Grant Agreement number: 101120994 — LIFE22-CET-CEESEN-BENDER — LIFE-2022-CET

CENTRAL & EASTERN EUROPEAN SUSTAINABLE ENERGY NETWORK · CEESEN-BENDER

CEESEN-BENDER

Building intErventions in vulNerable Districts against Energy poveRty

Deliverable 3.1

Report on building renovation barriers in regulatory framework in Romania

Dissemination Level: Public

WP3 Tackling the barriers hindering building related interventions in vulnerable districts

ALEA 2025

Co-funded by the European Union

CENTRAL & EASTERN EUROPEAN SUSTAINABLE ENERGY NETWORK · CEESEN-BENDER

Versioning and Contribution History

Version	Date	Modified by	Modification reason
v. 01	15.07.2024.	Tomislav Cik, Matija Eppert,	Creation
v. 02	31.10.2024.	Laurenț iu Miheț	Edits and Revision
v. 03	07.11.2024.	Tomislav Cik	Final version

© CEESEN-BENDER - Building intErventions in vulNerable Districts against Energy poveRty

This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) / Attribution 4.0 International (CC BY 4.0)

Website: https://ceesen.org/en/about-ceesen/

SUGGESTED CITATION

Laurentiu, M. (2024). Report on building renovation barriers in regulatory framework in Romania. Alba Local Energy Agency (ALEA),RO: CEESEN-BENDER Project. Retrieved from www.ceesen.org

Table of contents

1. Background of the CEESEN-BENDER project 1
2. Relevance of this deliverable 1
3. Introduction 3
4. Methodology 4
5. Regulatory and policy barriers to energy renovations of MABs in Romania 5
5.1 Targets 8
5.2 Measures 10
5.3 Implementation and monitoring 12
6. Barriers related to public calls to energy renovations of MABs in Romania 13
6.1 Efficiency of public calls/programs 15
6.2 Application processes and eligibility criteria 16
6.3 Renovation activities and co-financing rates 18
6.4 Energy poverty 19
7. Policy recommendations for improvements of national regulatory framework 19
Annex 1 23
Annex 2 26
Annex 3 28

1. Background of the CEESEN-BENDER project

The main goal of "Building intErventions in vulNerable Districts against Energy poveRty" (i.e. CEESEN-BENDER) project, launched on September 1, 2023, is to empower and support vulnerable homeowners and renters living in Soviet-era multi apartment buildings in 5 CEE countries: Croatia, Slovenia, Estonia, Poland, and Romania. The project will help them through the renovation process by identifying the main obstacles and creating trustworthy support services that include homeowners, their associations, and building managers.

Coordinated by Society for Sustainable Development Design (DOOR), the CEESEN-BENDER project brings together leading European researchers and experts in the field from six countries: Croatia (Society for Sustainable Development Design / DOOR, Medjimurje Energy Agency Ltd. / MENEA, EUROLAND Ltd. / Euroland, GP STANORAD Ltd. / GP STANORAD), Estonia (University of Tartu / UTARTU, Tartu Regional Energy Agency / TREA, The Estonian Union of Co-operative Housing Associations / EKYL), Slovenia (Local Energy Agency Spodnje Podravje / LEASP), Romania (Alba Local Energy Agency / ALEA, Municipality of Alba Iulia / ALBA IULIA), Poland (Mazovian Energy Agency / MAE, Housing Cooperative "Marysin Wawerski" / SM Marysin Waw), Germany (Climate Alliance) in addition to Central Eastern European Sustainable Energy Network (CEESEN).

The CEESEN-BENDER project is carried out from September 2023 until August 2026 and has a total budget of €1,85 million, of which €1,75 million is funded from the European Union's Programme for the Environment and Climate Action (LIFE 2021-2027) under grant agreement n° LIFE 101120994. The project is being carried out by internationally recognized researchers and partners from Society for Sustainable Development Design, University of Tartu, Local Energy Agency Spodnje Podravje, Alba Local Energy Agency, Climate Alliance, Medjimurje Energy Agency Ltd., Mazovian Energy Agency, Tartu Regional Energy Agency, Municipality of Alba Iulia, Central Eastern European Sustainable Energy Network. In addition, associated partners of the project include Housing Cooperative "Marysin Wawerski", EUROLAND Ltd., GP STANORAD Ltd. and The Estonian Union of Co-operative Housing Associations.

