Energy Efficiency Communities (EEC) Service Model

Development and Piloting of an Energy Efficiency Communities (EE-C) Service Model for Multi-Apartment Buildings

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Acronym	Full Name
BC&O	Behavior Change and Outreach
BoQ	Bill of Quantities
CO_2.	Carbon Dioxide
DHW	Domestic Hot Water
EE	Energy Efficiency
EEC	Energy Efficiency Community
EPB	Energy Performance of Buildings
EPC	Energy Performance Certificate
EHS	Environment, Health and Safety
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HOA	Homeowner Association
KEEF	Kosovo Energy Efficiency Fund
M&E	Monitoring and Evaluation
MVR	Monitoring, Verification, and Reporting
MoE	Ministry of Economy
MoU	Memorandum of Understanding
PHE	Public Housing Enterprise
PV	Photovoltaic
RE	Renewable Energy
ToR	Terms of Reference
U-value	Thermal Transmittance
WB	World Bank

1. Executive Summary

This report outlines the design of the Energy Efficiency Community (EEC) Service Model, developed to support the implementation of energy efficiency interventions in residential buildings in Kosovo. The model responds to key sector challenges related to energy consumption, building performance, and emissions reduction targets.

The residential building stock, particularly multi-apartment buildings constructed before 2000, is characterized by low energy performance, limited insulation, and outdated heating systems. Weak building-level management structures further constrain coordinated investment and maintenance, resulting in inefficient energy use and suboptimal living conditions.

Although Kosovo has established a legal and institutional framework for energy efficiency, implementation has mainly been carried out through individual, project-based interventions rather than through fully integrated and continuous service delivery systems. This approach has limited the potential for long-term coordination, scalability, and sustained impact of investments.

The EEC Service Model introduces an integrated approach that combines technical measures, financing arrangements, and stakeholder coordination within a single framework. It is designed to operate through existing municipal and housing structures and supports collective action at building level, alongside coordinated support at higher governance levels.

The model brings together key operational components, including structured stakeholder coordination, blended financing mechanisms, technical support services, and standardized procedures for implementation and oversight. It is designed to improve consistency in planning, execution, and monitoring of energy efficiency measures.

By embedding energy efficiency into routine housing management practices, the model aims to improve building performance and support more efficient resource use. It also promotes broader participation in the energy transition process.

Overall, the EEC Service Model provides a structured and replicable framework to support the scaling of energy efficiency interventions in the residential sector, with the aim of improving building performance and supporting more efficient use of energy resources.

The design and development of this EEC Service Model is carried out with the support of the “Energy transition and climate mitigation in Kosovo”

project, funded by the Grand Duchy of Luxembourg and impelmeted by LuxDev, the Luxemboug Development Cooperation Agency.

The “Energy transition and climate mitigation in Kosovo” project aims to contribute to a sustainable economic growth by supporting innovation, inclusiveness and social development in a greener Kosovo. The specific objective of the project is to promote and facilitate the adoption of energy efficiency and renewable energy sources, in Kosovo’s transition to clean energy. By supporting the adoption of energy efficiency practicies and renewable energy sources, the project aims to optimize energy consumption, reduce carbon emissions, and foster a sustainable and environmentally friendly energy sector.

1.1 Purpose of the EEC Service Model Design

The purpose of the Energy Efficiency Community (EEC) Service Model Design is to define a complete, operational, and financially sustainable service model for improving the energy performance of multi-apartment residential buildings through a community-based, municipality- led approach.

The document sets out how energy efficiency (EE) and energy performance of buildings (EPB) measures are integrated into municipal housing management structures, including Public Housing Enterprises (where they exist) or alternative municipal arrangements, with the active involvement of Homeowner Associations (HOAs) and residents.

The EEC Model Design specifies:

- technical intervention packages and minimum performance standards;
- institutional roles and governance arrangements for service delivery;
- the financial structure, including co-financing and cost recovery;
- procurement and contracting mechanisms for audits, designs, and works; and
- monitoring, verification, and reporting systems to ensure transparency and accountability.

Through this framework, the Design supports replication, scale-up, and institutionalization of the EEC service model beyond the pilot phase, contributing to sustained energy savings, improved living conditions, and inclusive benefits across Kosovo.

1.2 Main Benefits of the Energy Efficiency Community (EEC) Model

The Energy Efficiency Community (EEC) Model provides a practical and structured way for municipalities to improve energy performance in multi-apartment buildings through cooperation with residents. It moves away from one-time energy efficiency projects and introduces a long term service approach that can be managed and sustained at local level.

For residents and Homeowner Associations (HOAs), the model simplifies the process of building improvements by reducing technical and administrative complexity, lowering energy costs, improving comfort, and strengthening cooperation and shared responsibility.

For municipalities and Public Housing Enterprises, the EEC Model offers a clear and repeatable approach to planning, implementing, and monitoring energy efficiency measures within existing institutional structures, supporting transparent decision-making and long term maintenance of results.

For donors and financial institutions, the model provides a structured framework with clear procedures, shared responsibilities, and strong potential for replication across municipalities with different capacities.

Overall, the EEC Model positions energy efficiency as a long term public service, delivering lasting benefits for residents, municipalities, and the environment.

1.3 Implementation modalities (with and without a Public Housing Enterprise)

The EEC Service Model is designed to operate in municipalities with different institutional capacities, both where a Public Housing Enterprise (PHE) exists and where it does not.

In municipalities with a PHE, the enterprise serves as the main technical and operational focal point. It supports building selection, conducts or oversees energy audits and technical designs, coordinates procurement, and assists HOAs during implementation and monitoring. This arrangement enables inquiries from residents, HOAs, and service providers to be channelled through a single institution, ensuring efficiency and continuity.

In municipalities without a PHE, implementation is led by designated Municipal Directorates, such as the Directorate for Public Services or the Directorate for Urbanism, supported by external technical experts and where necessary, the Kosovo Energy Efficiency Fund (KEEF). In this context, coordination is more demanding due to the absence of a dedicated housing entity, requiring clearly defined roles, contact points, and additional support mechanisms.

Despite these differences, the EEC Service Model remains applicable across all municipalities, provided that responsibilities are clearly assigned and adequate technical and administrative support is ensured.

1.4 Summary of financing, governance and scalability

The EEC Service Model is based on a shared financing approach that combines contributions from national funding schemes, municipalities, housing institutions, and residents. Investments are co-financed through grants, municipal contributions, and homeowner participation, ensuring affordability while supporting long term sustainability.

In municipalities with a Public Housing Enterprise, resident contributions may be spread over time through service-based payment mechanisms, such as monthly energy efficiency service fees. In municipalities without a PHE, resident contributions are covered through direct co-financing and where needed, loans from partner financial institutions.

Governance relies on clearly defined roles among municipalities, Public Housing Enterprises (where applicable), KEEF, Homeowner Associations, and service providers. Transparent decision-making, coordinated implementation, and structured monitoring ensure accountability throughout the project lifecycle.

The EEC Model is designed to be scalable and replicable. Standardized procedures, flexible institutional arrangements, and lessons learned from the pilot phase enable municipalities with different capacities to adopt and expand the model under future local and national energy efficiency programs.

2. Introduction and purpose of the EEC Model Design

Multi-apartment buildings in Kosovo face low energy performance, aging infrastructure, and weak building-level management. Energy efficiency measures are often implemented as isolated projects and are not integrated into regular housing management, long term financing, or clear governance structures. As a result, achieved energy savings are difficult to sustain, and municipalities and residents lack a consistent approach for planning and implementing building-level interventions.

The Energy Efficiency Community (EEC) Model addresses these challenges by introducing a structured, community-based service approach that connects technical energy efficiency measures with institutional responsibility, financing arrangements, and active resident participation.

2.1 Background and concept development

The EEC Service Model builds on the analytical and conceptual work carried out during the inception phase, which defines the design rationale, objectives, scope and pilot approach. While the inception phase focused on exploring the EEC concept and its application context, the Model Design translates these findings into a clear and operational framework.

The EEC Model Design serves as the main implementation reference for municipalities, Public Housing Enterprises, and other implementing partners. It provides practical guidance on technical standards, institutional roles, financing and procurement arrangements, and monitoring requirements to support consistent and coordinated pilot implementation. It also provides a foundation for replication and scale-up under future municipal and national energy efficiency programs.

3. Policy, legal and institutional context

The Energy Efficiency Community (EEC) Model is developed within Kosovo's existing policy, legal, and institutional framework for energy efficiency and housing. It is designed to complement national strategies, strengthen municipal implementation capacities, and support the effective and coordinated use of public and donor funding to improve the energy performance of residential buildings.

3.1 National Energy Efficiency and energy performance in buildings framework

Kosovo has established a national framework that promotes energy efficiency and improved energy performance of buildings as a core element of its energy transition and climate objectives. This framework sets minimum energy performance requirements, promotes the use of energy audits, and supports investments in energy efficiency, with a strong focus on residential buildings and older multi-apartment housing.

The framework recognizes that many energy efficiency improvements require coordinated building-level action and cannot be achieved by individual households alone. It therefore emphasizes the role of municipalities and public institutions in supporting planning, implementation, and monitoring. The EEC Model responds to this approach by translating national policy objectives into practical, locally implemented actions, providing municipalities and housing institutions with a structured way to apply standards, coordinate investments, and track energy performance over time.

3.2 Municipal competencies

Municipalities in Kosovo hold key responsibilities related to housing management, urban planning, and public service delivery. These competencies place municipalities at the center of efforts to improve energy efficiency in multi-apartment buildings, including supporting homeowner organization, coordinating local processes, and overseeing implementation.

The EEC Model builds on these existing mandates by offering a clear framework through which municipalities can plan, implement, and monitor energy efficiency interventions, either through Public Housing Enterprises where they exist or through designated Municipal Directorates and coordination mechanisms.

3.3 Role of the Kosovo Energy Efficiency Fund (KEEF)

The Kosovo Energy Efficiency Fund (KEEF) plays a central role in financing and supporting energy efficiency investments nationwide. Within the EEC Model, KEEF acts as a strategic partner by providing grant support, technical guidance, and alignment with national energy efficiency programs.

KEEF's involvement ensures that EEC interventions comply with national technical standards, financing rules, and reporting requirements, while improving the affordability, consistency, and sustainability of energy efficiency investments in multi-apartment buildings.

3.4 Alignment with donor and program objectives

The EEC Model is closely aligned with the objectives of international donors and development programs supporting sustainable energy, climate mitigation, and inclusive urban development. By treating energy efficiency as a long term service rather than a one-off investment, the model supports donor priorities related to sustainability, institutional strengthening, and scalability.

Its emphasis on community engagement, social inclusion, and measurable energy savings helps ensure that donor-funded resources deliver lasting impact and provide a solid basis for replication beyond the pilot phase.

4. Overview of the EEC Service Model

4.1 Structure of the Energy Efficiency Community (EEC) Model

The Energy Efficiency Community (EEC) Service Model is designed as an integrated service framework that brings together technical energy efficiency measures, institutional coordination, financing, and community participation at building level. It shifts energy efficiency from isolated, one-time interventions to a coordinated and ongoing service.

Multi-apartment buildings and their residents are at the core of the model and are represented through Homeowner Associations (HOAs) or Resident Councils. Municipalities provide coordination and oversight, either through a Public Housing Enterprise (where it exists) or through designated Municipal Directorates supported by external technical expertise.

The EEC Model is built on standardized energy audits, clearly defined intervention packages, and minimum performance standards to ensure consistent implementation and cost efficiency.

Financing combines public funds, municipal contributions, and resident participation, with payment arrangements adapted to local institutional capacity.

Monitoring and performance tracking are integral to the model, supporting transparency, verification of energy savings, and informed decision-making. Together, these elements form a practical and scalable structure for improving energy performance in multi-apartment buildings.

4.2 Core components of the Energy Efficiency Community (EEC) Service Model

The Energy Efficiency Community (EEC) Service Model is built on four core and interlinked components: technical, financial, institutional, and social. Together, these components ensure that energy efficiency improvements in multi-apartment buildings are effective, affordable, and sustainable over time.

The technical component focuses on improving the energy performance of buildings through a whole-building approach. It includes energy audits, defined energy efficiency and renewable energy intervention packages, and clear technical standards to ensure quality and measurable energy savings. Technical measures are selected based on building-specific needs and aim to reduce energy consumption, improve comfort, and extend the lifespan of building infrastructure.

The financial component provides the structure needed to make investments affordable and sustainable. It combines public funding, municipal contributions, and resident co-financing, supported by service-based repayment mechanisms where a Public Housing Enterprise exists or by access to partner financial institutions in other municipalities. This component ensures transparency, cost recovery, and long term financial viability of the model.

The institutional component defines roles, responsibilities, and coordination mechanisms among municipalities, Public Housing Enterprises, the Kosovo Energy Efficiency Fund (KEEF), Homeowner Associations, and service providers. It ensures clear decision-making, accountability, and effective implementation under different municipal capacities.

