



ComActivate

Enabling community action for energy sufficiency

D3.5 ROADMAPS FOR ENERGETIC UPGRADING OF DISTRICTS IN SELECTED NEIGHBOURHOODS

ELEKTRĖNAI

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List of abbreviations

AC	Air Conditioning
EU	European Union
HVAC	Heating, Ventilation and Air Conditioning
HOAs	Homeowners Associations
MFABs	Multi-Family Apartment Buildings
NESRs	Neighbourhood Energy Sufficiency Roadmap
NGOs	Non-Governmental Organisations
PV	Photovoltaic
RC	Resource Centre



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1 INTRODUCTION

The ComActivate project, funded by the EU LIFE research programme, is a strategic initiative designed to respond to growing issue of energy poverty across Central and Eastern European countries. The ComActivate project continues the efforts of the ComAct project, implemented between 2020-2024, aiming to improve building energy efficiency as a major driver of energy poverty and climate change¹. With rising energy prices and widening economic disparities, vulnerable populations are increasingly at risk of becoming unable to afford adequate heating, cooling and electricity.

The project is being implemented in **four selected municipalities across three countries** to pilot innovative and community-based solutions:

- Bulgaria: Burgas Municipality
- Hungary: Józsefváros Municipality (District 8 of Budapest)
- Lithuania: Kaišiadorys Municipality and Elektrėnai Municipality.

These municipalities and their pilot areas were selected due to the substantial energy inefficiency of multi-family apartment buildings (MFABs) and the deteriorated condition of many structures, making them priority targets for improvements. Renovation efforts are constrained by a combination of structural, financial, governance and behavioural barriers.

Across Europe, a persistent challenge is the gap between the upfront investment required for building renovation and the financial capacity of individual households. This is particularly difficult in MFABs, where households within the same building may have different² financial circumstances. While some households may be able to finance their share of renovation costs, others may face significant difficulties in covering upfront costs or co-financing requirements. Public funding alone does not always solve this problem, highlighting the need for flexible financing and support mechanisms that can accommodate different financial capacities and enable renovations at building level.

Financial constraints are further reinforced by limited access to information, complex administrative procedures and a fragmented financing landscape. Older people and households with lower income may find it especially difficult to identify suitable renovation measures and funding options. These factors can make the renovation process overwhelming and discourage residents from taking action.

Decades of underinvestment have left much of the housing stock in Bulgaria, Hungary and Lithuania below acceptable energy standards. Nevertheless, building performance does not tell the whole story. Even where energy efficiency improvements have been made in recent years, absolute energy consumption is not going down because of the rebound effect. Household behaviour, must therefore, be considered alongside technical improvements.

Another challenge is the legacy of decades of centralised management, which shaped expectations that responsibility for building maintenance and upgrades rests primarily with the state. In many communities, this has contributed to limited initiative at the household level and made collective decision-making more difficult.

For municipalities, addressing these barriers requires more than technical solutions: it requires time, trust, effective communication and local capacity to help residents understand their options, make informed decisions and act together.

Addressing energy poverty therefore requires an integrated approach that combines investment in energy efficiency with accessible financing, straightforward procedures, reliable information and community engagement.

¹ EU and National Level Policy Analysis and Monitoring, ComActivate, January 2024

² Baseline Report on the State of the Art of Resource Centres in the Demonstration Sites, ComActivate, April 2024

In response to these challenges, ComActivate seeks to empower municipalities through targeted interventions, stakeholder engagement and capacity building activities. The project supports efforts to reduce energy poverty, improve energy efficiency and energy sufficiency in MFABs and providing pathways for renovation strategies that integrate renewable energy solutions.

This document, *the Neighbourhood Energy Sufficiency Roadmap(s)* (NESR), is one of the key deliverables of the ComActivate project. It is developed for each participating pilot municipality. The primary focus of this document is MFABs, although NESRs could be applied to a wide range of building types in the future, including public and commercial buildings.

2 OBJECTIVE OF THE ROADMAP

The NESR provides a practical, locally grounded plan for tackling energy poverty and strengthening resilience in each pilot areas. Rather than applying a single template, it is tailored to the socio-economic conditions and the housing stock of each area, so that the guidance is tailored to the specific needs and realities of each of pilot municipalities.

The primary objective of the NESRs is to define a clear and coherent vision for the **housing stock** in each pilot area, outlining concrete steps, activities and measures to reduce energy demand, improve housing quality and sustainability and ensure equitable access to adequate housing conditions for residents, particularly vulnerable households. It serves as a strategic tool to facilitate cooperation among key stakeholders through a structured and results-oriented approach. The approach also reflects European Union (EU) requirements, such as those in the Energy Performance of Buildings Directive (EU) 2024/1275, so that each pilot area aligns with the broader strategic goal of achieving a highly-efficient and decarbonised buildings stock. This ensures consistency in implementation and enables measurable progress over time.

2.1 Energy Efficiency and Energy Sufficiency

Energy efficiency and energy sufficiency are the two main pillars of this NESR. They address energy use in different ways:

Energy efficiency is a key component of the EU's strategy to reduce energy consumption, lower costs and achieve climate neutrality by 2050. It involves using less energy to provide the same output or service, thereby minimizing energy waste, reducing energy costs and environmental impacts.

Key efficiency measures include:

- Improving building foundation and ceiling/roof insulation to enhance thermal performance and reduce heating and cooling demand
- Installing energy-efficient windows, doors and roof hatches to prevent heat loss and air leaks
- Installing solar photovoltaic (PV) systems to generate clean, renewable energy and reduce dependence on the grid
- Implementing smart thermostats to automatically optimize temperature settings
- Upgrading high-consumption products such as HVAC³ systems and water heaters.

For citizens, energy efficiency interventions offer clear everyday benefits: lower energy bills, warmer and healthier homes. They also reduce dependence on imported energy and exposure to geopolitical

³ HVAC – Heating, Ventilation and Air Conditioning

tensions and price fluctuations in the energy market. Additionally, energy efficient buildings are better protected against rising energy costs and are more likely to retain their value.

Energy sufficiency. While energy efficiency reduces energy per unit of service, it does not necessarily reduce overall energy demand. Global energy consumption continues to rise as living standards increase and buildings squaremeter per person expand. The concept of energy sufficiency focuses on reducing unnecessary energy demand by encouraging people to use only the energy that is genuinely needed for a decent dignified and comfortable life, while ensuring equitable access, particularly for vulnerable or marginalized populations.

The Intergovernmental Panel on Climate Change defines sufficiency as: *“a set of measures and daily practices that avoid demand for energy, materials, land and water while delivering human well-being for all within planetary boundaries.”*

Although energy sufficiency has not been formally adopted as a standalone directive or policy at the EU level (with the exception of France), it appears in many guidance documents, analytical frameworks and academic literature. Across these sources⁴, energy sufficiency is generally understood as changing everyday practices of resource use in ways that lower energy consumption without compromising quality of life or creating negative social or environmental impacts.

To better understand and apply the concept, sufficiency measures can be grouped into four categories⁵:

- **Dimensional sufficiency:** ensuring an energy service matches to its actual purpose (e.g. using a vehicle suited to the travel need rather than one larger or more powerful than necessary, heating only occupied rooms to the temperature required for their specific use, converting an oversized heated basement storage into an unheated bicycle storage area with natural ventilation, eliminating heating demand entirely; using passive cooling strategies, such as external shading and green infrastructure to reduce or eliminate the need for Air Conditioning (AC), etc.)
- **Cooperative sufficiency:** maximising the shared use of energy services to reduce overall consumption (e.g. car sharing, collective housing arrangements, etc.)
- **Usage sufficiency:** reducing the duration, intensity or frequency of energy-intensive activities and extending equipment lifespan through optimal use (e.g. lowering heating temperatures during unoccupied periods, elevator load management, etc.)
- **Organisational sufficiency:** rationalising the use of space and arranging both physical spaces and daily activities to minimise the need for transportation and resources (e.g. designing urban areas to reduce the distances required to access workplaces and essential public services, including the centralized accessible facilities specifically designed to accommodate elderly users and provide various public services within a single location).

Taken together, these four categories reflect a single idea with two boundaries. As a **minimum**, sufficiency guarantees decent living standards for everyone, ensuring that no household falls below the level of energy needed for a dignified life. As a **maximum**, it calls for avoiding unnecessary energy and resource use so that consumption stays within planetary boundaries⁶.

