Green microfinance for Low-Energy Consumption Houses: understanding the loan model.

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LEC HOUSING PROGRAM

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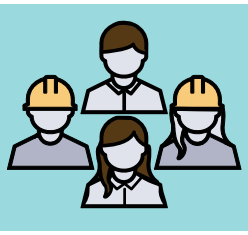
PURPOSE OF THE HANDBOOK

This handbook outlines the financial support mechanisms underpinning the Low-Energy Consumption Houses (LECH) delivery model. It captures each stage of the process, from household counselling to final audit and loan disbursement, to preserve key knowledge and good practice, and to support replication in Tajikistan and other contexts.

It also highlights **the key features of this financing mechanism**, providing guidance for Micro-Finance Institutions (MFIs), NGOs, and government agencies seeking to develop and implement financing solutions for energy-efficient housing.

TARGET AUDIENCE



This manual is designed for:

- **Micro-Finance Institutions** supporting housing loans.
- **NGOs and government agencies** implementing energy-efficiency housing programmes.

1. OVERVIEW OF THE LEC HOUSE PROJECT AND ITS ACHIEVEMENTS

The LECH initiatives, implemented in Tajikistan since 2015, addresses two interconnected challenges: **climate change** and **energy inefficiency** in the housing sector.

Poorly insulated, coal-dependent houses contribute to **20% of Tajikistan Green House Gas (GHG) emissions.**

Low energy-efficiency in residential buildings results in:

- High energy costs for households.
- Increased reliance on firewood and coal for heating.
- Accelerated deforestation and air pollution with detrimental effects on people's health.

This creates a cycle of environmental degradation, rising emissions and a high economic burden on Tajik families.

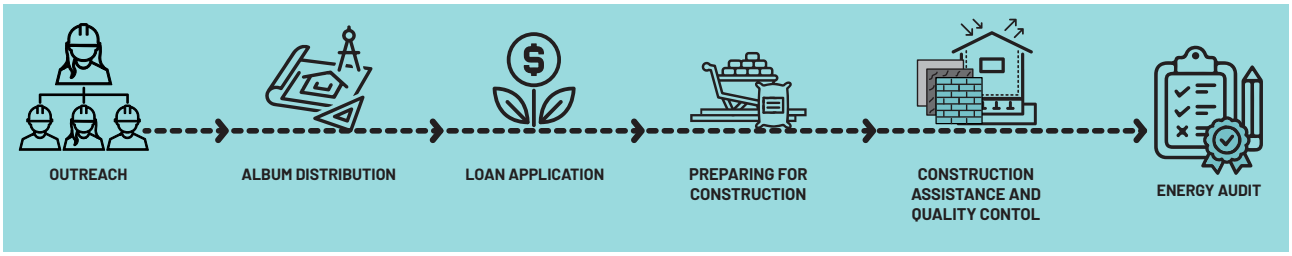
The LECH delivery model, developed by Geres, the Scientific Research Institute for Construction and Architecture (SRICA), the Tajikistan Construction and Design Authority (TDCA)[1] Loihakash and Micro-Finance Institutions (MFIs)[2], has led to the construction of **1,540+ energy-efficient homes** in the last eight years, offering **affordable, sustainable and comfortable housing.**

1: Within the framework of the LECH program, several Construction and Design Authorities participated, the main one being the State Unitary Enterprise "Loihakash."
2: Within the framework of the LECH program, the following financial institutions participated: CJSC Bank "Arvand," CJSC "Investment Credit Bank of Tajikistan," and CJSC MDO "IMON International."

The LEC House Delivery Model

The LECH delivery model includes households counselling, technical design, access to green loans and construction supervision to support the construction of energy-efficient detached houses.