2. Relevance of this deliverable

This policy brief summarises the results of the analysis of relevant national regulations regarding the building renovations related to the energy poor households in Romania. This analysis of Romania regulatory and policy frameworks regarding the renovation of multiapartment buildings is a crucial step among many needed to enhance energy efficiency of Romania's building stock and alleviate energy poverty in the country. By critically studying the content and achievements of national policies and regulatory measures, this analysis provides insights into how Romania can better align with broader EU goals and enhance its contribution to reducing energy consumption and greenhouse gas emissions in the residential building sector. Given that a significant portion of the residential sector in Romania is made up of MABs, improving their energy performance is essential in contributing to the achievement of EU energy efficiency targets. This policy brief aims to highlight the successes and shortcomings of existing policies and regulations, offering guidance for future legislative, policy and financial efforts to ensure renovations in Romania are both widespread and impactful.

Considerations stemming from such evidence-based recommendations are vital for addressing the specific challenges of energy renovations and energy poverty in Romania. The findings of the analysis were the basis of specific policy recommendations for policy actors and relevant decision-makers in Romania to improve future programs, policies, and legislation, ensuring efficient and targeted resource allocation and priority setting. Moreover, while improving energy performance in MABs can reduce overall energy consumption and emissions, it also significantly enhances living conditions for a large segment of the population. Addressing energy poverty in these buildings supports social equity in the country and improves the quality of life for vulnerable households, contributing to Romania's social and economic resilience.

CEESEN-BENDER partners identified the following barriers to energy renovations of MABs and the consequential energy poverty alleviation in MABs in Romania.

Summary of **REGULATORY AND POLICY BARRIERS**

- Outdated, incomplete mapping of building stock and energy poverty status
- Underdeveloped legal framework for Energy Communities (ECs)
- Absence of legally-defined social intervention processes and prioritisation methodology based on energy poverty indicators in regions and municipalities
- Lack of specific selection methodologies for municipalities, resulting in inconsistencies in addressing energy poverty through MAB renovations
- Lack of public engagement and educational activities
- Financial gaps and need for new financing tools on building renovation

Summary of **BARRIERS RELATED TO PUBLIC CALLS FOR ENERGY RENOVATIONS OF MABS:**

- Eligibility criterion is not focused on the social aspects and quality of life for residents: low-income, energy poverty, persons with disabilities
- Insufficient funding by current allocation mechanisms for buildings renovation
- Fluctuating and uneven territorial distribution of rehabilitation funds
- Lack of a strategic, analysis-based approach
- Variable co-financing rates
- Excessive bureaucracy/long time for obtaining approvals/permits, etc.

Based on these barriers, CEESEN-BENDER partners identified the following **policy recommendations** for greater energy renovations and energy poverty alleviation in MABs in Romania:

1. Establish a multiapartment building inventory at local level and assign a responsible body for keeping this inventory up to date;

2. Supporting the establishment of RES energy communities in multi-apartment buildings from Romania;

3. Definition of a clear multiapartment buildings renovation prioritisation criteria as part of existing and future MAB renovation programmes focused on residents living conditions and incomes - energy poverty and social cases;

4. Increasing the involvement of homeowner associations representatives from multi-apartment buildings in the decision process at regional and national level;

5. Development of sustainable, transparent financing tools for owners of residential buildings in need of renovation from Romania.

3. Introduction

Globally, buildings account for a significant portion of energy consumption and greenhouse gas (GHG) emissions, making their renovation a critical component in the transition to a low-carbon economy. According to the Intergovernmental Panel on Climate Change, in 2019, the building sector accounted for 12 GtCO2-eq of greenhouse gas emissions, representing 21% of global emissions. These emissions comprised 57% from indirect CO2 sources like electricity generation, 24% from direct on-site CO2 emissions, and 18% from cement and steel production for building construction. Considering only CO2 emissions, buildings contributed 31% globally. Energy use in buildings, with residential and non-residential sectors contributing 70% and 32% respectively to global final energy demand, highlighted a significant increase in global CO2 emissions and energy demand from 1990 to 2019, particularly in electricity, which rose by 161%.[1]