When putting sufficiency into practice, a clear hierarchy should guide decision-making⁷. The first priority is to preserve and make better use of existing buildings, while new construction should be considered

⁴ Source: <https://journal-buildingscities.org/articles/10.5334/bc.458>; https://enr-network.org/wp-content/uploads/Bohnenberger_EnergySufficiency_18.pdf

⁵ Source: <https://www.enerdata.net/publications/executive-briefing/eu-sufficiency-security-energy.html>

⁶ Prioritising Existing Buildings for People and Climate, BPIE, 2024

⁷ Ibid.

only as a last resort and designed according to sufficiency principles. This hierarchy is summarized in Table 1:

Table 1: Hierarchy of Sufficiency Options: From Most to Least Preferred

Tier	When it applies	Sufficiency solutions	Why it works
Tier 1 (most preferred) <i>“Optimize the existing building”</i>	• High heating bills • High summer electric bills for cooling • Some flats are vacant • Flats are under-occupied	• Match heated or cooled space to actual need • Use passive rather than active heating and cooling solutions • Identify why flats are vacant and bring them back into use • Offer support for flat exchanges (move into smaller flats)	• Heating only areas of the house actually used • External solar shading rather than/in addition to AC • Enabling and incentivising rightsizing to adjust space needs to actual needs or residents, reduce the amount of space that must be heated, cooled and lit, cutting energy demand at source rather than relying solely on efficiency improvements.
Tier 2 <i>“Use existing space and materials before adding anything”</i>	• Unused attic space • Empty commercial spaces on the ground floor • Vacant neighbouring office building • A nearby building is being demolished	• Convert attic space into additional flats • Convert unused commercial spaces into flats • Reuse materials such as bricks, timber, etc.	• Reusing existing building structures significantly reduces embodied energy by avoiding the production of new construction materials such as concrete, steel, etc. • Reusing bricks and timber from demolition avoids the energy of manufacturing new materials.
Tier 3 <i>“Least preferred, but if new construction is necessary, build in the most sufficient way”</i>	• A genuine need for new space remains after Tiers 1 and 2 have been fully explored.	• Use low-carbon materials (recycled, bio-based insulation, etc.) • Design flexible layouts with movable walls • Prioritise shared spaces over private ones	• Bio-based insulation such as wood fibre requires far less energy to be produced than conventional foams. • Positioning the building to capture sunlight and designing

Tier	When it applies	Sufficiency solutions	Why it works
			windows to let in the right amount of natural light and warmth cuts the need for heating and lighting. Flexible spatial configurations enable a building to be repurposed over time, avoiding the large energy cost of rebuilding later.

Building on this understanding, the ComActivate Project has developed a comprehensive interpretation of energy sufficiency based on the following principles:

- **Equitable Distribution:** Reduce energy demand among high consumers while ensuring adequate energy access for vulnerable households (dimensional and cooperative sufficiency at the household level).
- **Behavioural Change:** Promote energy-saving habits and discourage unnecessary energy consumption in everyday life (usage sufficiency).

This dual approach recognises that effective energy policy must address both climate goals and human well-being.

While each NESR is customized to reflect the unique circumstances of its respective urban area, the methodological approaches proposed in this document are fully transferable to other urban contexts across Europe. As such, they serve as a valuable tool for replication and adaptation in other regions across the EU that face similar energy-related challenges. By sharing best practices and adaptable solutions, the ComActivate project aims to contribute to a fair and inclusive energy transition.

3 INSTITUTIONAL PLACEMENT OF THE ROADMAP

The Energy Efficiency Directive (EU) 2023/1791 mandates that Member States must establish a supportive framework for market actors, such as one-stop-shops, that would provide residents reliable information, individual technical assistance and guidance on available financial schemes for energy efficient renovations. Additionally, the Directive on Energy Performance Buildings (EU) 2024/1275 mandates inclusive one-stop shops providing technical assistance to all actors involved in building renovations, including owners, administrative, financial and economic actors, SMEs, etc. By streamlining the renovation process and coordinating both technical and financial support, these **one-stop-shops or Resource Centres (RC)**, help to overcome major obstacles to renovations and improved energy performance, such as a lack of understanding, high upfront costs and complicated administrative procedures.

Their core role is to assist households throughout the renovation journey by offering accessible and tailored services that make energy-saving improvements easier to implement.

The key benefits of establishing a RC for community members (residents), including vulnerable people, and property managers are presented in Table 2. While the benefits for community members also apply for vulnerable people, they require additional attention and tailored support, as highlighted in the table.

Table 2: Key benefits of RC for community members (residents)

BENEFITS FOR ALL COMMUNITY MEMBERS	ADDITIONAL BENEFITS FOR VULNERABLE PEOPLE
• Main point of contact • Based on clear and reliable renovation advice, residents can make informed decisions • Professional guidance improves the quality of renovations • Informed access to funding • Guidance on energy-saving measures that improve comfort and living conditions • Better understanding of energy-saving measures and available support • Better coordination of neighbourhood renovation projects and stronger resident engagement	• Reduced mental load • Overcoming information barriers (using understandable language at appropriate literacy levels) • Resource Centre is perceived as a trusted intermediary • Prevention of exploitation (protection from high-interest loans or unnecessary work) • Home visits available when needed • Ensure renovations meet accessibility needs • Identification of households that need wider support (connection to other social services)

Beyond individual support, RC also help implement NESR by engaging residents, providing guidance and translating neighbourhood-level energy strategies into practical actions for all households, including residents with vulnerabilities. Although there are many benefits of energy renovation, there are barriers⁸ that prevent people from engaging in such renovation, such as:

- Lack of understanding of the benefits of measures
- Fear of getting into more debt and higher energy costs
- Stigma associated with receiving free help and subsidy
- Structural barriers related to tenancy type or eligibility for interventions.

⁸ Assert, D.2.1 Report on the state of the art on energy poverty and disability and relevant indicators

While NESR provide the strategic vision for neighbourhood transformation, the Resource Centre offer the infrastructure required to realize the vision through trusted relationships, tailored support and community organizing.

Resource Centre Elektrėnai

The RC Elektrėnai, established under the name “Renkuosi renovaciją” (Eng. “I choose renovation”) is located in the premises owned by Elektrėnai Municipal Utilities⁹. This building is often known to locals as the former municipality building, which ensures high level of awareness among target population.

It is planned that one employee will work at the RC, which will operate once a week or by spreading the hours over several days (e.g: every Friday from 2.00-6.00 pm or similar). The RC will be operated by a person who will advise residents on general technical issues related to energy efficiency and renovation, as well as provide general information about state programme calls, subsidy opportunities, etc. However, to ensure the provision of guidance on key topics, such as renovation financing options, selection of appropriate materials, legal issues, etc., external consultants will be engaged on a non-recurring, as needed basis.

The **primary beneficiaries** of RC services are:

- residents of Elektrėnai, who are interested in improving the sustainability of buildings structures, upgrading engineering systems, increasing energy efficiency, reducing energy consumption, installing solar power plants or other renewable energy sources;
- Homeowners' Association (HOA)¹⁰
- vulnerable population who need adapted information and assistance to apply efficiency measures and participate in renovation processes.

The services provided by RC are:

- in-person consultations,
- meetings, trainings/workshops with MFAB owners,
- application assistance in state renovation programme,
- financial guidance and
- information dissemination.

At the heart of RC's services is a one-stop-shop that guides residents through the renovation process, covering application, funding opportunities, submission locations and project phases. Residents can receive help in the way that suits them best – in person, by phone, or online.

The RC is intended to serve as a hub for community engagement and knowledge exchange. Its key functions would include:

1. HOA and RC working together: While HOA are responsible for decision-making, coordinating residents and overseeing anticipated activities, RC provides technical guidance and advisory

⁹ Located at UAB “EKU” Elektrėnės street 8

¹⁰ A Homeowners' Association (HOA) is a voluntary, non-profit legal entity representing collective rights, obligations and interests of the owners of apartments or other premises. Its establishment and operation are regulated by the Law of the Republic of Lithuania on Associations of Owners of Apartment Buildings and Other Purpose Buildings (No. I-798)

support. Their collaboration ensures that the planned renovations and community initiatives are carried out efficiently and in the best interest of all MFAB owners.

2. **Fostering community interaction:** The RC could facilitate meetings and events for building communities, bringing together residents, apartment building administrators¹¹ and experts. These gatherings would allow informal communication, discussion or shared goals and collaborative planning to achieve them.
3. **Organizing training and discussions:** The RC would host to organize targeted sessions for residents, as well as training programs for building administrators, contractors and other stakeholders. This would ensure that all parties are well-informed and equipped to support renovation projects.
4. **Providing recommendations to decision-makers:** Through direct engagement with residents and other stakeholders, RC could recognize developing issues and then suggest recommendations to regional and state authorities to streamline renovation processes.