LEC House Delivery Model



Three levels of energy efficiency

A range of energy efficiency options ensures that **every household can choose a solution adapted to its financial capacity and preferences.**

MINIMUM ENERGY EFFICIENCY

- **+1.2%** upfront construction cost (paid back in 4 years)
- **20%** fuel savings per year
- **$ 2,300** saved over the lifetime of the LECH

AVERAGE ENERGY EFFICIENCY

- **+1.8%** upfront construction cost (paid back in 4 years)
- **30%** fuel savings per year
- **$ 3,600** saved over the lifetime of the LECH

MAXIMUM ENERGY EFFICIENCY

- **+4.7%** upfront construction cost (paid back in 5 years)
- **60%** fuel savings per year
- **$ 6,900** saved over the lifetime of the LECH

The Stakeholders

The LEC House delivery model relies on coordinated interactions between the main implementing partners: **Geres, TDCA Loihakash, SRICA and MFIs.** Local governments and local builders can also be involved during the process.

Stakeholders Roles and Responsibilities

Stakeholder	Role in LEC House project	Key responsibilities
Geres	International NGO, project coordinator	• Launches initiatives • Secures funding • Provides financial incentives to households.
TDCA (Loihakash)	State architectural firm, main implementing partner	• Promotes LEC Houses to households. • Designs blueprints. • Supervises construction and ensures compliance with LEC House standards.
SRICA	Government research institute, sets building standards	• Validates LEC House models / designs. • Certifies trained craftsmen and craftswomen.
MFIs	Provide financial services to low-income households (e.g. small loans, insurances, money transfer, etc.)	• Promote LEC Houses to households. • Offer green loans with performance-based bonus.
Local governments	Maintain land and construction permit records, support awareness raising efforts	• Organize information sessions with landowners/households.
Local builders	Skilled workers trained in LEC House construction.	• Build and / or renovate houses using energy-efficiency techniques.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MFI'S
TDCA LOIHAKASH
Informations Fundraising
Incentives
Information & Green loans
Information, LEC House album & Technical guidance
Construction assessment, cost estimation & monitoring
HOUSEHOLDS
Norms, standards and trainings on Energy Efficiency
Construction Support
Technical audit & certification
LOCAL BUILDERS
SRICA

Microfinance in the LECH project

Tajikistan has a relatively small banking sector, and its financial institutions struggle with high levels of non-performing loans. Many households are unable to meet banking requirements, particularly in terms of income and collateral, and are therefore excluded from accessing traditional financial services. Microfinance institutions play a key role in filling this gap.

Thanks to the LECH initiative, MFIs offer housing loans specifically tailored to low-income households who wish to renovate or build their homes, with several enabling conditions:

- Flexibility regarding land tenure
- Little or no collateral required
- The option to build incrementally, using a series of small, successive loans

Within the LECH project, several MFIs partner to improve households' access to financing. Although interest rates vary slightly between institutions, the overall financial mechanism remains similar.

Rapid growth in housing Demand: an opportunity for green finance

Demand for housing in Tajikistan has increased significantly over the past decade and is expected to continue rising sharply in the coming years. **By 2040, the country will require at least 500,000 new homes**, reflecting strong and sustained demand for housing. This trend is also illustrated by a roughly 20% increase in applications for residential land plots over the last five years.

Several demographic and social factors are driving this growth. There is a gradual shift from extended family living arrangements toward smaller, nuclear households, increasing the need for separate housing units. At the same time, migrant remittances are frequently invested in housing construction, further fueling demand. Despite this, **a substantial gap remains on the supply side.** Since 2013, around 12,300 land plots have been allocated for housing construction, yet only 22% have been completed, while the majority, about 71%, have not yet begun construction. This combination of strong demand and limited housing supply creates **a significant opportunity for MFIs to promote and finance LECH solutions.**

2. THE LECH GREEN LOAN MODEL: STRUCTURE AND FUNCTIONING

The LECH green loan model follows **a structured three steps process:**

- Client awareness and information
- Eligibility assessment and loan application
- Loan disbursement, repayment and bonus

Each step will be reviewed in detail, highlighting some of the key features of the financial offer.