The social component centers on community participation and behavior change. It supports the formation and strengthening of Homeowner Associations, promotes resident engagement, and encourages responsible energy use and maintenance practices. This component is essential for building trust, securing resident commitment, and ensuring that energy efficiency improvements are maintained over time.

Together, these four components form a coherent service model that allows the EEC to be implemented, managed, and scaled as a long term public service in municipalities across Kosovo.

Core Components Of The EEC Model

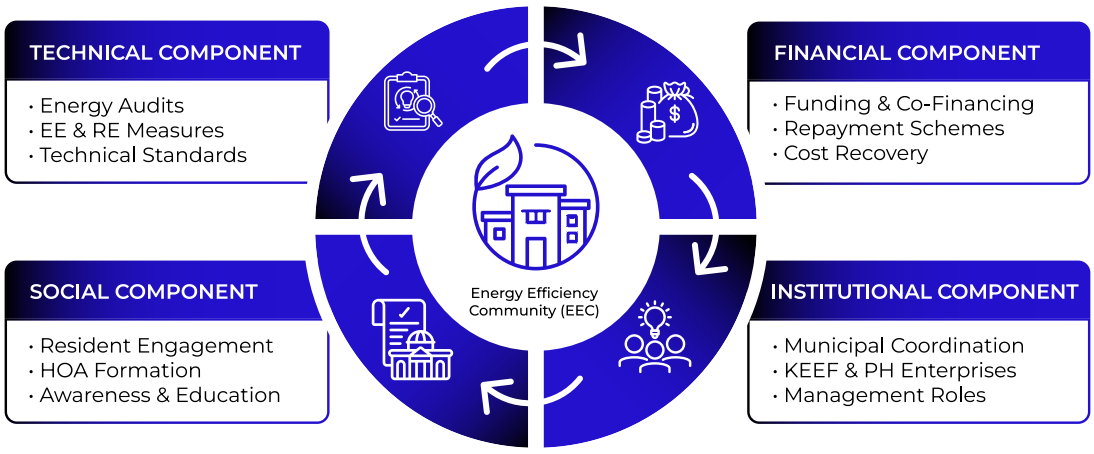


Figure 1: Core Components of the EEC Service Model

4.3 Operational flow of the EEC Model

The Energy Efficiency Community (EEC) Service Model operates as a clear service flow that links planning, financing, implementation, and long term operation into a continuous process. This approach ensures that energy efficiency improvements are delivered as an organized and repeatable service, rather than as isolated interventions.

The process begins with community interest and building identification. Homeowner Associations (HOAs) or Resident Councils express interest in participating, while municipalities or Public Housing Enterprises guide initial screening and eligibility checks. This step confirms that buildings have sufficient technical potential and resident commitment before moving forward. Selected buildings then enter the assessment and design phase, which includes energy audits, baseline data collection, and preparation of technical designs. This phase defines the scope of interventions, expected energy savings, and investment requirements, providing a clear technical and financial basis for decision-making.

The next stage focuses on financing and formal approvals. Funding sources are combined, resident contributions are confirmed, and municipal and KEEF support is secured. Depending on the institutional setup, contributions may be managed through service-based arrangements in municipalities with a PHE or through direct co-financing and external financing support in municipalities without a PHE. Formal approvals by HOAs and municipalities mark readiness for implementation.

Implementation includes procurement, construction works, and installation of energy efficiency and renewable energy measures. Municipalities, PHEs (where applicable), KEEF, and service providers coordinate to ensure compliance with technical standards, quality control, and timely delivery. Following completion, the model continues with monitoring, verification, and operation. Energy performance is tracked, savings are verified, and installed systems are maintained to ensure lasting results. Lessons learned from this phase inform improvements to the model and support replication in other buildings and municipalities.

Service Flow and Delivery Process

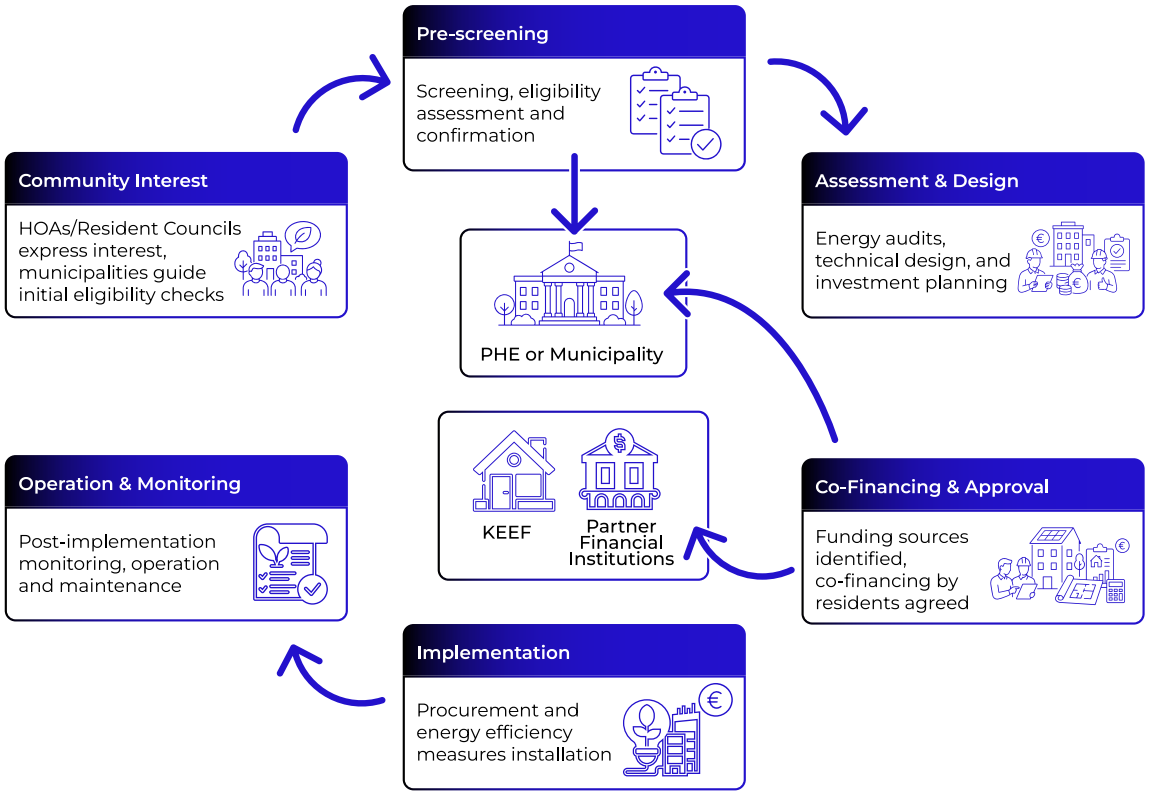


Figure 2: Operational, service and delivery flow

4.4 Positioning of Homeowner Associations, municipalities and Public Housing Enterprises

The Energy Efficiency Community (EEC) Model is based on a clear allocation of roles among Homeowner Associations (HOAs), municipalities, and Public Housing Enterprises (PHEs), ensuring coordinated action, shared responsibility, and efficient service delivery throughout the project lifecycle. The model is designed both as an operational framework and as a business-oriented implementation structure for the Public Housing Enterprise (PHE) in Prishtina, enabling structured and sustainable energy efficiency services at community level, while also ensuring replicability across other municipalities in Kosovo.

Given that Prishtina is currently the only municipality with an established PHE, the model adopts a phased and adaptive approach. In Prishtina, the PHE serves as the primary implementing entity responsible for technical and operational delivery. In municipalities where a PHE is not yet established, the model provides alternative implementation pathways in which

municipalities and HOAs assume strengthened roles, supported by external technical expertise where necessary. This ensures that the model remains feasible and adaptable to different local institutional contexts.

Homeowner Associations (HOAs) are central to the EEC Model as the formal representatives of residents at building level. They serve as the main entry point for participation, organize collective decision-making, and represent residents in interactions with municipalities, PHEs, KEEF, and service providers. HOAs are responsible for securing resident approval, coordinating contributions, facilitating access for audits and works, and supporting long term operation and maintenance. Their involvement ensures local ownership and sustained engagement.

Municipalities play a coordinating, enabling, and oversight role. They are responsible for launching public calls, guiding building selection, ensuring compliance with legal and technical requirements, and coordinating stakeholders at local level. Municipalities also monitor implementation and performance to ensure transparency and alignment with national energy efficiency objectives. In contexts without a PHE, Municipal Directorates assume a more direct operational role, including coordination of technical implementation, while relying on external experts or service providers for specialized support.

Public Housing Enterprises (PHEs), where they exist, function as the main technical and operational service providers. They carry out or oversee energy audits and technical designs, manage procurement and implementation processes, and act as a single contact point for residents, HOAs, and service providers. PHEs also support monitoring and, where applicable, manage service-based repayment mechanisms, enabling structured, efficient, and continuous delivery of energy efficiency services.

Together, HOAs, municipalities, and PHEs form a complementary partnership that ensures energy efficiency interventions are community-driven, institutionally supported, and operationally sound. The phased positioning of responsibilities centered on PHEs in Prishtina and adapted municipal-led or HOA-supported arrangements elsewhere provides a strong foundation for scalability, long term implementation, and replication of the EEC Model across Kosovo.

Positioning the HOAs, Municipalities and Public Housing Enterprises

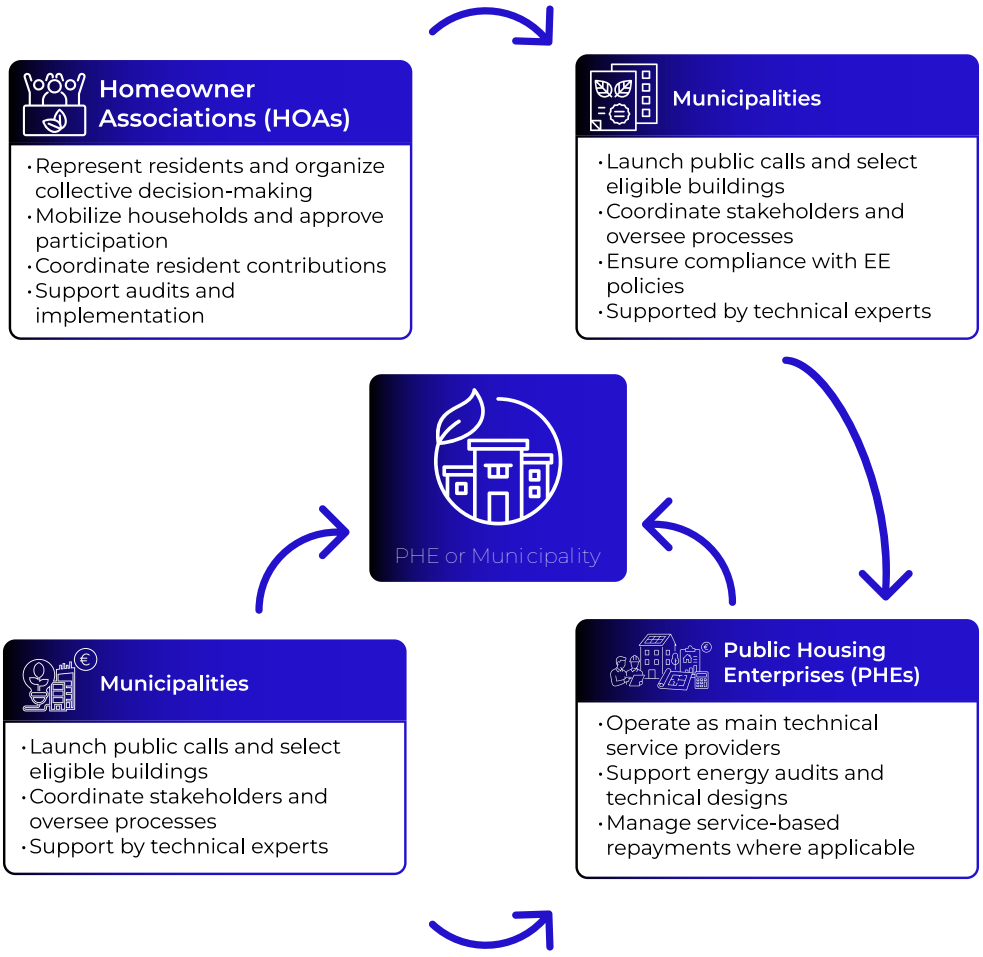


Figure 3: Positioning the HOAs, Municipalities and Public Housing Enterprises

5. Governance and institutional arrangements - Roles and Responsibilities within the EEC Model

5.1 Public Housing Enterprise (PHE)

Where a Public Housing Enterprise (PHE) exists, it acts as the main technical and operational service provider within the EEC Model. The PHE supports the identification and selection of eligible buildings, conducts or oversees energy audits and technical designs, and coordinates procurement processes for energy efficiency and renewable energy measures. It serves as a central contact point for Homeowner Associations, residents, and service providers, helping to manage inquiries and ensure smooth communication throughout implementation. In addition, the PHE plays a key role in monitoring performance and, where applicable, managing service-based repayment mechanisms to support long term sustainability of the investments.