4 ENERGY VULNERABILITY

While the assessment of building performance and the design of renovation measures rely primarily on technical expertise, addressing energy vulnerability demands a human-centred approach. In the context of energy poverty, vulnerability encompasses the social, economic, demographic and housing-related factors that increase the risk of households facing insufficient access to affordable and adequate energy services¹².

Energy vulnerability should not be understood as an inherent characteristic of individuals or groups, but rather as the results of the contextual conditions that shape households' capacity to secure essential energy services, cope with energy-related challenges, adapt to changing circumstances. These conditions are multiple and frequently intersecting, including factors related to income, age, health, housing tenure, building characteristics and other context-specific factors. While low income is the most commonly cited factor, it is rarely the only one. Vulnerability typically emerges where several of these factors overlap and reinforce one another. This compounding effect is described in the through the concept of intersectionality, which highlights how the combination of several vulnerability factors amplifies risk beyond what each factor would cause on its own. Understanding vulnerability in all its dimensions is therefore a precondition for targeting support accurately, so that measures reach the households where disadvantage compounds rather than those who are simply easiest to identify.

Dimensions of Energy Vulnerability. Energy vulnerability is defined by a range of interconnected dimensions that shape households' capacity to secure essential energy services and to access available support. These dimensions include economic, demographic, health-related, social and housing-related factors.

¹¹ Apartment Building Administrator is a person or company responsible for managing multi-apartment buildings, including technical maintenance, financial and economic administration and the operation of common areas used by residents.

¹² EPAH Guidelines, Addressing Vulnerability & Equity in Energy Poverty Action, 2026

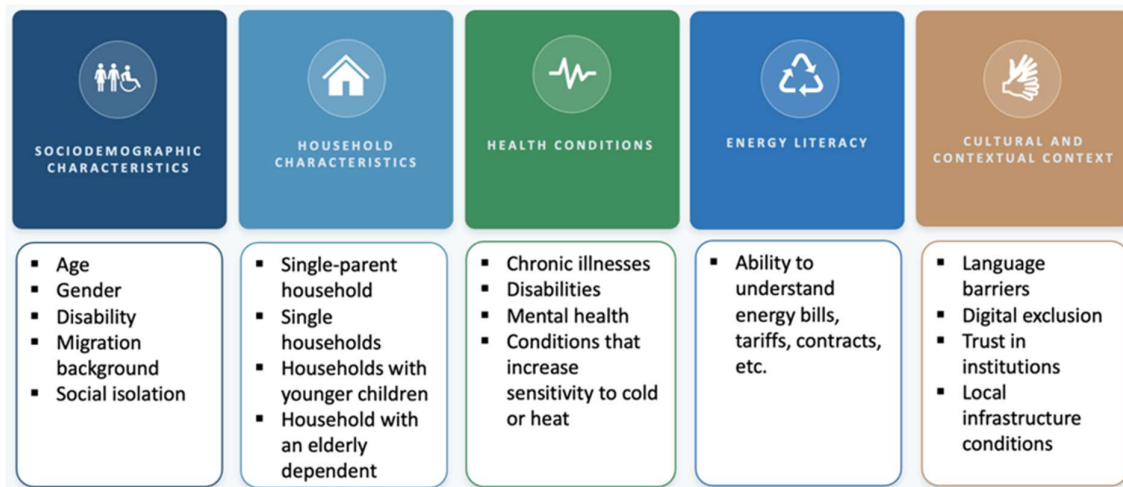


Figure 1: Key dimensions of vulnerability that shape access to essential energy services and available support¹³

Energy Poverty. When vulnerability factors, such as economic, infrastructural and contextual dimensions, accumulate and exceed a household's adaptive capacity to overcome energy-related barriers, the household may experience energy poverty. Energy poverty¹⁴ is defined as a condition experienced by households unable to secure sufficient energy services, encompassing thermal comfort, illumination and appliance operation, required for maintaining physical health, well-being and social participation. The impact of energy poverty may also extend to other household members (e.g. caregivers of people with disabilities), who may face stress and fatigue when providing support in poorly resourced households.¹⁵

5 LOCAL CONTEXT

Elektrėnai is situated in the heart of Lithuania, between the country's two largest cities namely Vilnius and Kaunas (

Figure 2). It is one of the youngest cities in the country, whose construction started only in 1962. The city was called Elektrėnai to commemorate the largest at that time power plant in Lithuania, which was surrounded by the growing city.

¹³ EPAH Guidelines, Addressing Vulnerability & Equity in Energy Poverty Action, 2026

¹⁴ https://www.researchgate.net/publication/259543840_Energy_poverty_in_the_European_Union_Landscapes_of_vulnerability

¹⁵ Assert, D2.1 Report on the state of the art on energy poverty and disability and relevant indicators, 2025

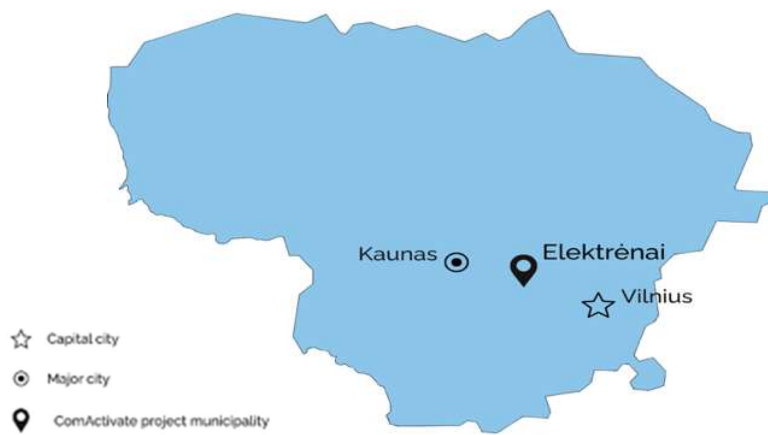


Figure 2: Overview of Lithuania and ComActivate project municipality

Elektrėnai Municipality consists of

- 2 cities: Elektrėnai and Vievis,
- 1 town: Semeliškės,
- 275 villages, and
- 28 homesteads.

Population. Based on the data of the State Data Agency, at the beginning of 2023, Elektrėnai Municipality had 24,201 permanent residents: 67.21% residents were living in the urban area and 32.79% residents in the rural territory. Working-age people made up 64.01% (15,491 persons) of the permanent residents of the municipality. In the municipality, 17.3% of the population is aged 65 or older, with men accounting for 6% and women 11.3%.

As in the rest of Lithuania, a decline in the average household size has been observed. According to the data from the Department of Statistics, the Municipality of Elektrėnai has seen a decline in the average household size, which was 2.2 persons in 2021. In the same year, more than one-third of households (35.2%) consists of a single occupant. In 2021, the Municipality of Elektrėnai's population was primarily Lithuanian (approx. 87%), with Polish (approx. 6%) and Russian (5%)¹⁶.

Education. In 2021, the educational structure of the population aged 10 and over in Elektrėnai Municipality was as follows: approx. 20% had higher education, 17% had vocational education, and 35% had completed secondary education. Every second resident with a higher education was 25–44 years old. Among those with vocational or special secondary education, 84.3% of persons were 50+ years old. The educational attainment of the 70+ age group was lower compared to other age groups.

Business landscape. The business landscape in Elektrėnai Municipality is dominated by micro (82%) and small companies (11.60%). Medium and large companies make up only 6.40%; however, they employ 73.54% of all employees. In December 2024, the number of registered unemployed persons in the municipality was 1,119 (589 men and 530 women)¹⁷. People over 50 years old account for 38% of all unemployed.

¹⁶ Official Statistics Portal: <https://osp.stat.gov.lt/gyventoju-ir-bustu-surasyimai>

¹⁷ Employment Service under the Ministry of Social Affairs

Housing stock. Based on the data of the Centre of Registers, Elektrėnai Municipality had 5,127 residential buildings in 2023. The biggest part of them is

- family house (4,721)
- two-apartment buildings (72), and
- multi-apartment buildings (334).

As in the rest of Lithuania, the biggest part of the housing consists of private property.

According to the data of Elektrėnai Municipality, 109 social housing rental¹⁸ agreements were made with residents of the municipality and 7 agreements were made for market-rate municipal housing rental in 2023.

Although its location is strategic, Elektrėnai is a small town, which keeps housing prices significantly lower than in the large cities. While the affordability of housing makes it easier for young families to buy a home, renovation costs can seem disproportionately high compared to property prices, which pose a financial challenge for homeowners looking to improve their living conditions.