CLIENT AWARENESS AND INFORMATION

When households approach MFIs for housing loans, loan officers introduce LEC house models as a preferred option, with the following advantages:

- **Affordable investment:** LEC houses require only a limited additional upfront payment compared to conventional construction, making them accessible to low and middle-income households.
- **Lower energy costs:** Improved insulation and design significantly reduce energy consumption, resulting in lower heating and electricity expenses over time.
- **Flexible construction approach:** Clients can build incrementally, aligning construction stages with loan disbursements and repayment capacity.

- **Ongoing technical support:** Households benefit from technical assistance throughout the design and construction process, helping ensure quality and compliance with energy-efficiency standards.
- **Incentive mechanisms to improve affordability:**
    - 50% discount on the house blueprint design costs
    - Access to dedicated green loans, with interest rates reduced by up to 50%

If the household expresses interest in an LEC house model, the loan officer refers them to the TDCA office for the development of the house blueprint and further technical guidance.

How to raise customers' awareness and support housing finance demand: the importance of training and education material

Loan Officers Trainings

Training of loan officers is essential to effectively communicate the benefits of energy-efficient housing to households. This is particularly important because the higher upfront costs can discourage potential borrowers. Loan officers need to clearly explain how these initial investments translate into long-term savings, not only through reduced energy expenses over the lifetime of the house but also through improved health outcomes and lower healthcare costs.

The training program should include comprehensive content on energy-efficiency methods, appropriate construction techniques, and the associated benefits in both the short and long term. This ensures that loan officers are well-equipped with the technical knowledge required to **build credibility and guide clients towards energy-efficiency.**

In addition, loan officers should be trained on how to engage with clients who have low levels of financial literacy. They must be able to explain housing loan concepts in simple, accessible terms, including eligibility criteria, disbursement processes, available incentives and bonus mechanisms, and options such as incremental construction. **Strengthening these communication skills will help clients better understand and trust the financing process, ultimately improving the uptake of green loans.** All loan officers involved in the LECH project receive this training.

Promotional and Educational Material

Educational materials that explain the link between housing and energy efficiency are **essential to support households in making informed choices.** The additional upfront cost of energy-efficient construction or renovation is often a major barrier, as many households do not fully understand the benefits, particularly the savings on energy