5.2 Municipal Directorates

Municipal Directorates, such as the Directorate for Public Services or the Directorate for Urbanism, are responsible for coordinating and overseeing the EEC Model at local level. Their role includes launching public calls for participation, guiding the selection of pilot buildings, ensuring compliance with legal and regulatory requirements, and coordinating stakeholders involved in implementation.

In municipalities without a Public Housing Enterprise (PHE), the municipality establishes a dedicated EEC Coordination Committee. This committee serves as the main institutional focal point for the EEC Model and is responsible for addressing and channeling all technical, financial, and administrative inquiries related to the EEC process. The committee follows the project throughout all stages, from community outreach and building selection to implementation and monitoring, ensuring continuity, clarity of communication, and coordinated decision-making.

The EEC Coordination Committee includes the municipal Energy Efficiency Officer, who provides technical input, supports alignment with national and municipal energy efficiency policies, and ensures continuity with existing municipal energy efficiency programs and responsibilities.

Municipal Directorates, supported by the EEC Coordination Committee, ensure transparency, facilitate cooperation with national institutions, and provide overall supervision of implementation at local level.

5.3 Kosovo Energy Efficiency Fund (KEEF)

The Kosovo Energy Efficiency Fund (KEEF) acts as a strategic partner within the EEC Model by providing financial support, technical guidance, and alignment with national energy efficiency programs. KEEF supports the co-financing of energy efficiency measures and ensures that interventions comply with national technical standards and reporting requirements.

In municipalities where no Public Housing Enterprise exists, KEEF is responsible for carrying out procurement processes related to energy audits, technical designs, and implementation works, in line with applicable procurement rules and donor requirements. Through this role, KEEF ensures technical quality, procedural compliance, and timely implementation, while supporting municipalities with limited institutional or technical capacity.

KEEF also provides advisory support to municipal teams and the EEC Coordination Committees, contributing to effective monitoring, verification, and consistency across municipalities.

5.4 Homeowner Associations (HOAs) / Resident Councils

Homeowner Associations or Resident Councils represent residents at building level and are central to the community-based nature of the EEC Model. They are responsible for mobilizing residents, organizing collective decision-making, and formally approving participation in the program. HOAs coordinate resident contributions, facilitate access to buildings for audits and works, and act as the main communication channel between residents and implementing institutions. Their active involvement ensures local ownership and supports the long term maintenance of energy efficiency improvements.

5.5 Service Providers

Service providers, including energy auditors, designers, construction companies, and monitoring specialists, are responsible for delivering the technical aspects of the EEC Model. They carry out energy audits, prepare technical designs, implement energy efficiency and renewable energy measures, and support post-implementation verification and monitoring. Service providers operate under contracts managed by municipalities or PHEs and are required to comply with defined technical standards, quality requirements, and reporting obligations to ensure reliable and high-quality results.

5.6 Decision-making and accountability

Decision-making under the Energy Efficiency Community (EEC) Model is based on clearly defined roles, formal approval procedures, and transparent

accountability mechanisms, with structured decision points at building, municipal, and national levels.

At building level, Homeowner Associations (HOAs) or Resident Councils decide on participation in the EEC Model, approval of energy efficiency measures, and resident co-financing. Decisions follow HOA rules and are documented through formal resolutions, ensuring legitimacy and resident ownership.

At municipal level, decision-making rests with the municipality, exercised through the Public Housing Enterprise (where it exists) or designated Municipal Directorates and the EEC Coordination Committee. Municipalities approve building selection, endorse technical and financial packages, oversee implementation, and commit municipal co-financing in line with the agreed structure. They are accountable for the transparent use of public funds and alignment with national policies.

In municipalities without a PHE, the EEC Coordination Committee serves as the main coordination and decision-support body for technical, financial, and administrative matters. The Municipal Energy Efficiency Officer ensures technical consistency and alignment with municipal and national energy efficiency objectives.

The Kosovo Energy Efficiency Fund (KEEF) plays a key accountability role in financing, technical compliance, and procurement, ensuring adherence to national standards, funding rules, and donor requirements.

Accountability is ensured through a clear separation of responsibilities between decision-making, financing, implementation, and supervision. Service providers are responsible for delivering works in line with contracts, while municipalities, PHEs, and KEEF oversee supervision, verification, acceptance of works, and financial control.

Reporting is regular and structured, covering technical progress, financial disbursements, energy performance results, and community participation. Reports are consolidated at municipal level and shared with KEEF and donors as required, supported by monitoring and verification data for performance assessment and informed decision-making.

This multi-level structure ensures transparency, clear allocation of responsibilities, and consistent tracking of results, providing a strong basis for effective implementation and future scale-up of the EEC Model.

Oversight and Reporting structure in the EEC Service Model

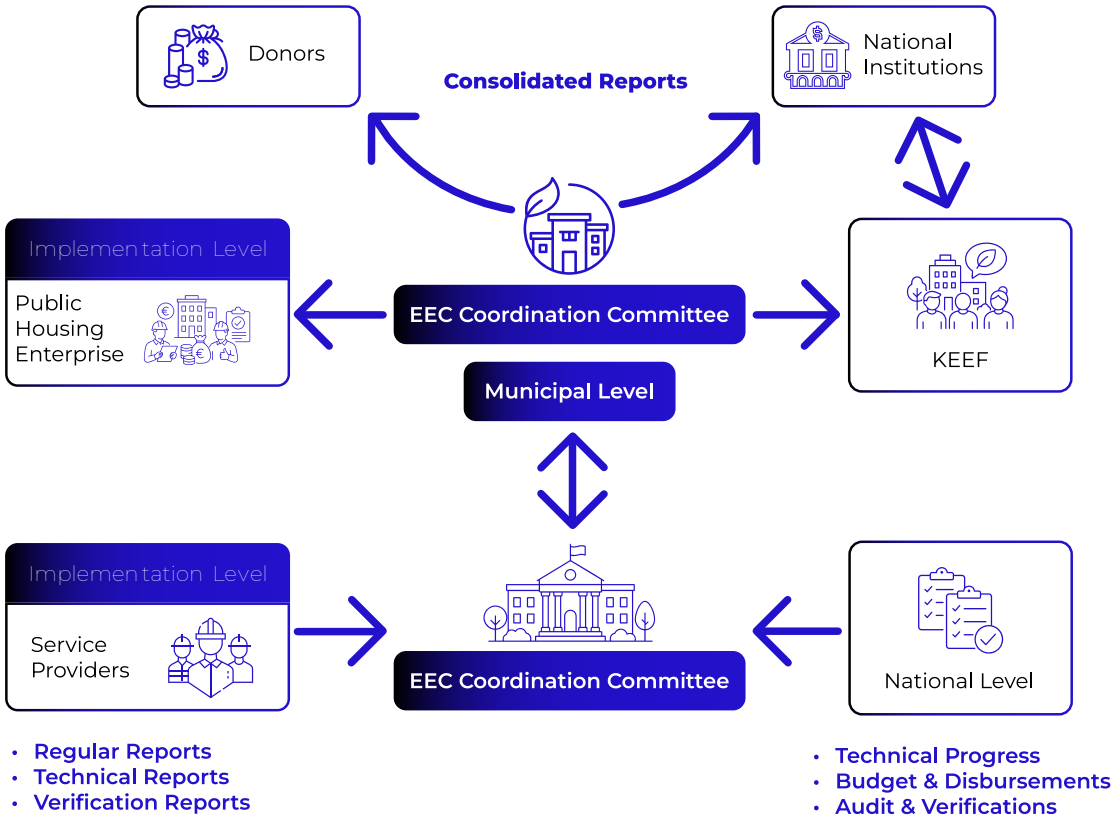


Figure 4: Oversight and Reporting structure in the EEC Service Model

6. Target buildings and eligibility framework

6.1 Building typologies

The Energy Efficiency Community (EEC) Model targets multi-apartment residential buildings that present significant potential for energy savings and benefit from coordinated, building-level interventions. The focus is on buildings where collective action, rather than individual household measures, is required to improve energy performance, comfort, and long term maintenance.

Priority is given to older multi-apartment buildings, particularly those constructed between the 1960s and late 1990s, which typically have poor thermal insulation, outdated windows and roofs, inefficient heating systems, and high energy consumption. These buildings often rely on electric heating or inefficient central systems and experience high heat losses and low indoor comfort levels.

The model also includes publicly or municipally managed multi-apartment buildings, especially in municipalities with a Public Housing Enterprise (PHE), where maintenance and management structures already exist but lack integrated energy efficiency solutions. In municipalities without a PHE, privately owned multi-apartment buildings with established or emerging Homeowner Associations (HOAs) are eligible, provided they demonstrate readiness for collective decision-making and participation.

Building typologies considered under the EEC Model may vary in size, height, and construction type, including low-rise and mid-rise apartment blocks, panel-constructed buildings, and mixed- use residential buildings where residential functions dominate. The model is designed to be flexible, allowing technical solutions to be adapted to different structural conditions while maintaining standardized eligibility criteria. By targeting these building typologies, the EEC Model ensures that interventions are directed toward buildings with the highest impact potential, where coordinated investment can deliver substantial energy savings, improved living conditions, and long term sustainability.

Building Typology	Key Characteristics	Typical Issues	Eligibility under EEC Model
Pre-200 Multi- Apartment Buildings	Built mainly between 1960–1999; low to mid-rise blocks	Poor insulation, inefficient windows and roofs, high energy losses	**High priority** due to strong energy-saving potential
Panel / Prefabricated Buildings	Concrete panel structures common in urban areas	Thermal bridges, outdated façades, comfort issues	**Eligible**, subject to structural assessment
Municipally Managed Buildings	Buildings under Public Housing Enterprise (PHE) management	Limited EE integration in maintenance systems	**Eligible**, especially in municipalities with a PHE
Privately Owned Multi-Apartment Buildings	Individually owned apartments with shared common areas	Weak coordination, lack of investment planning	**Eligible**, provided an HOA or Resident Council exists
Low-rise Residential Blocks	2–5 floors, often without elevators	Inefficient heating, roof and façade losses	**Eligible**, with tailored technical solutions
Mid-rise Residential Blocks	5–8 floors, higher common-area energy use	High electricity use in common areas	**Eligible**, strong potential for EE & RE integration
Mixed-use Buildings (Residential-dominant)	Residential with minor commercial ground floors	Complex energy loads	**Conditionally eligible**, residential use must dominate

Table 1 : Eligibility Criteria for selecting the building

6.2 Eligibility criteria

Eligibility under the Energy Efficiency Community (EEC) Model ensures that selected buildings are technically suitable, institutionally prepared, and socially ready for coordinated energy efficiency interventions. The criteria prioritize buildings with high energy-saving potential while ensuring feasibility and transparent implementation.

Eligible buildings must show clear potential for energy performance improvement, particularly multi-apartment buildings with poor insulation, inefficient windows or roofs, outdated heating systems, and high energy consumption. Buildings must be structurally suitable, allow access for energy audits, and provide basic building data.

From an institutional perspective, buildings must be represented by a functional Homeowner Association (HOA) or Resident Council, or demonstrate readiness to establish one before implementation. The HOA or Resident Council must be able to represent residents, support collective decision-making, and coordinate with municipalities, Public Housing Enterprises (where applicable), and service providers.

Eligibility also requires a commitment to co-financing in line with the EEC financing structure. Resident contributions may be covered through service-based repayment mechanisms in municipalities with a PHE, or through direct contributions or financing supported by partner financial institutions in municipalities without a PHE. Municipal co-financing commitments are considered where applicable.

Finally, eligible buildings must demonstrate resident engagement and approval to participate, willingness to allow access for works, and commitment to maintaining installed measures. Priority may be given to buildings with higher social impact potential. Eligibility is confirmed through a transparent screening process led by municipalities, PHEs (where applicable), and the EEC Coordination Committee, with support from KEEF.

6.3 Samples of Technical Criteria

A. Technical Criteria of a building (Maximum 40 points)

Criterion	Description	Score
Building age & condition	Pre-2000 construction and/or poor thermal performance	0-10
Energy saving potential	High heat losses, inefficient systems, high consumption	0-10
Structural suitability	Technically suitable for EE/RE interventions	0-10
Availability of basic data	Existing drawings, bills, or willingness for audit	0-10
Subtotal – Technical		0-40

Table 2 : Technical criteria of a building

B. HOA Institutional/organizational and Financial Readiness Criteria (Maximum 30 points)

Criterion	Description	Score
HOA / Resident Council status	Established and functional	0-10
Designated contact person and decision-making readiness	Clear focal point for coordination and evidence of collective approval	0-5
Resident co-financing commitment	Written confirmation of contribution	0-10
Social impact potential	Presence of vulnerable or low income households	0-5
Subtotal – Institutional		0-30

Table 3 : HOA Institutional, Organizational and Financial readiness criteria

Final Scoring Summary

Category	Max Points	Score
Technical	40	
Institutional/organizational	30	
TOTAL SCORE	70	_/70

6.4 Homeowner Association (HOA) requirements

Participation in the EEC Model requires that each building is represented by a functional Homeowner Association (HOA) or Resident Council, or demonstrates a clear commitment to formally establish one prior to implementation. The HOA or Resident Council must be legally recognized and able to act on behalf of residents in decision-making, coordination, and communication with municipalities, Public Housing Enterprises (where applicable), KEEF, and service providers.