6 HOUSING

Construction Periods of Multi-Family Apartment Buildings. Almost all MFABs of Elektrėnai Municipality were built before the year 1990 when brick and large-panel multi-apartment buildings were prevalent.

According to the data of the Register Centre, multi-apartment buildings of Elektrėnai Municipality can be categorized as follows:

- before 1940, 20 houses were built (total area of 4,351 m²),
- from 1941 to 1960, 10 multi-apartment houses were built (the area of 2,883 m²),
- from 1961 to 1990, 274 houses were built (the area of 398,633 m²) and
- after 1991, 18 multi-apartment houses were built (the area of 31,280 m²).

The biggest number of multi-apartment houses were built from 1961 to 1990, which means typical Soviet-era construction standards with poor insulation and outdated engineering systems. This group makes up 64.5% of the total area of all residential houses or 66.6% of multi-apartment residential houses of Elektrėnai Municipality.

Energy Efficiency Status. It can be noticed that the thermal resistance properties of the external envelope of such buildings are poor; walls, roofs, and other structures of the buildings have deteriorated, and their poor condition causes high thermal energy losses. Their normative thermal energy consumption is twice as high as that of the multi-apartment houses built after the year 1993. Moreover, in the blocks of the multi-apartment houses, there is a high need to renovate a deteriorated engineering-social infrastructure and green spaces. In some blocks, lighting networks are aged and deteriorated.

In the non-renovated multi-apartment houses, F and G energy performance class is prevalent; while in the renovated ones, B and C energy performance class is prevalent.

¹⁸ Social housing is a dwelling owned by the municipality. It is included in the list of municipal social housing fund approved by the municipal council and is a part of the municipal housing fund list. Source: https://webfs.oecd.org/els-com/Affordable_Housing_Database/PH4-3-Characteristics-of-social-rental-housing.pdf

Recent Renovations on Energy Efficiency. The renovation of MFABs is performed through programmes administered by the Environmental Projects Management Agency with the use of the EU's funding. However, participation in these programmes is difficult, procedures take a lot of time during which costs of work and materials change and modernization prices for residents increase. Because of procedural matters, not all contractors or builders are eligible to participate, leading to a shortage of qualified contractors and further increasing costs.

Many apartment owners earn too little to afford energy efficiency renovations, yet too much to qualify for financial support. Although disadvantaged residents can receive renovations free of charge, this group often consists of older individuals who may not understand the benefits or the process. Residents also need a dedicated renovation manager to explain the process, ensure quality, maintain reasonable costs and highlight energy saving advantages of renovation.

Financing remain the main barrier for most residents. Renovations are perceived as too costly and although grants exist, their requirements (such as to achieve at least A energy efficiency class and a reduction in energy consumption of at least 40%), make projects unaffordable. Uncertainty about final costs, which frequently rise due to construction and material price increases, further discourages participation and is reinforced by negative media coverage. Past cases of poor-quality work or contractor bankruptcy have led to long-term costs and unmet expectations, reducing motivation for others to undertake renovations. More stable funding, clearer guidance and reliable oversight are essential to increase participation.

As 2025 concludes, Elektrėnai will have 74 buildings updated, with 4 more currently being renovated and the proportion of renovated buildings will reach 22.8% of the total, surpassing the Lithuanian average of 14.9%¹⁹. Based on the data of the Housing Energy Efficiency Agency, it is estimated that the need for heating energy in renovated houses is 60% lower than that in non-renovated buildings.

Subsidies for Renovations. The Multi-Apartment Building Renovation (Modernization) Programme (Programme) is administered in Lithuania by the Environmental Projects Management Agency, and the support is provided according to the terms and conditions of the call of the Minister of Environment of the Republic of Lithuania. Multi-family apartment buildings participating in the Programme must comply with the technical construction regulations effective as of 1993.

The Programme administered by Public Company Housing Advisory Agency²⁰ covers the following:

- costs for the arrangement of the project or its part, including project supervision and expert examination of the renovation project, if it is mandatory under the Law on Construction – in 100%;
- costs for administration of the project implementation and technical supervision of construction work – in 100%;
- State support for construction works, with the level of support determined by the selected renovation measures. .

Key building requirements for apartment building renovation calls:

The calls are open to apartment buildings constructed before 1993 in accordance with the applicable building technical standards. State support and preferential loans are provided under these calls. The main condition is that, after renovation, the apartment building must achieve at least Energy

¹⁹ <https://renomap.apva.lt>

²⁰ Aplinkos projektų valdymo agentūra (APVA)

Performance Class B (or the class specified in the call) and reduce thermal energy consumption by at least 40 percent.

State support is divided into 'soft-part support' and „support for construction works“.

- "Soft-part" includes preparation of the investment plan and the energy performance certificate; preparation of the technical project and working project, its expert review, and obtaining the building construction permit; technical supervision during the renovation works; and project administration.
- „Construction work“ refer to the implementation of energy-efficiency improvements and other related measures).

The level of state support and the applicable requirements depend on the conditions specified in the published calls. Table 3 presents a detailed calculation of the support amount for an apartment building renovation project, while Table 4 outlines the implementation of measures to increase the energy efficiency class of the apartment building (the information is provided based on the latest 2025–2026 fixed-rate call).



Table 3: Fixed unit rates for the preparation of an apartment building renovation (modernization) project or its part, project implementation administration, and construction technical supervision costs

No	Energy efficiency class of the multi-apartment building renovation (modernization) project or applicable minimum mandatory energy performance requirements for buildings upon project implementation	Fixed unit rates for project costs based on the useful area of the multiapartment building renovation (modernization), EUR/m ²				
		Not exceeding 499.99 m ²	From 500 to 999,99 m ²	From 1000 to 1499.99 m ²	From 1500 to 2999.99 m ²	Exceeding 3000 m ²
1	B energy efficiency class	120	104	89	54	42
2	B or A energy efficiency class (fixed rate applies if the multi-apartment building is renovated (modernized) using panels)	142	123	105	64	50
3	A energy efficiency class	142	123	105	64	50



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Table 4: Fixed unit prices for the implementation of measures to increase the energy efficiency of the apartment building renovation (modernization) project

No	Energy efficiency class of the multi-apartment building renovation (modernization) project or applicable minimum mandatory energy performance requirements for buildings upon project implementation	Fixed unit rates for project costs based on the useful area of the multiapartment building renovation (modernization), EUR/m ²				
		Not exceeding 499.99 m ²	From 500 to 999.99 m ²	From 1000 to 1499.99 m ²	From 1500 to 2999.99 m ²	Exceeding 3000 m ²
1	B energy efficiency class	153	137	120	115	112
2	B energy efficiency class (fixed rate applies if the multi-apartment building is renovated (modernized) using panels)	220	197	172	165	160
3	A energy efficiency class	246	220	192	185	179
4	A energy efficiency class (fixed rate applies if the multi-apartment building is renovated (modernized) using panels)	291	261	227	218	212



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All published calls include additional exceptional support for low-income residents. If the apartment owner meets the eligibility criteria and receives support for heating costs, the State covers 100 % the renovation contributions and loan payments on their behalf for the entire period during which they remain eligible. If the apartment owner's financial situation improves at a later stage, there will be no obligation to repay the contributions previously covered by the State.

These additional supports are provided under the Republic of Lithuania Law on Financial Social Support for Low-Income Residents, its implementing procedures, and the 24 February 2012 order No. D1-174/A1-116 of the Minister of Environment of the Republic of Lithuania and the Minister of Social Security and Labour of the Republic of Lithuania. Residents who wish to benefit from this additional support must timely submit their applications and documents to the Elektrėnai Eldership / Elektrėnai Municipality. In these institutions, the appropriate departments assess and determine allocations.

The Environmental Project Management Agency (APVA) under the Ministry of Environment of the Republic of Lithuania indicates that a new call is tentatively scheduled to be announced in October 2026²¹. The call is expected to include significant changes and new criteria for allocating support, moving away from the principle of "equal" support for all and adopting the principle that the amount of support will depend on the situation in the municipality. It is projected that in **municipalities with the highest need**, total support will reach approximately 25%, 20% for those with average needs, and 15% for those with the lowest needs. Additionally, partial renovations will be possible with state support or a preferential loan. Legislative amendments for these changes are currently being drafted and refined²².

Calls are announced in the information system "APVIS" of the APVA at <https://apvis.apva.lt> and general information can be found on the website <https://modernizuok.apva.lt>.

The residents are provided with a preferential loan with a fixed annual interest rate of 3% and a loan term of up to 20 years (specific loan terms and conditions may vary depending on the lending institution). It is important to note that owners of apartments eligible for compensation for heating costs are granted 100% support.