In the context of GHG emissions reduction, the EU has set binding targets under the Climate Target Plan 2030 and the Fit for 55 package. The aim is to reduce GHG emissions by at least 55% by 2030 compared to 1990 levels. Buildings are responsible for approximately 40% of the EU's energy consumption and 36% of its GHG emissions, and according to 2020 data, a staggering 75% of the total housing stock, of which over a third (35%) was built before 1970, is classified as energy inefficient.[2] Thus, energy renovations[3] of multi apartment buildings (MABs) are central to achieving the EU's energy efficiency targets, addressing energy poverty, and contributing to the broader climate change mitigation and adaptation efforts. Official EU strategies and documents, such as the Renovation Wave strategy, the Climate Target Plan, and the Fit for 55 package, outline the pathways and targets for building renovations and their role in the EU's climate and energy policies.

Renovating existing buildings could reduce overall energy consumption in the EU by 5-6% and lead to a decrease in carbon dioxide emissions by approximately 5%. Despite this potential, the average annual renovation rate of the EU building stock is less than 1%, with member states' renovation rates ranging from 0.4% to 1.2%. Furthermore, households or the residential sector accounted for 27% of final energy consumption in the EU in 2021, which is 18.6% of the EU's gross inland energy consumption. The EU's Renovation Wave strategy, part of the European Green Deal, aims to at least double

[1] IPCC, Chapter 9: Buildings, accessed 10.07.2024, https://www.ipcc.ch/report/ar6/wg3/chapter/chapter-9/

[2] *European Commission – Department: Energy – In focus*, accessed 10.7.2024., https://commission.europa.eu/document/download/65660913-cecb-4f2f-b34c-c9bbf9bed1af_en?filename=in_focus_energy_efficiency_in_buildings_en.pdf

[3] Energy renovation of a building involves various technical operations and processes aimed at enhancing the building's energy efficiency. This includes conducting an energy audit and obtaining an energy certificate, creating project documentation to demonstrate energy savings, improving thermal insulation of external parts like walls and roofs, and replacing external joinery. It also involves upgrading technical systems, such as heating, cooling, ventilation, air conditioning, hot water preparation, and lighting systems. Additionally, the process may include integrating renewable energy sources, such as solar panels and heat pumps.

the annual energy renovation rate of residential and non-residential buildings by 2030. This initiative targets the renovation of 35 million buildings over the next decade, with a particular focus on improving the energy performance of MABs where energy poverty is often pronounced. Energy poverty affects millions of EU citizens, leading to inadequate heating, cooling, and overall poor living conditions. Countries of Central and Eastern Europe (CEE) face unique challenges in this regard, including older building stock, lower energy performance, and higher rates of energy poverty.

In Romania, multi-apartment buildings or MABs are classified by law as residential condominiums and by floor area they represent 42% of residential buildings and the rest 58% are individual houses. Residential buildings as a sub-sector represent 90% from the entire building stock. At national level, most of the buildings (31%) were built before 1961 according to building Celsius (2017), 23% between 1971-1980 and 19% between 1961-1970 and 14% between 1981-1989. The rest of the buildings were built after 1990. Source

Except the ones that were renovated after their construction, the MABs that were built before 1990 across Romania are not compliant with energy efficiency standards and regulations in force in Romania after 2000. During the communist regime, for the heating of individual houses and MABs was used "as much fuel as was needed" without high concerns for heating efficiency. Before 1990 buildings did not incorporate any insulation materials and many MABs had their walls made from concrete panels that have even worse thermal insulation properties compared to brick walls.

In regard to energy distribution in these MABs the communist regime that was before 1990 in Romania had not operated under a specific energy efficiency standard. In smaller-sized communist-built cities, the groups of MABs were initially heated using small district heating systems that used coal then after 1990 liquid fuels. Due to high losses of water (cracked pipes) and heat, bad management and lack of investments, almost all of these communist-built district heating systems were decommissioned after 2000, as there was a mass adoption of natural gas as a new way to heat the apartments in MABs by using individual boiler in each apartment, as the residents want to get rid of the fear of sharing a system for heating, being used to pay 50% of lost energy for their district heating bills, and often the hot water did not even make it into their apartments due to poor piping maintenance, being forced to live in cold rooms or use electric heaters or other means to keep warm.

