurance providers may require training on structuring an energy savings insurance product, and local financial institutions may require training on evaluating energy efficiency project proposals. Specific training needs can be understood through a comprehensive market assessment and stakeholder consultation process, and training materials and programmes can be designed accordingly.

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