Also, calls are launched where municipalities and building administrators can participate. For example, considerable attention was given to the comprehensive neighbourhood renovation programmes developed by municipalities since 2016. During the implementation of these programmes, along with buildings, their surroundings (yards, streets, lighting of public spaces, relaxation zones) are being renewed. Separate calls are launched, and partial costs are covered by EU funding.

Recently, a call for applications to renovate old multi-family apartment buildings with the use of panels has been launched. A total of EUR 200 million has been allocated to finance construction contract works. It is expected that the panel renovation will not only increase the energy efficiency of the buildings but also accelerate the renovation process by at least threefold. These projects benefit from the usual subsidies plus additional compensation for the renovation of the heating and hot water systems of a multi-apartment building.

Subsidies are also available for the renovation of single family houses with the following conditions:

- compensation payments may be requested by natural persons who own one or two residential apartments,
- renovation or modernisation must achieve an energy performance class of at least B,
- the maximum compensation per home is up to EUR 14,500,

²¹ Source: <https://www.ekv.lt/naujienos/536/daugiabuciu-modernizavimo-pokyčiai-2026> ; <https://www.delfi.lt/biznesas-ir-ekonomika/daugiabuciu-modernizavimo-pokyčiai-tyrimas-regioniskumo-principas-dalies-remontas-ir-siekiant-parama-pazeidziamoms-gyventojams-120240927>

²² It is possible that, under this call, eligibility may be extended beyond apartment buildings to include buildings with dormitory-type status, which have not been eligible to participate in previous calls.



- renovation projects must be completed within 15 months of the end of the call, by December, 2026.

According to the data from the Ministry of the Environment, 872 applications were received during the second call, with compensation payments for energy efficiency measures amounting to EUR 7.5 million. The first call was announced in April 2025 and received more than 800 applications for EUR 6.9 million.

Additional subsidies²³ are available to individuals for the installation of solar power systems.

Housing Heating and Water Cost Compensation. In Lithuania, including the Elektrėnai Municipality, low-income residents are entitled to the heating costs compensation of their housing:

- Heating and water compensation in Lithuania is income-based and targeted at low-income residents.
- The state-supported income (SSI) level in 2025 was EUR 221.
- Eligibility thresholds:
 - Single-person household: 3 x SSI
 - Households with two or more members: 2 x SSI per person (for example, a family with two children is eligible for heating compensation up to EUR 1,768)
- Compensation applies when household income is below the calculated threshold. The state compensates the portion of heating costs exceeding 10% of the difference between actual income and the SSI-based threshold.
- The size of the dwelling is also taken into account. Dwelling size limits for compensation are as follows:
 - Single-person household: up to 50 m²
 - Families: 38m² for the first household member, 12 m² for the second and 10 m² for each additional member.

The housing heating costs are compensated irrespective of the heating method, i.e. whether the district heating or other type of fuel (wood, gas, electricity, etc.) is used. When calculating the average income, a child benefit (children's allowance) and a part of employment-related income and unemployment social insurance benefits (depending on the family composition and the number of children, 20 to 40%) are not included.

To calculate the housing heating compensation, the standard useful floor space is used:

- 50 m² if a person lives alone,
- 38 m² for the first family member,
- 12 m² for the second family member, and
- 10 m² for the third and every next family member.

Also, families are eligible for compensation for drinking water costs when these exceed 2% of an individual's or family's income, and compensation for hot water costs when the costs for hot water and its preparation exceed 5% of the individual's or family's income. Residents must apply for compensation to a municipality of their living place.

To qualify for compensation for heating, water or other social benefits, residents' property ownership is assessed by the authorities.

7 PILOT AREA

²³ Source: <https://apva.lrv.lt/fiziniu-asmenu-saules-elektriniu-isirengimas-namu-ukiuose-2025/>

The pilot area is the central part of Elektrėnai comprising 143 apartment buildings and covering an area of approximately 0.87 km².

The building heights in the area range from 4 to 16 floors, with five-story buildings being the most common. All the analyzed apartment buildings have central heating supplied by centralized systems. Gas supply for cooking is available in 45 of the apartment buildings.

Energy efficiency in the area varies depending on building renovation status. Non-renovated apartment buildings primarily fall under energy efficiency classes F–G, while renovated buildings are mostly classified as B–C.

The age of residents in the area is diverse; however, a significant proportion consists of people over 40–50 years old and older, especially in the “Old Elektrėnai” area, which includes the streets Sodų, Šviesos, Draugystės, Rungos, and Elektrinės.



Figure 3: Overview of the pilot area and its surroundings, with selected buildings highlighted in beige, orange and red

8 FINDINGS FROM THE TECHNICAL SURVEY OF THE PILOT AREA

Elektrėnai has 143 buildings, in an area of approximately 1.00×2.00 km. Almost all buildings are typically under eight storeys, comprising several segments (lamellas) featuring separate entrances. They are often organized in blocks of buildings of the same type. There are also three high-rise buildings. While some buildings are arranged in residential blocks, they do not share exterior walls.

Most of the buildings or blocks are positioned with large spaces between them, often parks, playgrounds, green spaces or smaller buildings (e.g. grocery or kindergarten). Approximately one third of buildings is fully refurbished (façade, roofs, windows and doors).

Table 5: Overview of buildingstock, Elektrėnai, current state

Buildings	-	143
Heated area, total	m ²	270,859
Heated area, average per building	m ²	1,894
Heat required for heating, total	kWh/a	25,647,139
Heat required for heating, average per m ²	kWh/m ² a	94.69
Small buildings (≤500 m ²)	-	5 (3%)
	m ²	1,846 (1%)
	kWh/a	351,204
	kWh/m ² a	190.26
	tCO ₂ /a	139.88
	tCO ₂ /m ² a	0.076
Mid-sized buildings (500-2,000 m ²)	-	81 (57%)
	m ²	102,384 (37%)
	kWh/a	10,753,132
	kWh/m ² a	105.06
	tCO ₂ /a	4,282.76
	tCO ₂ /m ² a	0.042
Large buildings (≥2,000 m ²)	-	57 (40%)
	m ²	166,665 (62%)
	kWh/a	14,542,803
	kWh/m ² a	87.26
	tCO ₂ /a	5,792.11
	tCO ₂ /m ² a	0.035

Elektrėnai has a humid continental, no dry season, warm summer climate, with summer temperatures going up to 30 °C, while winter temperatures can be as low as -25 °C, with prolonged periods with temperatures -15 °C or lower.

All apartments in the multi-family buildings are connected to district heating systems. The one in Elektrėnai is based on nearby gas-fired power plant. District heating system is a fully developed, with network that includes a heat source (boilers / heat exchangers), a main heat pipelines, substations, additional exchangers, pumps, automation systems, internal building piping, and heating units (most often radiators). Air conditioners are not used as the primary source of heating, and small number of outdoor units is visible on the buildings, as they can be used during transitional periods when district heating system is not in use.

Table 6: Overview of buildingstock, Elektrėnai, after implementation of energy efficiency measures

Heat required for heating, total	kWh/a	11,935,312
Heat required for heating, average	kWh/m ² a	44.06
Small buildings (≤500 m ²)	kWh/a	121,347
	kWh/m ² a	65.74

	reduction %	65.45
	tCO ₂ /a	48.33
	tCO ₂ /m ² a	0.026
Mid-sized buildings (500-2,000 m ²)	kWh/a	4,864,751
	kWh/m ² a	47.53
	reduction %	54.76
	tCO ₂ /a	1,937.53
	tCO ₂ /m ² a	0.019
Large buildings (≥2,000 m ²)	kWh/a	6,949,217
	kWh/m ² a	41.70
	reduction %	52.21
	tCO ₂ /a	2,767.73
	tCO ₂ /m ² a	0.017

In the reports on possibilities for energy production from renewable sources needed for energy autonomy/independence of target districts, various renewable sources have been analysed and considered to achieve sustainable and independent energy supply after implementation of energy efficiency measures. Currently used district heating system in Elektrėnai is based on natural gas, and it has been suggested to change energy source to biomass. Energy independence would be further empowered by installation of PV panels on rooftops and inverters within the buildings.

Considering that baseline assessment and proposed energy efficiency measures are already covered and included in buildingstock (with all details), the next step would be prioritisation and selection criteria. Based on numbers presented in Table 5 and Table 6, it would be reasonable to start implementation from large buildings. Present in the largest number and largest by heated area, and also accommodating most residents, they would provide great start. Favourable is that some of these buildings are built as connected segments. Small buildings would require smaller investment, but the expected impact would be almost insignificant, considering these buildings take only 1% (both by number and heated area) of analysed buildingstock in Elektrėnai. They could be included in later stages of renovation, as well as mid-sized building that are comparable to large ones in terms of number and heated area.