There are currently only a handful of municipalities in Romania that still use large-scale district heating systems, with the capital Bucharest being the largest. In Alba Iulia the district heating system was decommissioned in 2011 when almost all of the system capacities were shut down. One year later, in 2012 the 2 remaining heating boilers were also closed. Source

4. Methodology

The purpose of this policy brief is to provide evidence-based guidelines that support a more targeted and widescale energy renovations of MABs in the national context while simultaneously tackling issues of energy poverty of households living in these buildings. This is to be achieved through greater understanding of existing regulatory and policy barriers concerning these overarching goals. Evidence-based policy recommendations based on such an analysis has considerable potential to support decision makers in

future improvement of regulatory frameworks and to better support building related interventions in vulnerable districts. Thus, **the aim of this analysis is to identify and analyse relevant national regulations regarding the building renovations related to the energy poor households** in pilot countries. This policy brief will aid in the assessment of such barriers in the wider context of the CEESEN-BENDER project, on the national level, and in the context of CEE countries through a synthesized CEE report.

To understand said regulatory and policy barriers the CEESEN-BENDER project partners first identified publicly available national documents (strategies, policies, laws, statues of cooperatives, etc.) which are most relevant for defining the existing policy and regulatory framework of energy renovations of MABs and energy poverty alleviation in MABs within their country. Also, all previous public calls related to energy renovations of MABs in each country were also identified, along with the conditions, results, and other key aspects of these public calls contained in separate documentation that was publicly available. The content of these documents was analysed by the project partners through three separate research instruments developed and shared by the TL, along with the instructions on how to utilize said instruments for data collection. Concerning the policy and regulatory framework analysis, two instruments were developed, while one instrument was developed exclusively for the purpose of collecting data referring to the afore mentioned public calls for renovations of MABs.

The first out of the two instruments regarding policy and regulatory barriers included a total of 27 questions. Specifically, it contained 14 close-ended questions with predetermined multiple-choice answers defined by the TL, and 13 open-ended questions were the researcher had to provide a list in the form of bullet-points or had to input a specific numeric or qualitative value. The questions were structured into the following four segments: General information; Energy renovations of MABs; Energy poverty in MABs; Citizen's energy in MABs. This instrument, collecting more basic and descriptive information was supplemented with an instrument containing a total of ten questions and additional sub question grouped into three distinct segments of said barriers and which can most broadly be defined as: Targets; Measures; and Implementation & Monitoring. This second phase of the analysis has been conducted by collecting the requested data in the form of answers to questions provided by the TL. This resulted in qualitative data in the form of written answers to the questions on topics relevant for identifying legislative and policy barriers on a national level. Such answers represented broader reflections on the findings in the first phase and their synthesis with previous understandings and experience of the researcher regarding the energy renovation of MABs and energy poverty alleviation in MABs.

5. Regulatory and policy barriers to energy renovations of MABs in Romania

This policy and regulatory framework analysis covered a total of six official publicly available documents that were deemed by experts as more or less relevant for defining the current national regulatory and policy framework for energy renovations of MABs in Romania and energy poverty alleviation in MABs in Romania. Some general information gathered within this first step of the analysis sheds light on the recency of these legislations and policies, as well as their status, overall summations of their primary and secondary subject areas, and key stakeholders of the policy or regulation which are

explicitly mentioned within the document itself or indirectly referred to. Table 1. brings an overview of these documents with the previously mentioned general information and a hyperlink to each of the analysed documents. This data collection was conducted in the period from February 6th until April 15th 2024. The research instruments can be found in annex 1, annex 2, and annex 3, respectively.

Table 1. **General information** on the analysed documents outlining Romania's regulatory and policy framework for energy renovations of MABs.