The HOA is responsible for organizing resident meetings, securing formal approval to participate in the EEC Model, coordinating resident contributions, and facilitating access to the building during audits and construction works. It also plays an important role in supporting long term operation

and maintenance of installed measures. Clear contact persons must be designated to ensure effective coordination throughout the process.

6.5 Social inclusion considerations

The EEC Model incorporates social inclusion principles to ensure that energy efficiency improvements benefit a wide range of households and do not exclude vulnerable groups. Special consideration is given to buildings housing low-income households, elderly residents, female-headed households, or other vulnerable groups who are disproportionately affected by poor energy performance and high energy costs.

Where relevant, flexibility in co-financing arrangements, phased repayment options, and targeted communication and support measures are applied to enable participation of these groups. Community engagement activities are designed to be inclusive, transparent, and accessible, ensuring that all residents are informed, consulted, and able to participate in decision-making.

6.6 Prioritization logic

Given limited resources, buildings are prioritized based on a combination of technical, institutional, financial, and social criteria. Higher priority is assigned to buildings with greater energy-saving potential, poor existing energy performance, and readiness for implementation, including strong HOA capacity and resident commitment.

The prioritization process is carried out transparently using predefined criteria and scoring mechanisms, allowing municipalities and implementing partners to select buildings in a fair and objective manner.

7. Pilot municipalities and implementation context

The Energy Efficiency Community (EEC) Model is proposed to be piloted in three municipalities identified based on institutional readiness, availability of suitable housing stock, and expressed willingness to co-finance energy efficiency measures. The proposed pilot municipalities reflect both implementation contexts addressed by the model: municipalities with an established Public Housing Enterprise (PHE) and municipalities without such an institutional structure.

The Municipality of Prishtina is proposed as the primary pilot municipality with an existing PHE. As the only municipality in Kosovo with a functioning Public Housing Enterprise, Prishtina offers an opportunity to test the full EEC service model within an established housing management framework. The presence of a PHE enables centralized coordination of energy audits, technical designs, procurement, implementation oversight, and ongoing monitoring, serving as a reference case for structured service delivery.

In addition to Prishtina, the municipalities of Gjakova and Ferizaj are proposed as pilot municipalities without an existing PHE. Both municipalities have demonstrated strong interest in participating in the EEC Model and have indicated readiness to co-finance energy efficiency interventions. Notably, both have allocated budget recourses for energy efficiency, providing a sound financial basis for pilot implementation despite the absence of a dedicated housing enterprise.

Piloting the EEC Model in Gjakova and Ferizaj will allow testing of alternative implementation arrangements, where coordination is led by Municipal Directorates and EEC Coordination Committees, with technical and procurement support from KEEF. This approach enables assessment of the model under more challenging institutional conditions while confirming its adaptability and scalability across different municipal contexts.

Together, these proposed pilot municipalities offer a balanced and representative testing ground for the EEC Model, enabling comparison between PHE and non-PHE implementation modalities and generating valuable lessons for wider replication across Kosovo.

8. Technical design of EE and RE interventions

8.1 Whole-building approach

The EEC Model uses a whole-building approach, meaning that energy efficiency improvements are planned for the entire building, not for individual apartments. A building works as one system, where walls, roofs, windows, heating systems, and common areas all affect energy use and comfort.

By looking at the whole building, the model focuses on the main causes of energy loss, such as poor insulation, inefficient heating, and high electricity use in shared spaces. Measures are selected based on energy audits and are designed to work together, so improvements in one area support improvements in others.

This approach ensures that all residents benefit from the upgrades and that energy efficiency measures are easier to manage and maintain over time. Treating the building as a single unit helps achieve better energy savings, improved comfort, and more sustainable building management.

8.2 Standard Energy Efficiency (EE) packages

The EEC Model uses standard energy efficiency (EE) packages to make building renovations easier to plan, implement, and replicate across municipalities. These packages group together the most common and effective measures needed to improve the energy performance of multi-apartment buildings.

While standard packages provide a common structure, the selection and scope of EE measures are always based on the results of the Energy Audit Report prepared for each specific building. The energy audit identifies the main sources of energy loss, evaluates technical feasibility, and defines the most cost-effective interventions. Based on these findings, the standard package is tailored to match the building's condition, layout, and energy performance needs.

Standard EE packages typically include improvements to the building envelope, such as façade and roof insulation, replacement or upgrading of windows and doors in common areas, and reduction of thermal losses. They also include upgrades to shared heating and hot water systems, insulation of distribution pipes, and improvements to lighting in common areas, such as the installation of energy-efficient LED lighting and control systems. These measures reduce electricity consumption in shared spaces while improving safety and comfort for residents.

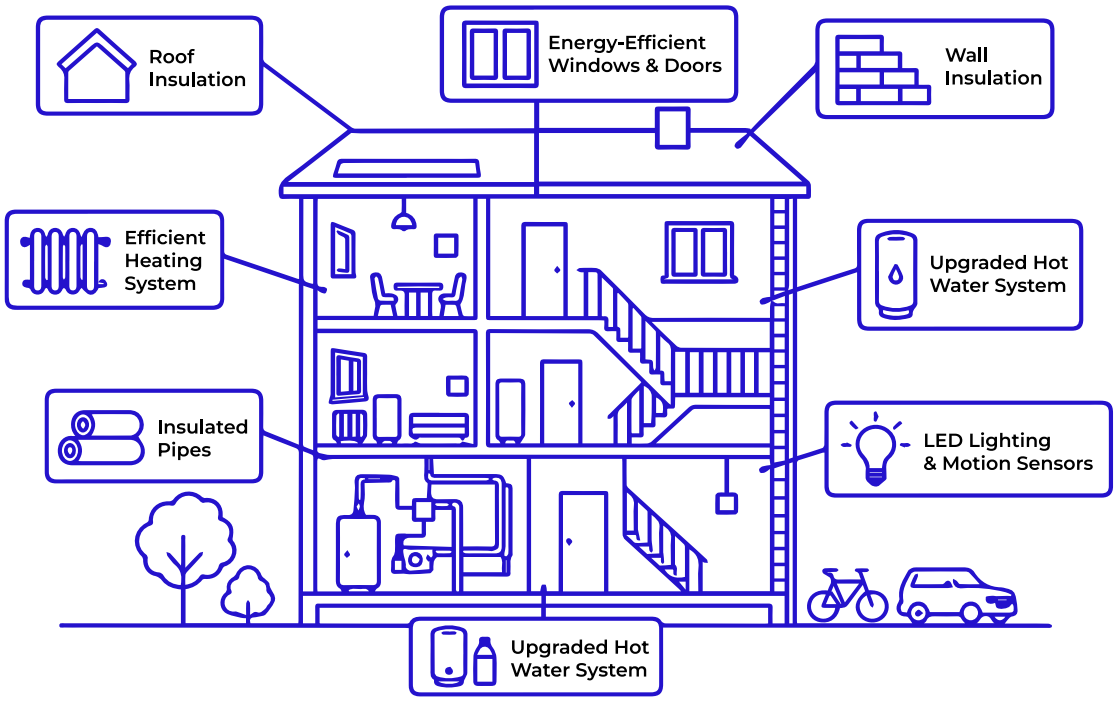


Figure 5: Standard Energy Efficiency (EE) Packages

This approach ensures consistent quality and predictable costs while allowing flexibility at building level. By combining standardized solutions with building-specific energy audit results, the EEC Model delivers reliable energy savings and practical, well-targeted interventions.

8.3 Renewable energy (RE) integration (PV, solar thermal, green roofs)

The EEC Model promotes the integration of renewable energy solutions where they are technically and economically feasible, as a complement to energy efficiency measures. Renewable energy interventions are considered only after energy efficiency improvements are defined, ensuring that energy demand is reduced before renewable systems are introduced.

- Rooftop solar photovoltaic (PV) systems are prioritized for supplying electricity to common areas, such as staircases, hallways, elevators, and ventilation systems. This reduces operating costs for Homeowner Associations and improves the financial sustainability of building management. PV systems are designed based on roof availability, structural capacity, and electricity demand in common areas.
- Solar thermal systems may be installed to support domestic hot water preparation where suitable conditions exist. These systems help reduce electricity or fossil fuel consumptionfor hot water and are assessed based on building size, hot water demand, and system compatibility.

- Green roofs are considered where structural conditions allow and where they add environmental and functional value. In addition to improving thermal performance, green roofs help reduce overheating, manage rainwater, and enhance the visual quality of buildings. Their inclusion is assessed on a case-by-case basis, taking into account structural safety, maintenance requirements, and long term benefits.

All renewable energy solutions are selected based on the findings of the Energy Audit and technical assessments and are integrated into the overall building design. This ensures that RE measures are safe, effective, and aligned with the building's technical condition and long term operation.

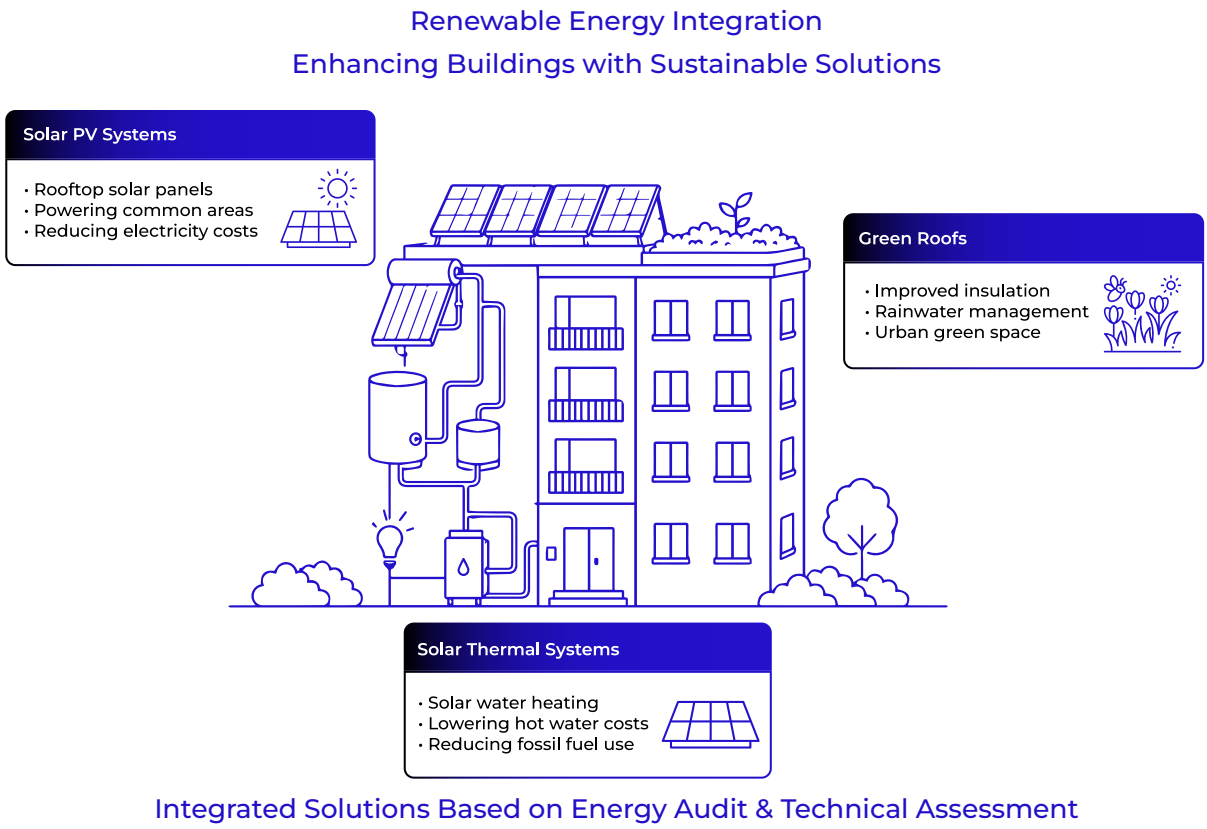


Figure 6 : Renewable energy (RE) integration (PV, solar thermal, green roofs)

8.4 Minimum technical standards

All energy efficiency (EE) and renewable energy (RE) measures under the EEC Model must meet minimum technical standards in line with Kosovo's national energy efficiency and energy performance of buildings regulations. These standards ensure that installed measures are safe, durable, and deliver real energy savings.