It is hard to give implementation timeline, as it includes many mutually connected and intertwined steps. Preparation could take 6 to 12 months, and include coordination with HOAs and verification of legal documentation and ownership. Fortunately, many buildings in Elektrėnai are already fully refurbished, providing valuable foundation for efficient preparation. Technical documentation and procurement procedures could be made in stages. Implementation of measures, i.e. actual works on buildings (particularly installation of new heating systems), could take up to 5 years to complete, considering number of buildings and available resources, weather (relatively short summers and harsh and cold winters) and other influencing factors.

There are many key actors to be involved in this process, some of them being HOAs, municipalities (technical assistance, social programmes and, if available, co-funding support), construction companies and electricity distributor/operator (for PV grid connection). With their joint work and assistance to residents, financing plan and analysis can be made, including municipal and EU-funded subsidies, “green” and other loans or other co-financing programmes.

After implementation of measures, monitoring and verification should last at least 10 years.

9 VISION FOR THE PILOT AREA

The vision is to achieve optimal energy-saving goals in order to increase the attractiveness of the residential area, create favorable conditions for territorial development and growth, and better meet the economic, social, and cultural needs of the neighborhood community.

Following the renovation of apartment buildings and the improvement of their energy efficiency by the owners, the surrounding infrastructure, such as roads, lighting, utilities, and public spaces — should be improved through modern and innovative solutions.

Once the existing urban networks, transport connections, and lighting are upgraded, attention can be focused on redesigning public spaces to include areas for community gatherings. This may involve the redevelopment of playgrounds, meeting places for seniors, and other communal spaces. All these elements play a significant and meaningful role in the lives of the area's residents.

9.1 Findings from the resident survey of the pilot area

To understand how residents actually use shared indoor and outdoor spaces and what prevent them from using these spaces more, a well-being survey was conducted among residents in the Elektrėnai pilot area in August 2026. Out of 133 households, a total of 87 households participated in the survey. The findings contributed to setting goals and priorities in Section 9.2, rather than serving as background context.

The main survey findings are:

- **Access to shared spaces:** Most respondents have access to shared indoor and outdoor spaces, although this varies between buildings in the pilot area.
- **Frequency of use:** Shared spaces are generally used occasionally rather than regularly.
- **Purpose of use:** Shared spaces are considered particularly important for heat adaptation. Almost 70% of respondents consider them very important on hot days, compared with 44% during very cold weather. Residents mainly use these spaces for relaxation, spending time outdoors, meeting neighbours and children's activities.
- **Well-being:** Residents report that shared spaces contribute positively to residents' physical and emotional well-being. They also provide opportunities for interaction with neighbours and can help reduce social isolation.
- **Barriers to use:** The main barriers to more frequent use of shared spaces are limited seating, poor maintenance, lack of child-friendly features and accessibility issues.
- **Openness to improvements:** There is strong interest in upgrading shared spaces: 94% of respondents favours improving indoor spaces, while 99% favour improving outdoor spaces.
- **Preferred upgrades:** Residents prioritise shade, better maintenance, additional seating, more greenery, fitness facilities and play areas.

A more detailed analysis of the survey, including findings by survey topic and methodology, are provided in Annex.

9.2 Goals for the pilot area

- Increase the energy efficiency of residential buildings in the Elektrėnai Municipality, with a particular focus on apartment buildings, aiming to reduce heating and electricity consumption and promote local renewable energy production (e.g., installing solar PV systems on rooftops). Ensure that all renovated apartment buildings reach at least energy efficiency Class B.

- Increase energy sufficiency by 2030, by achieving a 15–20% reduction in energy consumption through renovating apartment buildings, reorganizing spaces and supporting residents in adopting lower consumption habits through targeted awareness and engagement activities.
- Implement solar PV systems at the building or neighbourhood level.
- Strengthen coordination among institutions (apartment building administrator, Municipality, eldership) to develop a more coherent territorial vision. Encourage the Municipality and eldership to pay more attention to proposed area renovation programs, as local communities and apartment owners actively participate in building renovation initiatives.
- Improve the accessibility and maintenance of shared indoor and outdoor spaces, prioritising shade, seating and accessibility upgrades, in direct response to survey findings.
- When designing green spaces and considering the existing infrastructure networks, it is advisable to install underground or partially underground parking lots equipped with an electrical vehicle (EV) automatic load management system²⁴. This approach helps address the shortage of parking spaces while preserving green areas for recreation and community use. At the same time, integrating smart EV charging infrastructure with automatic load management system, it utilizes advanced technology to intelligently distribute charging power across multiple charging stations.

A detailed overview of defined activities has been presented in Table 7.

²⁴ The EV Automatic Load Management System regulates the distribution of electricity to multiple EV charge points to ensure site safety. This technology prevents power outages by monitoring real-time energy consumption across a property. The benefits of such system include overload prevention and prevention of equipment damage and power outages, eliminates the need for grid upgrades, optimised charging, cost reduction as eliminates the need for grid upgrades. (source: <https://monta.com/en/blog/ev-automatic-load-management-system/>)

Table 7: Overview of defined activities and responsibilities

Objective	Activities	Lead actors	Supporting actors	Target group	Timeline (years)
Preparation phase					
Orientation meeting	Conduct introductory session for HOAs and residents to familiarize with RC, its services and role regarding renovations	HOAs RC	Local NGOs	HOAs Residents	Month 1
Establishment of Renovation Committee	Form a working group by defining roles and responsibilities, scheduling regular committee meetings, etc.	HOAs	-	Residents	Months 1-3
Dissemination of information to residents	Inform residents of MFABs about the Committee's roles, responsibilities, contact information, etc.	HOAs/ Renovation Committee	-	Residents	Month 3
HOAs-RC Cooperation	Defining roles and responsibilities of both stakeholders	HOAs/Renovation Committee RC	-	-	Months 1-2
Stakeholders mapping	Identification of stakeholders ²⁵ , their interests and needs	HOAs/ Renovation Committee	Local NGOs Social services	Residents Vulnerable groups	Months 3-4
Building Use Optimization	Identify shared areas (storage rooms, basements) to reduce heated volume or repurpose for community use	HOAs/ Renovation Committee	RC Municipality	Residents	Months 4-5

²⁵ Particular attention should be paid to vulnerable or disadvantaged groups.



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Objective	Activities	Lead actors	Supporting actors	Target group	Timeline (years)
Provide a clear overview of stakeholders	Share the stakeholder mapping with RC	HOAs/ Renovation Committee	-	-	Month 5
Promotion of energy-saving habits²⁶	Organise at least 2 workshops on EE and energy sufficiency, focusing on reducing energy bills through efficient energy use and informed consumption choices (e.g. “Ever Wonder Why Your Neighbour Pays Less for Energy”) and 2 workshops on reducing energy demand through behavioural changes while maintaining comfort (e.g. “Reducing Energy Demand, Not Comfort”)	RC HOAs	Renovation Committee	Residents	Month 5-9
Legal documentation and permits	Obtain all necessary permits ²⁷ , approval and legal documentation	HOAs/ Renovation Committee	RC	-	Month 4-12
Sufficiency criteria included in tendering documentation	Require contractors to demonstrate how proposed designs apply energy sufficiency principles by minimizing energy demand ²⁸	RC	HOAs/ Renovation Committee	-	Month 6-7

²⁶ Informative leaflets and communication materials should be prepared in advance and distributed among residents to ensure timely, clear and accessible communication regarding topics.

²⁷ Certain permits, depending on the scope of work may need to be obtained by the contractor(s).

²⁸ For example: relocate light switches to zones with window access



Objective	Activities	Lead actors	Supporting actors	Target group	Timeline (years)
Evaluate renovation proposals	Review renovation proposals and evaluate them	HOAs/ Renovation Committee	RC	-	Months 9-10
Communicate renovation proposals including building use optimization²⁹	Presentation of renovation proposals including plans, budgets and timeline	RC	HOAs/ Renovation Committee Contractors	Residents	Months 6-7
Stakeholder/Citizen engagement	Organize community meetings, workshops, focus groups, etc.	RC Experts in renovations, energy efficiency, architecture, etc.	HOAs/ Renovation Committee	Residents	Months 4-12
Renovation phase					
Launch the renovation project	Kick-off meeting with contractor(s) and subcontractor(s) to set clear expectations	HOAs/ Renovation Committee	RC	Contractor(s) Subcontractor(s)	-
Renovation/project designs	Develop renovation/project designs	Contractors	-	-	-
Secure approval of renovation/project designs	Review renovation/project designs to ensure technical, regulatory and stakeholder requirements	HOAs/ Renovation Committee Supervision Engineer	RC	-	-
Project oversight	Supervise contractors and ensure work aligns with approved designs	Supervision Engineer HOAs/	-	-	-

²⁹ Where feasible, the potential repurposing of shared areas should be also considered and presented.