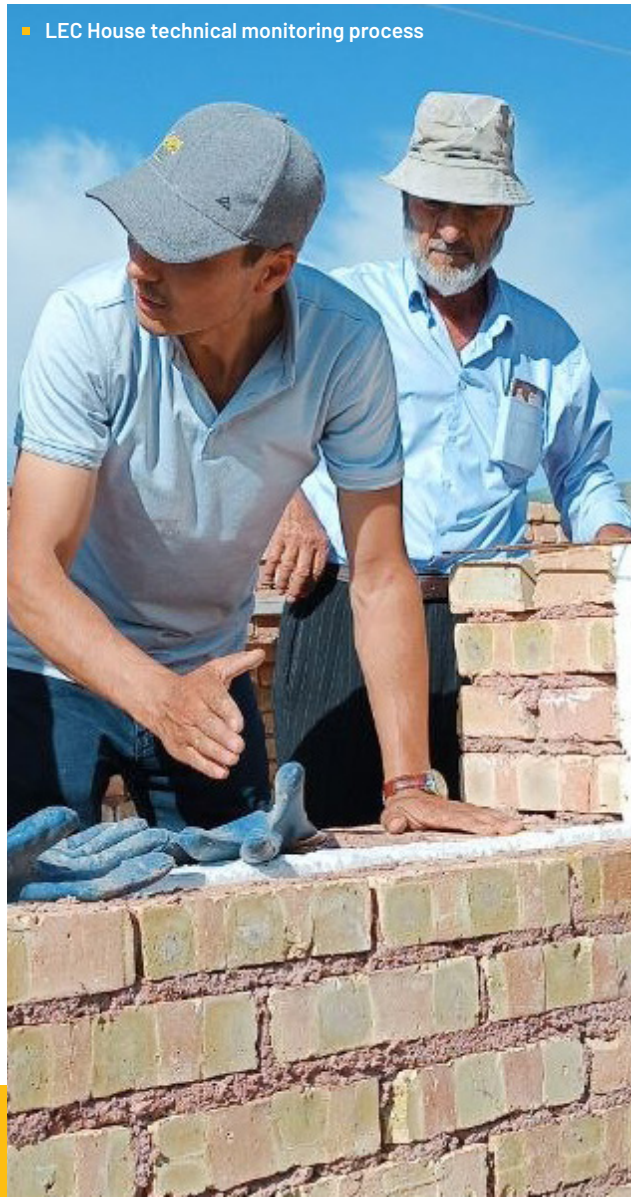
LEC House visit event

The added value of non-financial assistance

List of quality material and trained providers

One practical form of non-financial support that MFIs can offer is the **provision of a list of certified local builders, along with reliable suppliers of quality energy-efficient construction materials.** This type of guidance helps clients make informed choices, improves construction quality, and supports compliance with energy-efficiency requirements linked to housing loans. Such lists have been developed by Geres across several projects in Central Asia. However, maintaining their relevance requires regular updates, particularly for construction materials, as prices, availability, and product standards can change frequently.

LEC House technical monitoring process



The provision of technical assistance during construction

Linking housing microfinance products with non-financial housing support services adds significant value. It does not only help MFIs expand their housing loan portfolios but also generates positive social impacts within communities. These services strengthen the overall offering by supporting clients beyond financing, improving both the quality and outcomes of housing investments.

In the LECH project, technical assistance is provided to households throughout the construction process. This support ensures that energy-efficiency standards are met while also building the capacity of self-builders and local craftsmen and women. The assistance is delivered through five site visits at key stages of construction, including foundation layout, post-foundation inspection, wall and roof construction, installation of windows and doors, and floor insulation. This approach combines quality control with practical, hands-on learning.

For MFIs, this technical assistance service strengthens client support and ensures that energy-efficiency requirements tied to the loan are properly implemented. **For households, the benefits are equally important:** technical support can reduce construction time and costs, introduce new building techniques, and increase confidence that expected improvements in comfort and energy savings will be achieved.

Providing such services comes with costs, including staff time, travel, and overhead. On the LECH project, the estimated cost per house is 1,432 TJS (approximately 113 EUR). Payments are made incrementally, aligned with the progress of construction, and are only disbursed if TDCA engineers are engaged in providing technical assistance. **Technical assistance costs can be structured in different ways.** They may be charged directly to clients as **a separate fee for a standardized service package,** although this can be perceived as an additional burden, particularly for more vulnerable households. Alternatively, the cost can be **incorporated into**

LEC House finishing work

the loan's interest rate, positioning the service as an integral part of the product. While this can help differentiate the loan offering, it may result in a higher apparent interest rate compared to competitors. In all cases, it is essential that these services are clearly explained to clients, including what they cover and the benefits they bring, to ensure transparency and acceptance. Another option is to subsidize the cost of technical assistance. **In the LECH project, this support is funded by Geres,** allowing households, and particularly lower-income ones, to access these services without additional financial pressure. Such an approach can improve inclusivity and uptake.

From a human resources perspective, MFIs may choose different models to deliver technical assistance. Some may eventually develop in-house expertise by hiring construction specialists, although this is usually only viable once demand for energy-efficient housing loans has reached a sufficient scale. In the early stages, partnering with external engineers or organizations is often more practical. For example, **in the LECH project, engineers from TDCA support construction monitoring.** Another approach is to work with a pool of trained local builders who can be contracted as needed. This flexible model can be particularly effective during the initial rollout of energy-efficiency housing products.

ELIGIBILITY ASSESSMENT AND LOAN APPLICATION

Once households opt for a green loan, **the loan officer assess eligibility.** The following information and documents are required:

- Proof of land ownership
- Approved LECH house design (if available)
- Assessment of financial capacity, including income from remittances where applicable

Once the required documents are submitted, **a site visit is conducted for all applicants.**

- For households using an approved LECH design, eligibility is confirmed following the site visit.
- For households presenting their own house plans or renovation proposals, a technical assessment is carried out by Geres. Based on this assessment, a Certificate of Eligibility is issued and submitted to the MFI to support the loan approval process.