For building envelope improvements, minimum standards define insulation performance for external walls and roofs to reduce heat loss and improve comfort.

Insulation thickness and materials are selected based on national energy performance calculation methods and adapted to the specific building type.

Windows and doors must meet basic energy performance requirements, including the use of double-glazed units and proper installation to reduce heat loss and air leakage.

Heating and hot water systems must meet minimum efficiency requirements, including proper system controls and mandatory insulation of pipes in common areas to reduce energy losses. Common-area lighting must use energy-efficient solutions, such as LED fixtures with motion or occupancy sensors.

All measures are defined through the Energy Audit and Technical Design and are checked during procurement, installation, and final inspection. This ensures that interventions meet national standards, perform as expected, and provide long term benefits for residents.

Building Element	Indicative Maximum U-Value (W/m²K)	Typical Technical Implication
External walls	≤ 0.35–0.45	Façade insulation using EPS (Styrofoam) or equivalent, typically 10–12 cm, depending on material and existing wall structure
Roof/top slabs	≤ 0.25–0.30	Roof insulation, typically 12–15 cm, adapted to roof type and load capacity
Floor above unheated spaces	≤ 0.30–0.40	Thermal insulation of slabs above basements or garages 12cm
Windows (including frames)	≤ 1.4–1.6	Double-glazed, low-emissivity (Low-E) windows, with thermally improved frames
External doors	≤ 1.4–1.6	Insulated doors with airtight installation
Thermal bridges	Minimized	Continuous insulation and proper detailing at junctions
Heating distribution pipes	Insulated	Mandatory insulation of pipes in common areas
Common area lighting	LED + controls	LED fixtures with motion or occupancy sensors

Table 4 : Minimum technical standards

8.5 Adaptation to building conditions

Although the EEC Model uses standard energy efficiency packages and minimum technical standards, all interventions are adapted to the specific conditions of each building. Multi-apartment buildings differ in age, construction type, layout, structural condition, and technical systems, and these differences are taken into account during planning and design.

Adaptation is based on the results of the Energy Audit and on-site assessments, which identify the most suitable and cost-effective measures for each building. Technical designs consider factors such as façade type, roof structure, existing insulation, heating systems, electrical installations, and available space for renewable energy solutions.

This building-specific approach ensures that measures are technically feasible, safe, and compatible with existing structures, while avoiding unnecessary or oversized investments. By adapting standard solutions to real building conditions, the EEC Model ensures effective implementation, reliable energy savings, and long term performance of installed measures.

9. Energy audits and baseline methodology

9.1 Audit scope and methodology

Energy audits under the EEC Model provide a comprehensive, building-level assessment and form the basis for all technical and financial decisions. Audits are conducted in line with Kosovo's national energy efficiency and energy performance of buildings methodology and follow a structured, multi-layered approach.

The audit covers the entire building envelope, including external walls, roofs, floors above unheated spaces, windows, doors, staircases, and common areas. A detailed assessment of wall and roof construction layers is carried out to understand existing materials, thicknesses, and thermal properties. Where original drawings are unavailable, construction layers are identified through visual inspection, measurements, and professional judgment.

On-site diagnostics include thermal imaging (infrared camera surveys) to identify heat losses, thermal bridges, insulation gaps, air leakage, and moisture risks. These measurements are carried out under suitable weather conditions to ensure reliable results. Spot measurements of surface temperatures and indoor conditions are used to validate findings.

The audit also assesses technical systems, including heating, domestic hot water, ventilation (where applicable), and electrical systems in common areas. This includes inspection of boilers or heat pumps, distribution pipes, radiators, controls, meters, and insulation of pipes in basements and shafts. Common-area lighting systems are reviewed, including fixture types, control mechanisms, and operating hours.

Based on this analysis, the audit evaluates improvement options, estimates energy savings, and recommends cost-effective EE and RE measures that are technically feasible and suitable for the specific building.

9.2 Data requirements

Accurate and reliable data collection is essential for a robust audit. Required data include basic building information (year of construction, number of floors, heated area, construction type), existing technical systems, and available energy consumption records (electricity and heating bills for at least one full year, where possible).

On-site data collection includes physical measurements of building elements, photographic documentation, thermal imaging results, and system specifications. Where available, existing drawings, maintenance records, and previous energy audits are used to support and validate findings.

Input from residents or HOAs may also be collected to better understand heating practices, comfort issues, and operational patterns.

9.3 Performance indicators

The energy audit defines a set of performance indicators that allow objective measurement of improvements. Key indicators typically include total energy consumption and energy use per square meter (kWh/m^2), estimated energy savings, reduction in energy costs, and improvementsin indoor thermal comfort.

Where renewable energy measures are proposed, indicators may also include expected renewable energy production, share of on-site generation, and associated reductions in CO_2 emissions. These indicators are used consistently across buildings to allow comparison, monitoring, and reporting.

9.4 Baseline establishment

Using the collected data and audit analysis, a clear and documented baseline is established for each building. The baseline represents the building's energy performance before intervention and includes quantified values for energy use, system efficiency, and key performance indicators.

The baseline is documented in the Energy Audit Report and serves as the reference point for technical design, investment planning, and post-implementation evaluation. All future performance assessments are measured against this baseline to verify results and energy savings.

9.5 Quality assurance

Quality assurance is applied throughout the audit process to ensure accuracy, consistency, and credibility. Energy audits are carried out by qualified and experienced professionals using recognized tools and methodologies. Audit reports are reviewed by the Public Housing Enterprise or the responsible Municipal Directorate, with technical support from KEEF where applicable.

Checks include verification of data sources, consistency of calculations, clarity of assumptions, and compliance with national standards and EEC Model requirements. This quality control process ensures that technical designs and investments are based on solid evidence and that expected energy savings are realistic and achievable.

10. Financial framework of the EEC Model

The financial framework of the Energy Efficiency Community (EEC) Model is designed to make building-level energy efficiency investments affordable, transparent, and sustainable. It brings together public funding, municipal support, and resident contributions through a coordinated financing approach that takes into account municipal capacity and the social needs of residents. The model ensures that costs are shared fairly, financial risks are reduced, and the long term operation and maintenance of installed measures are secured.

10.1 Cost structure of interventions

The total cost of interventions is defined after the Energy Audit and Technical Design are completed for each building. The design phase confirms which energy efficiency and renewable energy measures will be implemented, their technical specifications, quantities, and estimated costs.

Eligible costs include energy audits and technical designs, construction and installation works, supervision and quality control, and monitoring activities.All costs are calculated for each individual building and shared with municipalities, Homeowner Associations (HOAs), and residents before implementation starts, ensuring transparency and informed decision-making.

10.2 Co-financing logic

The EEC Model applies a co-financing approach in which the total investment cost is shared among multiple actors. This approach reduces the financial burden on individual households, strengthens institutional ownership, and supports replication of the model across municipalities.

The co-financing proportions vary depending on the municipality's available budget and the level of support provided through KEEF grants.

At the same time, a uniform co-financing percentage is applied to Homeowner Associations (HOAs) across all pilot municipalities. This ensures equal treatment of residents, transparency, and fairness between participating buildings. The remaining share of the investment cost is covered through a combination of municipal contributions and KEEF support.

The principle of the EEC Model is that public funds help reduce costs for residents, but residents still contribute, so the model remains affordable and sustainable.

10.2.1 KEEF Grants

The Kosovo Energy Efficiency Fund (KEEF) provides grant financing to support eligible energy efficiency and renewable energy measures. KEEF grants reduce the overall investment cost and improve affordability for residents.

In addition, KEEF may cover the costs related to energy audits, technical design, and construction supervision, particularly in municipalities without a Public Housing Enterprise (PHE). In these cases, KEEF may also manage procurement processes and contract payments, ensuring compliance with technical standards, procurement rules, and donor requirements.

10.2.2 Municipal contributions

Municipalities contribute financially to EEC interventions as part of their responsibility to improve housing conditions and support local energy efficiency goals. Municipal contributions may be provided through direct budget allocations or co-financing arrangements agreed during project preparation. These contributions also demonstrate local commitment and strengthen accountability.

10.2.3 Public Housing Enterprise (PHE) participation

In municipalities where a PHE exists, the PHE may contribute financially to the investment, particularly for technical preparation, supervision, and part of the implementation costs. The PHE also plays a key role in managing service-based repayment mechanisms, allowing resident contributions to be spread over time through monthly energy efficiency service fees.

10.2.4 HoA co-financing

Homeowner Associations or Resident Councils represent resident contributions to the project. Co-financing by residents is a core element of the EEC Model, reinforcing ownership and responsibility for the upgraded building. Contributions may be made through monthly service fees (where a PHE exists) or through direct payments or financing supported by partner financial institutions in municipalities without a PHE.

10.3 Indicative co-financing scenarios and affordability considerations

To support clarity and practical understanding of the EEC financing approach, indicative co- financing scenarios are presented below. These examples are illustrative and aim to demonstrate how investment costs may be shared among stakeholders under typical conditions.

A standard financing structure under the EEC Model may include:

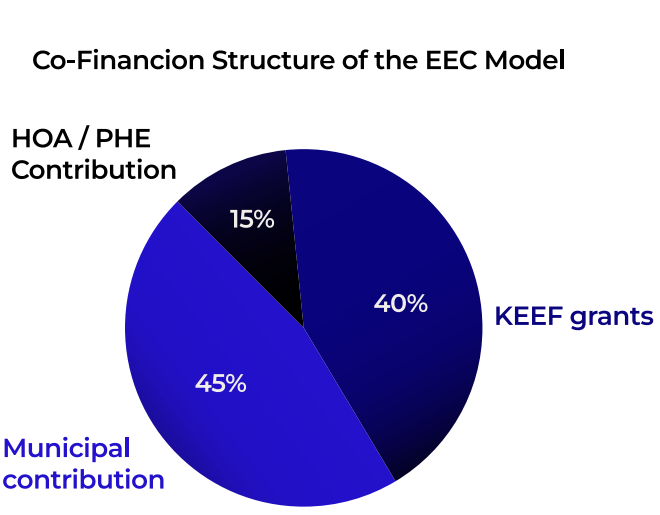
- Homeowner Association (HOA) / resident contribution: approximately 10–15%
- Municipal contribution: approximately 40–45%
- KEEF grant support: approximately 40%

For example, in a building with a total investment cost of €200,000, the indicative distributioncould be:

- HOA/residents: €20,000–€30,000
- Municipality: €80,000–€90,000
- KEEF: approximately €80,000

At household level, the resident contribution would be divided among apartment owners. In municipalities with a Public Housing Enterprise (PHE), this contribution may be repaid gradually through a monthly energy efficiency service fee. In municipalities without a PHE, residents may cover their share through direct payment or through soft loans facilitated by partner financial institutions.

It is important to note that final co-financing proportions and financial arrangements are not fixed at the design stage. They will be confirmed during the pre-implementation phase, based on:



- available funding from KEEF and municipalities;
- budget allocations and program conditions;
- building-specific investment costs, and
- affordability assessments at the level of participating households.
- HOA / PHE contribution: 10–15% (shown as 15% for visual clarity)
- Municipal contribution: 40–45% (shown as 45%)
- KEEF grants: 40%

The indicated percentages are illustrative and may be adjusted based on municipal and KEEF budget availability, project scalability, and applicable policy or funding conditions

10.4 Flow of funds

The flow of funds under the EEC Model follows a clear and controlled process. Public funds from KEEF and municipalities are disbursed according to approved designs and contracts. Where a PHE exists, funds may be channelled through the PHE, which manages payments to service providers and oversees cost recovery through service fees. In municipalities without a PHE, KEEF manages procurement and payments directly, while municipalities and HOAs ensure that resident contributions are collected and transferred according to agreed arrangements. All financial flows are documented, monitored, and reported to ensure transparency and accountability.

11. Cost recovery, access to finance and long term sustainability

The Energy Efficiency Community (EEC) Model is designed to ensure that investments in energy efficiency are financially sustainable over time and do not create an excessive burden for residents. This is achieved through a combination of cost recovery mechanisms, structured repayment arrangements, and access to suitable financing options, depending on the municipal context and institutional capacity.

11.1 Cost recovery and service-based repayment (where applicable)

In municipalities where a Public Housing Enterprise (PHE) exists, cost recovery is supported through an Energy Efficiency Service Fee integrated into the regular monthly maintenance fee. This service-based approach allows residents to repay their share of the investment gradually,aligning monthly payments with expected energy savings. By spreading costs over time, themodel reduces the need for upfront payments and improves affordability.

Revenues collected through the service fee are managed transparently and earmarked for energy efficiency purposes, including repayment of investments,monitoringofperformance,andfutureefficiencyimprovements. This mechanism supports long term sustainability and enables reinvestment in building upgrades beyond the pilot phase.