Objective	Activities	Lead actors	Supporting actors	Target group	Timeline (years)
		Renovation Committee			
Stakeholder/Residents engagement and information dissemination	Provide regular updates to MFABs residents, specially vulnerable groups on work progress and collect feedback on any arising issues	HOAs/ Renovation Committee	Contractors	Residents	-
Documentation	Record meetings, project progress, attendees	HOAs/ Renovation Committee	-	-	-



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9.3 Tailored outreach and communication

Effective communication is not an additional aspect of the NESR, but rather its cornerstone. Regardless of funding or technical quality, no renovation initiative will succeed if the people the renovation is meant for don't understand what is being proposed, how it will affect their daily lives, they are unlikely to engage with the process or support it.

This chapter outlines NESR approach to outreach and community engagement³⁰ that is organized around five interrelated pillars:

- Language-accessible information
- Communication through culturally and locally appropriate channels
- Trust-building activities
- Continuous two-way dialogue and
- Ongoing monitoring and adaptation.

These five pillars form a communication framework designed to reach all residents of the neighbourhood, regardless of their language, age, digital access or prior experience with public programmes. At the same time, the framework is built to adapt continuously to changing needs and circumstances, ensuring that residents are engaged as active partners than an audience.

Language-accessible Information. The starting point for any communication strategy is an assessment of the audience's capacity to understand and engage with the message. Where neighbourhoods have a diverse linguistic composition, the answer can not be taken for granted.

All communication materials (leaflets, frequently asked questions, application forms, workshop handouts) need to be produced in Lithuanian as the primary language. Where there is a significant presence of other language groups, equivalent versions should also be made available in those languages.

To ensure accessibility, all materials need to be written in plain language, using clear, concise and easy to understand wording while avoiding complex sentence structures, technical jargon and ambiguous terms. Once the content has been simplified and finalized, it can then be translated into other languages.

NOTE

Messages should be tested rather than assumed to resonate.

- Where technical and legal terms must appear, they should be followed by a plain language explanation in parentheses.
- Before anything is finalized or shared, materials must be reviewed by community individuals (volunteers) from each language group.
- Every key messages (energy savings, eligibility for subsidies, application deadlines and contact details) is supported with simple visual icons, so the information is accessible even for those with lower literacy levels.

Communication Through Culturally and Locally Appropriate Channels. A communication strategy that relies solely on one channel will consistently fail to reach the populations that need it

³⁰ Community engagement here refers to the broader process of stakeholder and residents engagement, encompassing both institutional (municipalities, utility providers, etc.) and residents affected by renovation programmes.

most. The NESR combines traditional and digital communication channels, aiming for both broad outreach and meaningful engagement.

- **Community meetings:** Meetings are scheduled at times that accommodate working adults, elderly residents and parents with school-age children. These meetings are held both at the RC and within community spaces across the neighbourhood, if convenient for the residents and the specific circumstances.
- **Focus groups:** Focus groups are a structured form of small-group discussion used to gather insights, opinions and perceptions from people who may share similar experiences or challenges such as tenants, youth, elderly residents, etc. By bringing together participants with similar backgrounds this approach encourages more open discussion and allows a safe environment where all participants feel comfortable contributing.
- **Door-to-door visits:** This approach is used when targeting vulnerable groups as it enables direct, personal and trust-based interaction with these people who are often difficult to reach through conventional communication channels. Many vulnerable groups (e.g. elderly people, low-income households, socially isolated individuals, people with limited digital access, etc.) may not participate in public meetings or actively seek information about services and support mechanisms.
- **Printed materials:** Materials need to be distributed and made available for residents to pick up at the RC and frequently visited locations within the neighbourhood. This may include community centers, public utility company premises, local shops, residential building entrances, etc. Placement of materials matters should take into account the daily movement and habits of residents to maximize visibility and accessibility.
- **Digital outreach channel:** Channels such as SMS or mobile applications (e.g. WhatsApp) are an effective and low-cost communication channel for wider outreach at neighbourhood level. Since mobile applications are already widely used in many communities, they provide a familiar and accessible platform for communication. However, when using such applications an administrator respect privacy and data protection principles such as obtaining participant consent, limit the sharing of personal information and clearly communicating the purpose and rules of the group.

Trust-building Activities. Important preconditions for effective communication such as language accessibility and the use of appropriate communication channels are not sufficient to establish trust. In communities that have experienced failed promises or administrative complexity, trust must be built through consistent, transparent and open dialogue.

The NESR trust infrastructure is based on three elements:

- A credible intermediary institution
- Community knowledge sharing
- Meaningful participation

Credible Intermediary Institution: The RC as Trusted Intermediary. Its role is not only to distribute information but to accompany residents through the renovation process from their first question to the finished renovation. Specific tasks include:

- **Home visits:** RC staff visit households on request, assess the building's situation, explain eligible measures and walk residents through the application process.
- **Advice tailored to the household:** Each households receives advice tailored to their specific building type, tenure situation and financial circumstance.

- Follow-up: If a household showed interest and then went quiet, the RC follows up rather than waiting for them to come back. Often the barriers turn out to be something small and fixable.

Continuous Two-Way Dialogue. This pillar represents the most transformative change to traditional public communication approaches. Traditional communication method is predominantly one-way and passive, focusing on sharing, preparing and distributing materials to the public. The NESR takes a different approach by engaging residents as active participants in shaping their neighbourhoods.

Before any outreach activities begin, a stakeholder mapping exercise should be carried out to identify the full range of stakeholders who may either support or hinder renovation efforts. This extends beyond apartment owners and tenants and includes:

- Vulnerable groups: Older residents living alone, energy poor people, people with disabilities, etc.
- Community intermediaries: Trusted individuals with informal influence within the community, such as respected local figures, social workers, religious leaders, school directors, etc.

Open dialogue sessions should be held regularly with the primary goal of hearing from residents rather than presenting information to them. These sessions should begin with a brief project update, leaving most of the time for residents to share their views, concerns and suggestions. Facilitation needs to be conducted by trained professionals who can create an environment that prioritize listening, encourages participation and ensures that all voices are heard. During these sessions raised concerns need to be documented exactly as expressed, ensuring that their specificity are not diluted through paraphrasing. Residents who raised specific concerns need to receive individual follow-up from the RC.

NOTE	Fostering ongoing conversation. • Research on public participation³¹ shows that residents who feel genuinely heard are more likely to trust decision-making processes and maintain engagement even during challenging periods.
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Monitoring and Evaluation. A communication strategy without systematic evaluation is only a plan that hopes to succeed. The NESR integrates monitoring and evaluation into the communication framework from the beginning, treating communication effectiveness as a performance indicator with the same relevance applied to other metrics (technical or financial).

Communication effectiveness need to be assessed through a combination of quantitative and qualitative indicators:

- Participation rate: How many people are showing up to community meetings and open dialogue sessions? Additionally, it should be tracked how many households respond to door-to-door visits and break this down by age and gender.
- Repeated contact rate: measuring the number of households that contact the RC more than once. This indicator is worth considering because it can tell two different stories: users may not have received a clear answer the first time, or they may simply trust the channel enough to come back.
- Satisfaction survey: using short surveys after community events to assess the quality, accessibility and usefulness of information provided.
- Grievance mechanism: tracking communication-related grievances, response times and information accuracy, with results reviewed on a monthly basis.

These indicators need to be read differently for energy poor people because low turnout does not necessarily mean low interest. It often reflects real barriers. Energy poor households are more likely to

³¹ OECD Survey on Drivers of Trust in Public Institutions, 2024

skip meetings because they are less comfortable with digital or written materials if literacy or internet access is limited. The following indicators should be considered on energy poor households:

- Track participation of energy poor households separately, not just by age and gender, to see if they are being reached at all.
- Treat a low repeat-contact rate as a potential warning sign. It may mean the first contact left people confused or discouraged rather than satisfied
- Conduct satisfaction surveys verbally or in-person where possible, since this group may be less likely to fill out written forms.
- Flag grievances from energy poor households separately, since they may be more hesitant to complain in the first place.