Housing loans tailored to low-income households

Low-income households face several key challenges when trying to access housing finance, particularly in relation to **land tenure, income verification, and collaterals.**

In many countries, land titles are either nonexistent or unclear, which poses a significant barrier to obtaining housing loans. As a result, many microfinance institutions (MFIs) operating in the housing loan sector have adopted flexible approaches to address this issue. In regions where formal land titles are hard to obtain, MFIs often accept proxy documents—such as utility bills or other informal documents—that provide evidence of a household's long-term residence on the land. These documents help demonstrate that the household is not at risk of eviction once the house is constructed or renovated. In Tajikistan, where land titles can also be difficult to secure, most MFIs do not require a formal land title for housing loans. For example, **one of the LECH project's partnering MFIs relies on a site visit and photos taken by loan officers during the eligibility check,** which are sufficient to confirm the household's residence and eligibility for a loan.

However, the absence of land titles creates a collateral issue. Without a legal claim to the land, MFIs cannot use the property as collateral in case of loan default. Similarly, a house built or renovated on land without proof of ownership cannot be considered as collateral. Despite this, **the LECH project's partnering MFIs have opted not to require formal collateral,** instead accepting a list of items owned by the household as a proxy.

Another major challenge for low-income households is the difficulty in providing a proof of regular income, particularly for those working in the informal economy or in rural areas, where income often comes from agricultural production that cannot be easily quantified or documented. To address this, **the LECH project has made provisions to accept migrant remittances as part of the income verification process,** which has made a significant difference in improving access to loans for low-income households, especially for women-headed households.

These flexible approaches to land tenure, collateral, and income verification are crucial for improving the accessibility of housing finance to those who need it most, particularly in contexts where formal documentation is often lacking.

LOAN DISBURSEMENT, REPAYMENT AND BONUS

Once approved, the loan amount is disbursed to the household.