11.2 Access to finance in Municipalities without a PHE

In municipalities without a Public Housing Enterprise (PHE), it is more difficult to apply service fee repayment mechanisms. In these cases, resident contributions are covered through direct co-financing and access to financing provided by reliable banks or other financial institutionsoffering soft loan options.

Homeowner Associations (HOAs) or Resident Councils support residents in organizing participation and accessing these financing options. Financing can be arranged at building level, through a collective HOA loan, or at household level, through individual loans or bank overdraft facilities linked to the building investment.

Despite these options, financing gaps may still occur, especially for low-income households or buildings with limited savings. To address these gaps, the EEC Model relies on a combination of public co-financing from municipalities and KEEF, flexible loan conditions, and tailored repayment arrangements. This approach helps ensure that residents can participate without needing to cover the full investment cost upfront.

Potential financing gaps especially for low-income households or buildings with limited savings are addressed through tailored loan arrangements, such as collective HOA level borrowing or individual household loans linked to building level investments. These arrangements allow residents to participate without requiring full upfront payment.

11.3 Role of Partner Financial Institutions

Partner financial institutions, such as commercial banks or microfinance institutions, support the EEC Model by providing soft loan options for energy efficiency investments in residential buildings. These loans are designed to be affordable, with reasonable interest rates, repayment periods that match expected energy savings, and simple application procedures for Homeowner Associations (HOAs) or individual households.

To support access to financing, the project will assist HOAs during the loan process. This includes providing a confirmation note stating that the HOA is officially participating in the EEC renovation measures and that the borrowed funds will be used specifically for the approved energy efficiency works. This confirmation helps banks assess the purpose and credibility of the loan request.

The risk for banks is further reduced through public co-financing from municipalities and KEEF, clear technical designs, and verified energy audit results. Strong oversight and transparent project management increase confidence for lenders, making energy efficiency investments safer and more attractive to finance.

11.4 Enforcement and compliance mechanisms

11.4.1 Enforcement of payment obligations

Payment obligations under the EEC Model are formalized through legally binding agreements between Homeowner Associations (HOAs), municipalities and where applicable Public Housing Enterprises (PHEs).

- In municipalities with a PHE, resident contributions are integrated into a monthly EnergyEfficiency Service Fee, incorporated within the regular maintenance fee structure. Thisallows for structured and enforceable cost recovery over time.
- In municipalities without a PHE, resident contributions are organized through the Homeowner Association (HoA). Households with sufficient financial capacity may provide their contribution as a one-time payment, while others may access financing through soft loans or similar instruments. All contributions whether paid directly or financed through loans are consolidated in a dedicated joint HoA bank account. From this account, funds are transferred to the entity responsible for procurement

and contract management, which, in municipalities without a PHE, is typically the Kosovo Energy Efficiency Fund (KEEF) or the respective municipality.

To ensure enforceability:

- Payment commitments are approved through formal HoA decisions and documented insigned agreements prior to implementation.
- In case of delayed or missed payments, standard procedures defined in HoA statutes,municipal regulations or financing agreements are applied.
- Continued non-compliance may result in restricted access to future support programs orfinancing opportunities under the EEC framework.

11.4.2 Adaptive co-financing and share redistribution

The EEC Model incorporates flexibility to ensure inclusion of households with limited financial capacity while maintaining overall financial viability.

Where households are unable to meet their co-financing obligations:

- Internal redistribution mechanisms within the building may be applied, where feasible and agreed by the HoA, allowing partial reallocation of shares among residents.
- External support mechanisms may be activated, including:
  - increased contribution from municipal budgets,
  - adjusted allocation of available grant funding (subject to program rules),
  - access to soft loans with tailored repayment conditions.

For buildings with a high share of vulnerable households:

- The co-financing structure may be rebalanced, reducing the effective burden on residents and increasing the share covered by public funding.
- Municipalities may, on a case-by-case basis, assume partial or full responsibility for covering the contributions of vulnerable households, particularly where social protection objectives are aligned with energy efficiency investments.

All adjustments are documented transparently and approved prior to contracting to ensure clarity and fairness across participating buildings.

11.4.3 Enforcement of long term maintenance

Sustained energy performance depends on proper operation and maintenance of installed measures. The EEC Model establishes clear responsibilities to ensure long term upkeep:

- HoAs are responsible for organizing and overseeing routine maintenance at building level.

- In municipalities with a PHE, the PHE may provide or coordinate maintenance services as part of its operational role.
- Maintenance obligations are defined in project agreements and communicated clearly to residents.

To support compliance:
- Basic maintenance guidelines are provided to HoAs and residents.
- Where applicable, maintenance costs may be integrated into regular service fees to ensure continuity.
- Monitoring activities include periodic checks of system performance and building conditions.

11.4.4 Non-compliance and corrective measures

Non-compliance may arise in relation to payment obligations, maintenance responsibilities or agreed participation conditions. The EEC Model applies a structured approach to address such cases:

- **Initial response** focuses on communication and resolution at HoA level, supported by municipalities or PHEs.
- **Corrective measures** may include revised payment plans, additional technical support, or targeted engagement with affected households.

- In cases of persistent non-compliance:
  - contractual provisions may be enforced,
  - access to future program phases or additional support may be limited,
  - municipalities or PHEs may intervene to ensure minimum operational standards are maintained.

12. Procurement and contracting framework

The procurement and contracting framework of the Energy Efficiency Community (EEC) Model is designed to ensure transparent, efficient, and high quality implementation of energy efficiency and renewable energy interventions. The framework is adapted to different municipal capacities while ensuring compliance with national legislation and donor requirements.

12.1 Procurement models by municipality type

Procurement arrangements under the EEC Model depend on whether a municipality has an established Public Housing Enterprise (PHE).

In municipalities **with a PHE**, the PHE leads procurement activities related to energy audits, technical design, construction works, and, where applicable, supervision services. The PHE prepares procurement documentation, manages tendering procedures, and contracts service providers in line with applicable procurement rules.

In municipalities **without a PHE**, procurement responsibilities are carried out by the Kosovo Energy Efficiency Fund (KEEF). In these cases, KEEF manages the procurement of energy audit firms, design consultants, construction companies, and supervision services, ensuring technical quality and compliance with donor and funding requirements. Municipalities and the EEC Coordination Committee support the process by providing local coordination and oversight.

This dual approach allows the EEC Model to function effectively across municipalities with different institutional capacities.

12.2 Contracting structures

Contracts are structured to clearly define the roles, responsibilities, scope of work, timelines, and payment conditions for each service provider. Separate contracts are typically used for energy audits, technical design, construction works, and supervision, allowing clear accountability and quality control at each stage.

Contracts include clear technical specifications, performance requirements, reporting obligations, and conditions for acceptance of works. Payment schedules are linked to verified progress and completion of agreed milestones.

12.3 Quality assurance mechanisms

Quality assurance is integrated throughout the procurement and implementation process. Technical specifications included in procurement

documents are based on national energy efficiency and energy performance standards and the approved technical designs.

During implementation, quality checks are carried out to ensure that materials, workmanship, and installation methods comply with approved specifications. Non-compliance is addressed through corrective actions before payments are released. Quality assurance responsibilities are shared among municipalities, PHEs (where applicable), supervision consultants, and KEEF.

12.4 Supervision and acceptance procedures

Independent supervision is provided during construction works to monitor progress, verify compliance with approved designs and technical standards, and address any technical issues on site. Supervision activities include regular site visits, review of materials and installations, and reporting on implementation status.

Upon completion of works, a formal acceptance process is carried out. This includes final inspections, verification that all measures have been implemented as designed, and confirmation that contractual obligations have been fulfilled. In municipalities without a Public Housing Enterprise (PHE), the acceptance of works is additionally confirmed by the relevant Municipal Directorate, ensuring municipal oversight and accountability.

In municipalities where a PHE exists, the formal acceptance of works is carried out directly by the PHE, based on its internal technical capacity and oversight mechanisms, without the need to contract an external supervision company. Only after successful acceptance are final payments authorized.

13. Implementation workflow and timeline

The EEC Model is implemented through a structured workflow that moves from community interest to building selection, technical preparation, financing approval, procurement, implementation, and monitoring. The process is designed to be transparent, repeatable, and adaptable to municipalities **with** and **without** a Public Housing Enterprise (PHE). Each phase includes clearly defined roles, required inputs, and decision gates to ensure that the project only progresses when key conditions are met.

13.1 Step by step implementation process

Phase 1 – Outreach and readiness (mobilization)

The implementation process begins with structured outreach activities aimed at ensuring broad awareness and informed participation. To achieve proper reach to residents and interested Homeowner Associations (HOAs), public meetings will be organized at municipal level, similar to public hearings, where the EEC Model, participation conditions, and expected benefits are presented openly.

These public meetings provide a platform for residents and HOAs to ask questions, understand technical and financial requirements, and clarify roles and responsibilities before applying. In municipalities where a Public Housing Enterprise (PHE) exists, these public meetings may be organized either by the municipality or by the PHE, depending on local arrangements and existing communication channels.

Additional outreach actions may include information materials, municipal announcements, and direct engagement with HOAs. During this phase, HOAs and Resident Councils are supported in understanding eligibility requirements and preparing for the application process.

Expected results:
Informed residents and HOAs, documented public meetings, initial expressions of interest, improved readiness for application.

Phase 2 – Public call and application submission

A public call is launched inviting multi-apartment buildings to apply for participation in the EEC Model. Buildings submit basic technical and administrative information, proof of HOA status or readiness to establish one, and an initial confirmation of willingness to co-finance.

In PHE municipalities, the PHE manages the call and application intake in coordination with the Municipality. In non-PHE municipalities, the Municipal Directorate manages the call through the EEC Coordination Committee

This phase ensures that applications are complete and that buildings understand the requirements before moving forward.

Expected results:
A pool of eligible and motivated buildings with complete applications and clear understanding of participation conditions.

Phase 3 – Eligibility screening and building selection

Applications are screened and scored based on agreed eligibility and prioritization criteria. This assessment focuses on technical suitability, institutional readiness, financial commitment, and social impact.

Where a PHE exists, the screening and scoring are carried out by the PHE, with municipal oversight and KEEF support where needed. Where no PHE exists, the EEC Coordination Committee leads the screening, supported technically by KEEF. The outcome of this phase is a ranked list of buildings recommended for technical assessment.

Expected results:
Transparent and justified selection of buildings with the highest impact and feasibility potential.

Phase 4 – Energy audit and baseline establishment

After the confirmation of the selected buildings for energy audit, the chosen buildings undergo detailed energy audits to assess current energy performance and establish a baseline. Audits include on-site inspections, assessment of building envelope layers, identification of thermal bridges, thermal camera measurements where applicable, evaluation of heating and electrical systems, and review of energy consumption data.

In municipalities with a PHE, the energy audit is conducted directly by the PHE using its internal technical capacity. In municipalities without a PHE, the audit is conducted by an external audit company procured and contracted by KEEF. HOAs support this phase by ensuring access to buildings and coordinating with residents.

Expected results:
Clear understanding of current energy performance, documented baseline data, and technically sound recommendations for EE and RE measures.

Phase 5 – Technical design and costing Agreement and Approval

Based on the audit findings, detailed technical designs and Bills of Quantities (BoQs) are prepared. These designs define the scope of interventions, technical specifications, and final investment costs.

In PHE municipalities, the PHE prepares the technical design and BoQ internally. In non-PHE municipalities, KEEF procures and contracts an external design company. Municipalities and HOAs are consulted to ensure feasibility and clarity.

Expected results:
Approved technical design packages with clear scope, specifications, and reliable cost estimates.

Phase 6 – Financing agreement and approval

Once the technical design and costs are finalized, a financing package is agreed for each building. This confirms the contribution from the HOA or PHE, the Municipality, and KEEF.

In municipalities with a PHE, this phase may include agreement on an energy efficiency service fee, allowing residents to repay their contribution gradually through the regular maintenance charge.

In municipalities without a PHE, a service based fee is not possible. In these cases, the HOA must provide its contribution as a one-time payment. If the HOA or residents do not have sufficient funds, they may apply for a soft loan from a partner financial institution.

To support this process, the project will assist the HOA by providing a confirmation note stating that the building is officially participating in the EEC intervention and that the loan will be used only for the approved renovation measures. The project will also provide any additional project information required by the bank to support the loan application and ensure a smooth financing process.

Expected results:
Signed financing agreements and clear understanding of financial responsibilities by all parties.

Phase 7 – Procurement

Procurement arrangements depend on the municipal context. In municipalities with a PHE, procurement is led by the PHE. In municipalities without a PHE, procurement is led by KEEF in line with donor and national requirements.

Municipalities support coordination and oversight throughout the process.

Expected results:
Transparent procurement process and selection of qualified service providers.

Phase 8 – Contracting and kick-off

Contracts are signed with selected service providers, and a kick-off meeting confirms timelines, site access, quality requirements, and communication arrangements. HOAs coordinate resident access during works.