The purpose of measurement is not simply to evaluate performance, but to generate insights that lead to meaningful action and lasting impact. The NESR therefore propose monitoring data to guide continuous improvements through:

- Monthly communication review meetings attended by RC staff, municipal staff and one community representative to identify trends and agree on adjustments.
- Transparent communication of changes through all active channels, explaining what was changed and why, reinforcing trust between the project and residents.

NOTE

Communication framework that learns.

- Success is not measured by how many materials are produced, how many meetings are held or messages sent. It is measured by how many eligible residents understand the programme or project well enough to make informed decisions, trust it enough to engage with it and feel heard enough to recommend it to their neighbours.

10 ANNEX

SURVEY FINDINGS

A well-being survey was conducted among residents in the Elektrėnai pilot area between 12 and 26 August 2026, receiving 87 responses. The survey explored access to and use of shared indoor and outdoor spaces, their role during extreme weathers, barriers to use and residents' priorities for future improvements. The purpose of the survey findings was to inform the development of the NESR.

Women were significantly overrepresented among respondents (71%), with the highest share of participants aged 30-39 (25%). The majority were flat owners (84%), while 15% were tenants and 1% were HOA. Out of 87 respondents, 10 reported having a disability that restricts their ability to use shared spaces.

Yards were the most commonly available shared spaces (54%), followed by playgrounds (30%) and nearby parks (24%). However, **22% of respondents reported having no access to shared spaces**. Although shared spaces are used regularly, 38% of respondents use them daily and 74% at least weekly, while 26% never use them. Their main uses are walking and physical activity (62%), relaxation (49%), children's play (40%) and spending time outdoors during extreme temperatures (40%).

Shared spaces are particularly important for **heat adaptation**. Two-thirds (67%) consider them very important for thermal comfort on hot days, compared with 44% during very cold weather. This need is even more pronounced among residents with disabilities, 90% of whom rated shared spaces as very important for heat comfort. These findings point to a strong need for implementing measures such as **shade, trees and sheltered seating**.

Residents also associate shared spaces with significant well-being benefits. Two-thirds (66%) reported that using shared spaces supports physical activity, while 54% said it improves their mood and 40% reported reduced stress. At the same time, social disconnection is relatively common, with 64% experiencing some lack of neighbourhood contact. This suggests that well-designed shared spaces could also contribute to **reducing isolation and strengthening community interaction**.

The main barriers to more frequent use are **insufficient seating (47%), poor maintenance (40%), lack of child-friendly features (25%), lack of time and noise (24% each) and accessibility problems (23%)**. Accessibility is particularly important for residents with disabilities, with 40% identifying it as a barrier compared with 21% of other residents.

There is very strong demand for improving shared spaces, with 94% of respondents favouring improvements to indoor spaces and 99% favouring improvements to outdoor spaces. According to respondents the main priorities are **shade (54%), maintenance (51%), benches and tables (49%), greenery (39%), fitness facilities, community events and play areas (38% each)**. Importantly, almost all residents who currently underuse shared spaces said they would use them more if improvements were made.



METHODOLOGY

The survey assessed how residents of MFABs in the pilot area of Elektrėnai use and perceive shared indoor and outdoor spaces. It focused on well-being, social interaction, isolation, comfort and behaviours that may help reduce household energy demand.

The target sample was 133 respondents. To ensure statistical reliability while keeping the survey feasible for the pilot area, the sample size was determined using a 90% confidence level with $\pm 7\%$ margin of error.

The questionnaire included Likert scale, closed ended and open-ended questions. It was translated and adapted to the Lithuanian context and no personally identifiable information was collected.

Data were collected through Microsoft Forms. The survey link was shared on the Elektrėnai RC Facebook page and in four main Elektrėnai social media groups. Printed questionnaires were also used to reach residents who preferred to complete the survey in person.

QUESTIONNAIRE

Introduction

The ComActivate project is a strategic initiative designed to respond to growing issue of energy poverty in Central and Eastern European countries by supporting municipalities in their transition toward more sustainable and resilient neighbourhoods. The project is funded by the EU LIFE research programme and implemented in four municipalities: Burgas Municipality (Bulgaria), Józsefváros Municipality (Hungary), Kaišiadorys Municipality and Elektrėnai Municipality (Lithuania).

By understanding how residents use and perceive common outdoor spaces in their neighbourhoods, this survey will help inform the development of the Neighbourhood Energy Sufficiency Roadmaps (NESRs). Communal outdoor spaces can encourage people to spend more time outside, interact with others and reduce reliance on indoor living. The survey examines how these spaces contribute to overall wellbeing, reducing social isolation and encouraging behaviours that may contribute to lower energy demand and improve quality of life.

Your responses will contribute to developing integrated renovation strategies that combine energy efficiency with the well-being and social inclusion. Completing the survey will require approx. 5 minutes to complete.

Questions marked with an asterisk () are mandatory.*

General information about the survey respondent

1. City*

Elektrėnai [☐]

2. Please add your building's address

3. Gender*

Female [☐]

Male [☐]

Prefer not to say [☐]

4. Age groups*

Up to 18 [☐]

19-29 [☐]

30-39 [☐]

40-49 [☐]

50-59 [☐]

60-69 [☐]

70+ []

5. Are you differently abled in a way that restricts your capacity to visit shared spaces?*

Yes []

No []

6. Stakeholder

Please answer according to the role in which you are completing the questionnaire. If more than one role applies to you, select only the primary role relevant to your response.

Flat owner []

Tenant []

HOA []

Other []

7. Which shared outdoor or indoor spaces are available in your building or nearby?*

- a. Shared yard
- b. Playground
- c. Seating area (benches, tables)
- d. Park nearby
- e. None
- f. Other _____

8. How often do you use shared outdoor spaces connected to your building (such as yard, playground, etc.)?*

- a. Daily
- b. Once a week
- c. Several times a week
- d. Never

9. What is the primary purpose of these spaces for you?* (Please select all that apply)

- a. Walking or physical activity
- b. Meeting neighbours or friends
- c. Relaxing
- d. Children's play
- e. Taking pets outside
- f. Spending time outdoors to feel more comfortable during hot or cold days
- g. Other _____

10. How does using shared indoor and outdoor spaces make you feel?* (Please select all that apply)

- a. Helps reduce stress
- b. Improves my mood
- c. Encourages physical activity and movement
- d. Helps me feel more connected to other residents
- e. Provides a comfortable environment that reduces time spent indoors
- f. Has little or no effect
- g. Has a negative effect on my wellbeing
- h. Other _____

11. During very hot days, how important are shared spaces for your comfort and wellbeing?*

- a. Very important
- b. Somewhat important
- c. Not important
- d. Neutral

12. During very cold days, how important are shared spaces for your comfort and wellbeing?*

- a. Very important

- b. Somewhat important
- c. Not important
- d. Neutral

13. In the past month, how often have you felt a lack of social contact or connection in your neighbourhood?*

- a. Almost every day
- b. Several times a week
- c. A few times during the month
- d. Never

14. What prevents you from using shared outdoor spaces as an alternative to spending time indoors at home?* *(Please select all that apply)*

- a. Poor maintenance, making the space uncomfortable to use
- b. Not enough seating area
- c. Inadequate lighting during nighttime
- d. Loud noise (e.g. neighbours, traffic, nearby activities, etc.) reducing comfort
- e. Accessibility issues such as stairs and uneven terrain
- f. Not child-friendly
- g. Time constraints
- h. Not feeling safe enough
- i. Other _____

15. I would spend more time in shared indoor spaces if they were improved with better access, lightening, cleanliness, etc*:

- a. Strongly agree
- b. Agree
- c. Disagree
- d. Strongly disagree

16. I would spend more time outdoors if the shared outdoor spaces were improved with more seating, shade, greenery, lighting, safety, etc*:

- a. Strongly agree
- b. Agree
- c. Disagree
- d. Strongly disagree

17. Which improvements would make you use and interact socially more in these spaces?*

(Please select all that apply)

- a. Benches and tables
- b. Shades (trees, pergolas)
- c. Improved illumination
- d. Greenery and flowerbeds
- e. Improved safety through better visibility
- f. Play area for children
- g. Outdoor fitness features
- h. Accessibility upgrades (ramps, smoother paths)
- i. Regular maintenance
- j. Community/neighbourhood events
- k. Other _____

18. What new communal or outdoor spaces would you like to see that could improve your well-being?*

19. Please share any other thoughts, suggestions or experiences on how shared indoor or outdoor spaces could better support comfort, wellbeing, and social interaction in your neighbourhood.

Thank you for taking the time to participate in the survey.



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