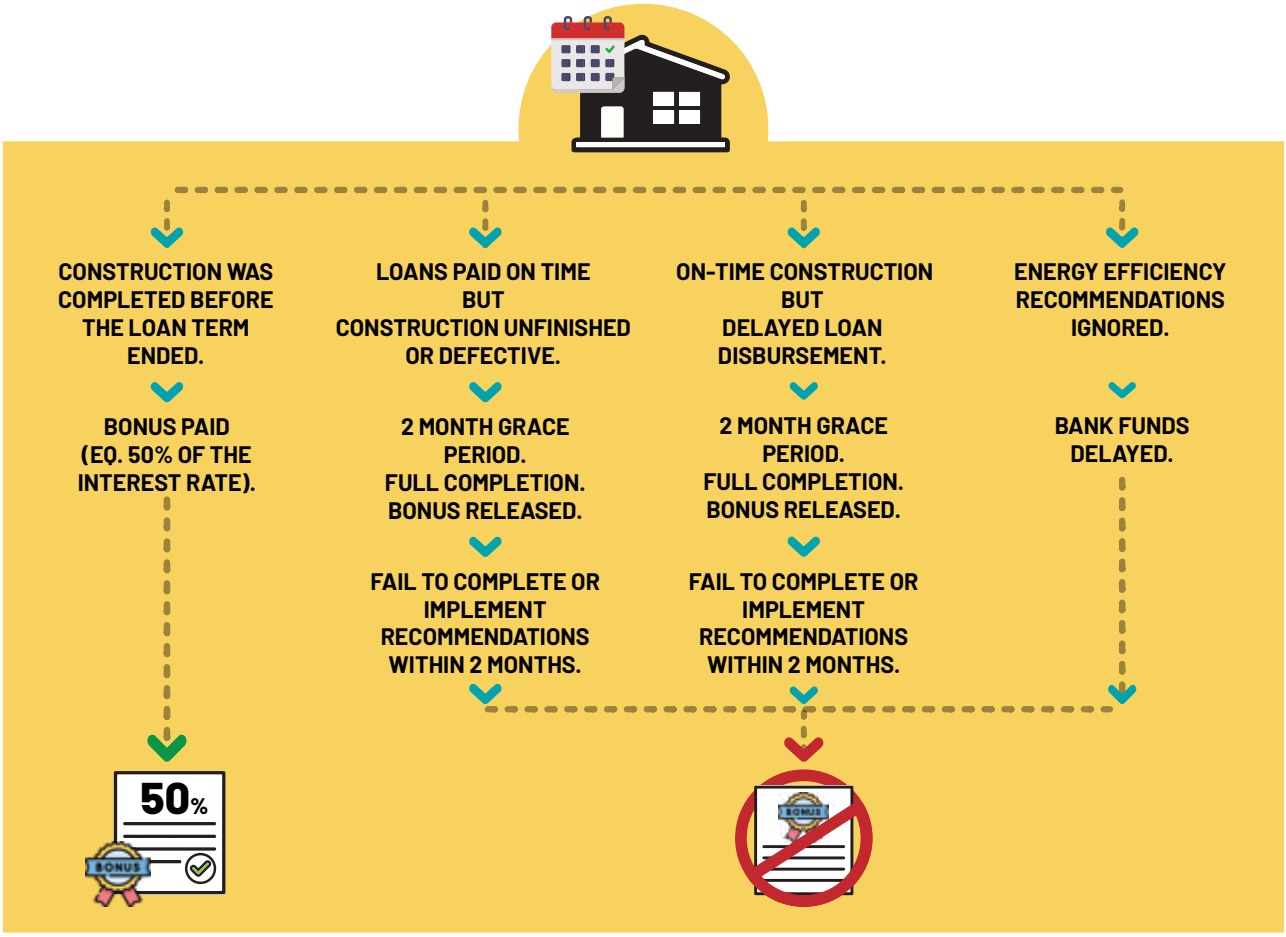
- The minimum loan amount is 5,000 TJS (~460 USD) and can go up to 100,000 TJS (~ 8,600 EUR) for renovation and 250,000 TJS (~ 21,500 EUR) for construction. Most households opt for incremental construction and therefore **the average loan disbursed on the LECH project is 33,000 TJS (~ 3,000 EUR).**

- The minimum loan term is 12 months, with an annual interest rate ranging from 26% for women-headed households to 33%. Repayments begin one month after disbursement, and each household is provided with a clear repayment schedule.

The eligibility for this financial incentive (bonus) offering a reduction of up to 50% on accrued interest is determined during an **energy-efficiency compliance audit** conducted by the MFI loan officer and construction specialist from TDCA-Loihakash and / or Geres.

Houses are classified as:

- **Fully compliant:** When all requirements are met, in which case the full bonus is disbursed.
- **Partially compliant:** When only some requirements are met, and a two-month correction period is granted for improvements.
- **Non-compliant:** When critical energy-efficiency requirements are unmet, and households that have taken a loan do not receive the bonus.



Incremental construction loans, a practical approach for low-income households

For low-income households, completing full house construction in a single phase is often financially unfeasible. As a result, incremental construction—building a house step by step over time—represents a more realistic and widely demanded approach. Experience from **the LECH project shows a strong demand for this phased construction model.** This trend is also consistent with findings from many organizations working in housing microfinance for vulnerable groups, where incremental building is a common and practical strategy for improving housing conditions. **When incremental construction is enabled through consecutive green loans, demand and loan uptake tend to increase significantly,** as households can align construction stages with their repayment capacity and income flows. The overall process for LECH-related green loans remains unchanged: households continue to benefit from technical assistance throughout the construction process, remain eligible for the same performance-based bonus mechanism, and are subject to the same final inspection once construction is completed.

3. ANNEXES

- Loan officers' training Power Point
- Memo for loan officers

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