Expected results:
Signed contracts, agreed implementation schedule, and readiness to start construction works.

Phase 9 – Implementation of works

Energy efficiency and renewable energy measures are implemented on site by contracted companies in accordance with the approved technical designs, specifications, and applicable standards. Works are carried out in common areas and, where relevant, within apartment units, following an agreed schedule that minimizes disruption to residents.

In municipalities with a Public Housing Enterprise (PHE), the PHE oversees implementation, coordinates with contractors, and ensures that works comply with approved designs and quality requirements. In municipalities without a PHE, implementation is overseen by KEEF, with support from the relevant Municipal Directorate to facilitate local coordination and access.

Homeowner Associations assist with communication and coordination with residents throughout the construction period.

All companies carrying out the works must comply with environmental, health, and safety (EHS) requirements. Special care must be taken when working in multi-apartment buildings, as these are shared living spaces with frequent movement of residents and visitors. Contractors are required to ensure safe access, proper site organization, dust and noise control, safe handling of materials, and clear communication with residents to reduce risks and disturbances during the works.

Expected results:
High quality implementation of EE and RE measures in accordance with technical standards.

Phase 10 – Completion and acceptance of works

Once construction works are completed, final testing and commissioning are carried out to confirm that all installed systems and measures operate as intended. Contractors submit completion documentation, test results, and as-built information for review.

Formal acceptance then confirms that the works meet all technical specifications and contractual requirements. In municipalities with a

Public Housing Enterprise (PHE), acceptance is carried out by the PHE. In municipalities without a PHE, acceptance is jointly confirmed by KEEF and the relevant Municipal Directorate. Final payments are authorized only after successful acceptance.

Expected results:
Fully completed and functional works, official acceptance by responsible institutions, and authorization of final payments.

Phase 11 – Monitoring, reporting and close-out

After the acceptance of works, energy performance and operational results are monitored to confirm that the installed measures deliver the expected savings and function properly. Monitoring uses energy consumption data, available metering, and basic performance checks. Resident and HOA feedback is also collected to assess comfort, usability, and overall satisfaction. In municipalities with a Public Housing Enterprise (PHE), monitoring and reporting are led by the PHE. In municipalities without a PHE, these activities are coordinated by the EEC Coordination Committee, with support from KEEF.

Reporting summarizes energy savings, operational performance, financial results, and implementation lessons. This information supports evaluation of project outcomes and preparation for future scale up.

Expected results:

Verified performance results, documented lessons learned, and a clear basis for replicating the EEC Model in other buildings and municipalities.

13.2 Energy Efficiency Community (EEC) Service Model Organogram

1

PHASE 1 – OUTREACH & READINESS (MOBILIZATION)

Lead: Project, Municipality / PHE
Support: HOAs / Resident Councils
Activities: Public meetings, information materials, municipal announcements, direct engagement with HOAs, support to HOAs & Resident Councils in understanding eligibility and preparing for application

Outputs:

- Informed residents & HOAs
- Documented public meetings
- Initial expressions of interest
- Improved readiness for application

2

PHASE 2 – PUBLIC CALL & APPLICATION SUBMISSION

Lead: PHE (if exists) / Municipal Directorate via EEC Committee
Support: HOAs
Activities: Launch public call, provide guidance, receive applications with required documents, ensure completeness

Outputs:

- Pool of eligible & motivated buildings
- Complete applications
- Clear understanding of participation conditions

3

PHASE 3 – ELIGIBILITY SCREENING & BUILDING SELECTION

Lead: PHE (if exists) / EEC Coordination Committee
Support: KEEF
Activities: Screen applications, score & rank based on agreed criteria, prepare list of selected buildings

Outputs:

- Transparent & justified selection
- Highest impact & feasibility potential buildings selected

4

PHASE 4 – ENERGY AUDIT & BASELINE ESTABLISHMENT

Lead: PHE Technical Team (if exists) / External Audit Company procured by KEEF
Support: HOAs / Residents
Activities: Conduct energy audits, on-site inspections, assess building envelope & systems, collect consumption data, establish baseline, develop recommendations

Outputs:

- Energy audit reports
- Baseline energy data
- Technically sound recommendations

5

PHASE 5 – TECHNICAL DESIGN & COSTING AGREEMENT & APPROVAL

Lead: PHE Technical Team (if exists) / External Design Company procured by KEEF
Support: Municipality & HOAs
Activities: Prepare technical designs & BoQs, validate scope & costs, obtain agreement & approval

Outputs:

- Approved technical design packages
- Clear scope & specifications
- Reliable cost estimates

Figure 7 : Energy Efficiency Communities (EEC) Service Model Organogram

14. Community engagement and behavior change framework

Community engagement and behavior change are central to the success of the Energy Efficiency Community (EEC) Model. Technical investments alone are not sufficient to achieve long term energy savings and improved living conditions. The EEC Model therefore places strong emphasis on organizing residents, strengthening local governance structures, and supporting everyday energy efficient behavior.

To ensure maximum impact, a dedicated Behavior Change and Outreach (BC&O) plan is prepared from the very beginning of the project. This plan defines key messages, communication tools, and engagement activities, ensuring that residents receive clear and correct information early on. A well planned BC&O approach helps build trust, increases interest in participation, and encourages residents to apply for energy efficiency improvements.

14.1 HoA formation and strengthening

Homeowner Associations (HOAs) or Resident Councils are the main entry point for community participation in the EEC Model. Where HOAs already exist, the project focuses on strengthening their capacity to represent residents, coordinate decisions, and manage collective responsibilities. Where HOAs do not yet exist, support is provided to guide residents through the formalestablishment process.

This includes assistance with documentation, clarification of legal roles, and guidance on decision-making procedures. Strong and functional HOAs ensure that residents can participateeffectively, communicate with municipalities and implementing institutions, and take ownership of the energy efficiency investments made in their buildings.

14.2 Communication strategy

Clear and continuous communication is essential to build trust, manage expectations, and maintain resident engagement throughout the project lifecycle. The communication strategy ensures that residents receive timely and understandable information at each phase, from initial outreach and application to construction works and post implementation monitoring.

Communication activities may include information meetings, written materials, notices in common areas, and direct communication through HOA representatives. Special attention is given to explaining technical measures, construction schedules, financial obligations, and expected benefits in simple language, helping residents make informed decisions and remain engaged throughout the process.

14.3 Behavior change interventions

Behavior change interventions complement technical upgrades by encouraging residents to use energy more efficiently and maintain installed systems properly. These interventions focus on practical actions such as efficient heating and ventilation practices, responsible use of shared lighting and systems, and basic maintenance routines.

Awareness activities may include short training sessions, simple guides, and visual reminders in common areas. By promoting energ conscious behavior, the EEC Model helps ensure that energy savings achieved through investments are sustained over time.

15. Monitoring, Verification, and Reporting (MVR)

Monitoring, Verification, and Reporting (MVR) ensure that the Energy Efficiency Community (EEC) Model delivers measurable energy savings, environmental benefits, and reliable implementation results. The MVR framework provides transparent and structured information for municipalities, KEEF, donors, and residents, supporting accountability and informed decision making.

The model applies clear performance indicators to track improvements in building energy performance, including reductions in energy consumption, improved comfort, and proper operation of installed systems. Additional indicators monitor implementation progress, financial flows, and the level of community engagement and resident satisfaction.

Energy savings are verified by comparing post implementation energy consumption with the baseline established through energy audits. Verification relies on actual consumption data, supported by meter readings and, where available, monitoring tools, with adjustments made for external factors when necessary.

The framework also includes CO_2 accounting, translating verified energy savings into emission reductions using standard emission factors. This supports national climate objectives and donor reporting requirements.

Data is collected through multiple tools, including energy bills, audit reports, site inspections, monitoring systems, and resident feedback. HOAs and residents support data collection by facilitating access and communication.

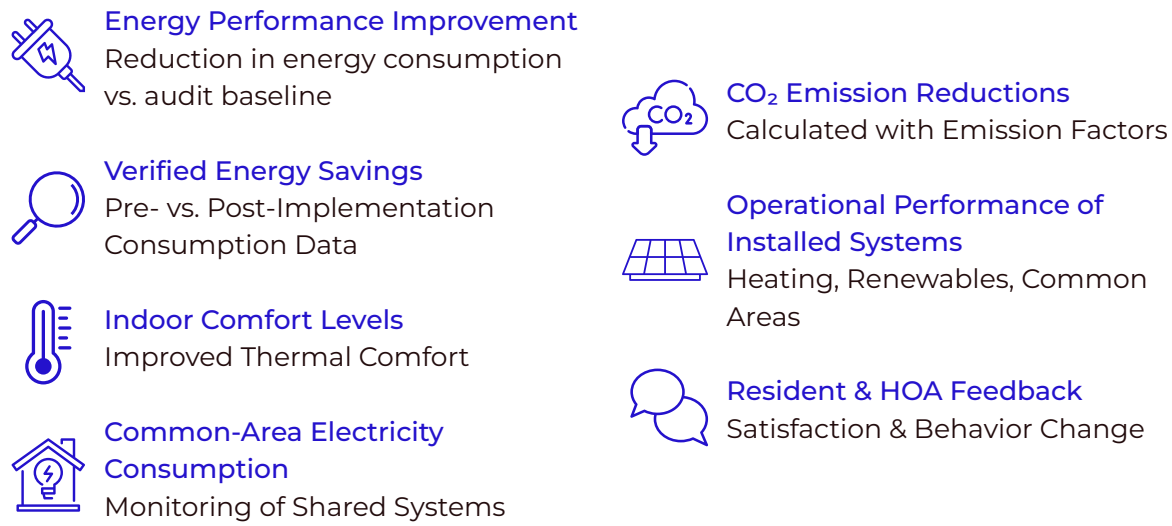


Figure 8: Indicators of the Monitoring, Verification and Reporting

Reporting obligations ensure that results are clearly documented and shared. Reports cover energy savings, CO_2 reductions, financial performance, and lessons learned. Reporting is led by PHEs in municipalities where they exist, and by the EEC Coordination Committee with KEEF support in non-PHE municipalities, in line with municipal and donor requirements.

16. Risk analysis and mitigation measures

The implementation of the Energy Efficiency Community (EEC) Model involves multiple institutions, financial contributions, technical works, and active participation of residents. As a result, several types of risks may arise during project preparation, implementation, and follow up.

Institutional risks include coordination challenges, unclear responsibilities, and delays in approvals among municipalities, Public Housing Enterprises (where applicable), and KEEF.

Financial risks relate to affordability, delayed funding, budget constraints, or households struggling to repay loans.

Technical risks concern the quality of audits, designs, and construction works, as well as adaptation to building conditions.

Community risks involve low participation, internal disagreements within Homeowner Associations (HoAs), or dissatisfaction during construction.

These risks are addressed through clear governance arrangements, early financial checks, quality control, strong communication, and structured approval milestones to ensure smooth implementation and long term results.

16.1 Failure scenarios and adaptive measures

While the EEC Model is designed with clear procedures, defined roles and structured financing, practical implementation may face challenges that require adaptive responses. Building on the risk matrix, this section outlines typical failure scenarios and the corresponding measures to ensure continuity, minimize disruption, and safeguard results.

Low participation or refusal by Homeowner Associations (HOAs)

In cases where HOAs or residents show low interest, internal disagreement, or refuse to participate, the model adapts through strengthened outreach and engagement. Municipalities, PHEs (where applicable), and the EEC Coordination Committee intensify communication efforts, organize additional meetings, and provide clearer information on benefits, costs, and responsibilities. Where full building participation is not immediately feasible, the model allows for phased engagement or prioritization of buildings with stronger readiness, ensuring continued progress while maintaining openness for later inclusion.

Inability of residents to meet co-financing requirements

Where residents or HOAs are unable to mobilize the required financial contribution, particularly in municipalities without a PHE, the model applies flexibility in financing arrangements. This includes support in accessing soft loans through partner financial institutions, provision of project confirmation documentation to facilitate loan approval, and, where possible, adjustments in the phasing of contributions.

At the stage when the total cost estimate is defined, the model also allows subject to agreement with the HOA for a restructuring of cost-sharing arrangements to better accommodate vulnerable households. This may include reducing or redistributing the financial burden so that certain vulnerable categories are partially or fully exempted from direct contributions.

In addition, an alternative mechanism may be applied whereby the Municipal Directorate of Social Welfare, or a similar municipal body, assumes responsibility for covering the contributions of households benefiting from social assistance schemes.

These measures, combined with tailored repayment conditions and targeted support mechanisms, help prevent exclusion and ensure equitable participation of all residents.

Municipal delays or limited institutional capacity

Delays in approvals, procurement, or coordination may occur due to limited municipal capacity or administrative constraints. In such cases, predefined implementation timelines, standardized documentation, and early preparation of required approvals are applied to reduce bottlenecks. In municipalities without a PHE, the role of KEEF is strengthened to provide technical and procurement support, ensuring that implementation can proceed in line with required standards and timelines.

Coordination challenges between stakeholders

Where coordination issues arise between municipalities, PHEs, KEEF, and service providers, the model relies on clearly defined roles and structured decision making processes. The EEC Coordination Committee (in non-PHE municipalities) or the PHE (in PHE municipalities) acts as the central coordination body, ensuring that issues are addressed promptly and responsibilities remain clear. Regular coordination meetings and documented communication channels are used to maintain alignment.

Technical or design related challenges

If technical designs are not fully adapted to building conditions or unforeseen issues arise during implementation, corrective measures are applied through site verification, design adjustments, and supervision controls. Quality assurance mechanisms ensure that any deviations from standards are identified early and resolved before progressing further, preventing long term performance issues.

Financial constraints or cost overruns

In cases of market price increases or cost overruns, the model allows for the use of contingency provisions, adjustment of material specifications (while maintaining required standards), and phased implementation where necessary. Early market assessments and cost validation during the design phase reduce the likelihood of such risks.

Delays in funding or co-financing commitments

Where municipal or external funding is delayed, implementation may be rescheduled or phased to align with available resources. Written co-financing commitments prior to procurement help reduce this risk, while continuous coordination with funding institutions ensures transparency and predictability.

16.2 Risk Matrix – Energy Efficiency Community (EEC) Model

Risk Category	Risk Description	Likelihood	Impact	Mitigation Measures	Responsible Actor(s)
Institutional	Unclear roles and coordination in municipalities without a PHE	Medium	High	Establish EEC Coordination Committee from project start, assign clear focal point (Municipal Energy Efficiency Officer), define roles per phase	Municipality, EEC Coordination Committee
Institutional	Limited technical and project management capacity at municipal level	Medium	High	KEEF-led procurement and technical support, use standardized templates and procedures, targeted capacity support	KEEF, Municipality
Institutional	Delays in approvals and administrative procedures	Medium	Medium	Use decision stages with fixed timelines, prepare documents early, pre-agreed approval calendar	Municipality, PHE, KEEF
Institutional	Weak documentation and record-keeping	Low	Medium	Standardized documentation checklist per phase, centralized project file management	PHE / EEC Committee, KEEF
Financial	HoA unable to mobilize required one-time contribution (non-PHE municipalities)	Medium	High	Early affordability check, support access to soft loans, project confirmation note for banks	HoA, Municipality, KEEF

Risk Category	Risk Description	Likelihood	Impact	Mitigation Measures	Responsible Actor(s)
Financial	Municipal budget constraints or delayed co-financing	Medium	High	Written co-financing agreement/commitment before procurement, phased implementation if needed	Municipality
Financial	Risk that households may struggle to repay loans	Low-Medium	Medium	Soft-loan conditions, clear loan information, affordability safeguards for vulnerable groups	HoA, Banks, Municipality
Financial	Cost overruns due to market price increases	Medium	Medium	Include contingency, allow equivalent materials meeting standards, pre-market checks	PHE / KEEF
Technical	Incomplete or low-quality energy audits	Low-Medium	High	Minimum audit scope, on-site inspections, QA review before design	PHE / KEEF
Technical	Design not fully adapted to building conditions	Medium	High	Site verification during design, formal design approval before procurement	PHE / Design Firm / KEEF
Technical	Poor workmanship or non-compliance with specifications	Medium	High	Quality control checks, inspections, payment linked to verified milestones	PHE / KEEF

Risk Category	Risk Description	Likelihood	Impact	Mitigation Measures	Responsible Actor(s)
Technical	Difficulties working in occupied buildings	High	Medium	Clear work schedule, HOA coordination, EHS measures, resident communication	Contractors, HoA
Technical	Systems not properly commissioned or used	Medium	Medium	Commissioning protocols, user guidance, post-installation checks	Contractors, PHE / KEEF
Community	Weak HoA legitimacy or internal disputes	Medium	High	Require documented collective approval, strengthen HoA governance early	HoA, Municipality
Community	Misinformation or unrealistic expectations among residents	Medium	Medium	Early and continuous BC&O plan, clear messaging on costs, savings, and timelines	Municipality, PHE, HoA
Community	Low participation due to financial or social barriers	Medium	High	Social inclusion measures, targeted support for vulnerable households	Municipality, HoA
Community	Complaints and resistance during construction works	Medium	Medium	Clear grievance channel, EHS enforcement, rapid response to issues	Contractors, HoA, Municipality

Table 5 : EEC Service Model Risk Matrix

17. Pilot results integration and model refinement

The pilot phase of the EEC Model is designed not only to deliver immediate results but also to generate practical insights for improving the model before wider rollout. Lessons from implementation are regularly collected and applied to improve how the model works in practice.

Feedback from pilots is collected throughout implementation and after completion, drawing on monitoring data, reporting outputs, stakeholder consultations, and feedback from municipalities, PHEs, HOAs, service providers, and residents. This includes both quantitative results (energy savings, costs, timelines) and qualitative insights (coordination challenges, resident engagement, usability of procedures).

Based on this feedback, a model adjustment logic is applied. Elements that work well are standardized, while those that create delays, confusion, or unnecessary complexity are simplified or revised. Adjustments may include refinements to eligibility criteria, financing arrangements, procurement sequencing, coordination roles in non-PHE municipalities, or communication approaches.

A lessons learned mechanism ensures that pilot experiences are documented in a structured way and translated into practical guidance. This includes short lessons learned notes, updated templates, and refined procedures that form part of the final EEC Model package and inform future replication.

18. Replication and scale-up strategy

The EEC Model is designed to be replicable across municipalities with different institutional capacities and housing conditions. Replication is based on applying a standardized service logic while allowing flexibility in institutional arrangements and financing structures.

Conditions for replication include the presence of a willing municipality, basic administrative capacity, availability of co-financing (municipal and national), and active or potential HOAs capable of representing residents. A clear coordination structure either through a PHE or an EEC Coordination Committee is essential.

For municipalities without a PHE, replication relies on adapted implementation arrangements. Core functions such as audits, design, procurement, and supervision are supported or led by KEEF, while municipalities focus on coordination, communication, and community engagement. This ensures that lack of a PHE does not prevent participation, while acknowledging the higher coordination effort required.

An institutional readiness checklist supports scale up decisions, covering aspects such as municipal commitment, availability of an Energy Efficiency Officer, HOA readiness, financing sources and access to technical support. This helps prioritize municipalities that can implement effectively and sustainably.

Funding pathways for scale-up may combine KEEF programs, municipal budgets, donor funding, appropriate, private or financial institution involvement. Pilot results provide the evidence base to mobilize additional funding and integrate the EEC Model into broader national or donor-supported programs.

19. Sustainability of the EEC Model

The sustainability of the EEC Model depends on strong institutional ownership and the ability of local actors to continue implementation beyond the pilot phase. From the start, the model is built to work within existing municipal structures and national funding schemes.Long term institutional ownership rests with municipalities and Public Housing Enterprises (where they exist), supported by KEEF as a national implementing and financing body.

The roles, procedures, and coordination arrangements established during the pilot are intended to become part of regular municipal practice.

Maintenance and operation after implementation are ensured through stronger Homeowner Associations (HoAs), clear responsibility for maintaining installed measures, and where applicable, simple service based payment arrangements. Residents are supported to properly operate systems, address issues early and maintain achieved energy performance over time.

Knowledge transfer is ensured through systematic documentation of procedures, templates, lessons learned, and capacity building activities for municipal staff, PHEs and HoAs. This approach supports continuity and long term functionality of the EEC Model, even in the event of staff changes or institutional transitions.

20. Conclusions and recommendations

The Energy Efficiency Community (EEC) Model shows that energy efficiency in multi-apartment buildings can be delivered as an organized public service, instead of through one time, isolated projects. By combining technical measures with clear governance arrangements, shared financing, and strong community engagement, the model provides a practical and scalable approach that responds to Kosovo's housing and energy challenges.

The pilot experience confirms that the model is workable in municipalities with and without a Public Housing Enterprise (PHE), provided that roles are clearly defined and coordination mechanisms are in place. Where a PHE exists, implementation is more streamlined due to centralized technical and operational capacity. In municipalities without a PHE, the model remains viable but requires stronger coordination through municipal structures and KEEF support, particularly for procurement and technical oversight.

The EEC Model also shows that resident participation and affordability can be balanced through transparent co-financing arrangements, early communication, and access to appropriate financing options. Strengthened Homeowner Associations (HOAs) play a critical role in ensuring ownership, decision making, and long term sustainability of investments.

Overall, the EEC Model provides a solid foundation for wider replication, institutionalization, and integration into national and municipal energy efficiency programs.

20.1 Recommendations

1. Formalize cooperation through a Memorandum of Understanding (MoU)

One of the very first steps in implementation should be the signing of a Memorandum of Understanding between all involved parties - municipalities, Public Housing Enterprises (where applicable), KEEF, and other key stakeholders. The MoU should clearly define roles, responsibilities, coordination arrangements, and commitments, ensuring that expectations are aligned and respected throughout implementation.

2. Encourage the establishment of Public Housing Enterprises

Municipalities should be encouraged to establish Public Housing Enterprises dedicated to housing management and energy efficiency services. Specialized PHEs significantly improve implementation efficiency, provide a clear focal point for residents, and support long term sustainability of energy efficiency investments. Where PHEs do not yet exist, their gradual establishment should be considered as part of broader municipal development strategies.

3. Clarify co-financing arrangements early and contractually

Co-financing agreements should be clearly defined and signed before implementation begins. These agreements should be **tripartite**, involving the HOA or PHE, the municipality, and KEEF, and should reflect the specific roles and responsibilities of each party.

4. Define a single and transparent flow of funds

When signing co-financing agreements, it is essential to decide in advance which account will receive all co-financing contributions and from which account payments to service providers will be made. A single, clearly designated payment channel reduces administrative complexity, minimizes delays, and strengthens transparency and financial control.

5. Strengthen institutional and technical capacity at municipal level

Municipalities should ensure the availability of a designated Energy Efficiency Officer and, where relevant, an active EEC Coordination Committee to manage inquiries, oversee implementation, and support HOAs. Continued capacity building is key to scaling up the model successfully.

6. Invest early in community engagement and communication

A strong Behavior Change and Outreach (BC&O) approach should be planned from the start to inform residents, manage expectations, and encourage participation. Early andtransparent communication reduces risks, strengthens trust, and improves uptake of energy efficiency measures.

7. Undertake a comprehensive legal review and assessment of the enabling framework for public housing retrofitting

Before full scale implementation, it is strongly recommended to conduct a detailed legal review of the applicable framework governing energy efficiency interventions and retrofitting of public housing in Kosovo. Although primary legislation provides a general foundation, a structured review of bylaws, secondary legislation, and administrative procedures is required to assess possible inconsistencies, overlaps, or operational limitations.

8. Use pilot results to guide scale-up

Lessons learned from pilot implementation should be systematically integrated into refined procedures, templates, and guidance. This will support replication of the EEC Model across municipalities and its integration into national and donor supported programs.

ANNEX 1

References and design foundations

The EEC Service Model is developed as an applied design framework informed by the implementation of previous energy efficiency projects in Kosovo, including the Subsidies for Energy Efficiency in Kosovo (SEEK) project implemented by the Millennium Challenge Corporation and the Kosovo Energy Efficiency and Renewable Energy Project (KEEREP) implemented by the World Bank. These initiatives provided important insights into the operational, financial, and institutional aspects of implementing energy efficiency measures in the residential sector, particularly in relation to delivery mechanisms, household engagement, and implementation challenges.

In addition, the design process was informed through consultations and discussions with municipalities and public housing enterprises, focusing on their operational capacities, institutional readiness, and willingness to cooperate and invest in structured energy efficiency interventions. These exchanges contributed to shaping the practical applicability and institutional anchoring of the model.

The model is further aligned with the national legal and policy framework governing energy efficiency and building performance in Kosovo, including relevant legislation, strategic energy planning documents, and institutional arrangements guiding the sector.

The design also draws on selected international good practices related to building energy efficiency and residential renovation programs, particularly approaches that combine public support mechanisms with household participation, structured implementation frameworks, and integrated service delivery models.

Key reference foundations include:

- Subsidies for Energy Efficiency in Kosovo (SEEK) – Millennium Challenge Corporation
- Kosovo Energy Efficiency and Renewable Energy Project (KEEREP) – World Bank
- Kosovo Law on Energy Efficiency and relevant secondary legislation
- National Energy Strategy and related energy planning documents
- EU Energy Performance of Buildings Directive (EPBD) and implementation principles
- Selected international practices on residential energy efficiency renovation and integrated service-based delivery models

These reference foundations ensure that the EEC Service Model is grounded in tested implementation approaches, aligned with national policy frameworks, and informed by international good practices, while also reflecting institutional feedback and readiness from key local stakeholders.