Legislation/policy	Year of publication	Subject area	Source	Version	Key stakeholders
Law 372/2005 on energy performance of buildings	2005	Buildings	https://legislatie.just.ro/Public/DetaliiDocument/66970	Final	Energy market actors
Law 220/2008 on production of energy from renewable sources	2008	Renewable energy	https://legislatie.just.ro/Public/DetaliiDocument/98742	Final	Producers and consumers of renewable energy
Law 184/2018 on supporting renewable energy production (modifies Law 220)	2018	Renewable energy	https://legislatie.just.ro/Public/DetaliiDocument/203039	Final	Producers and consumers of renewable energy
Ordinance 163/2022 on supporting renewable energy production	2022	Renewable energy	https://legislatie.just.ro/Public/DetaliiDocument/262191	Final	Producers and consumers of renewable energy
Ordinance 18/2009 on the increase of energy performance of multi-apartment buildings	2009	Multi-apartment buildings	https://legislatie.just.ro/Public/DetaliiDocument/103284	Final	Energy market actors
Ordinance 92/2024 on establishing energy efficiency one-stop-shops	2024	Energy	https://legislatie.just.ro/Public/DetaliiDocument/284700	Final	County councils, municipalities, energy agencies
The national long-term renovation strategy to support the renovation of the national stock of residential buildings and non-residential, both public and private, and its gradual transformation into a real estate stock with a high level of energy efficiency and decarbonisation until 2050, approved by Government Decision no. 1034/2020	2020	Buildings stock	https://energy.ec.europa.eu/document/download/cbc11cb5-af0f-4180-ae3c-2fce72674629_en?filename=ro_ltrs_2020.pdf	Final	Users of residential and non-residential buildings

In Table 2. The collected data is displayed concerning various aspects of energy renovations of MABs regarding the analysed legislative and strategic framework. Specifically, the results bring an overview of defined quantitative targets, renovation measures and financial sources for the implementation of such measures defined in the analysed documents. Additionally, the analysis ascribed a self-assessed ranking of relevance concerning each reviewed document so that the displayed results could be put into a wider legislative and policy context and their (lack of) legislative or policy

impact on that specific aspect evaluated accordingly. The table brings a summation of identified targets in their corresponding units, measures to achieve those goals, financial resources needed to achieve them and sources of such financing. The assessed documents assessed with (current) low impact to the energy renovations are excluded from Table 2.

Table 2. Overview of quantitative targets, measures, financial scope, and sources of financing of measures concerning **energy renovation of MABs in Romania** within the analysed documents.

Legislation/policy	Targets (unit)	Measures	Financial scope (EUR)	Financial source	Impact
Law 372/2005 on energy performance of buildings	None	Thermal rehabilitation of existing buildings; Provision of accurate information to owners/administrators through an energy performance certificate; Inspection of energy equipment	None	None	High
GO 18 on the increase of energy performance of buildings	None	None	None	None	High
National long-term renovation strategy until 2050	65.660.000 (m^2 of MABs to be renovated until 2030)	Deep renovation[4] of multi-apartment buildings	None	National building renovation programme; Subsidies; Revolving loans; Loan guarantees, Credit lines; Dedicated financial instruments; Loan schemes	High

All the identified policy and legislation were also analysed regarding measures, financial scope and sources of financing for energy poverty alleviation in MABs. Table 3. displays the collected data regarding these aspects. Again, the documents with self-assessed low relevance on the energy alleviation in MABs are excluded from Table 3.

Table 3. Overview of measures, financial scope and sources of financing of measures concerning **energy poverty alleviation in MABs in Romania** within the analysed documents.

Legislation/policy	Measures	Financial scope (EUR)	Financial source	Impact
National long-term renovation strategy until 2050	Broadening the definition of vulnerable groups; Preparing an action plan for energy poverty; Improving the efficiency of the	None	Funds for heating aid	Medium

[4] Deep renovation - renovation that leads to the improvement of more than 60% of the energy performance of a building, estimated by calculation according to the good methodology in para. (1) of art. 5 in relation to the current condition and normal use of the buildings (Art 37, Law 372/2005 on energy performance of buildings: https://lege5.ro/gratuit/gm4dknjtgi3q/legea-nr-372-2005-privind-performanta-energetica-a-cladirilor)

	existing heating aid; Developing and implementing building renovation programmes that will include measures to combat energy poverty			

The last segment within this analysis phase refers to citizens' energy in MABs. When looking at only those policies and legislation that reference establishing a citizen energy initiative in any form (e.g. energy communities or RES communities), only two documents analysed mention such initiatives in the context of MABs. Table 4. Identifies these documents as well as the types of citizen energy initiatives mentioned.

Table 4. Overview of collected data on the type of **citizen-led energy initiatives in the context of MABs** referenced in the analysed documents.

Legislation/policy	Types of citizen-led energy initiatives referenced	Impact
Law 184/2018 (modifies Law 220)	Renewable energy communities; Prosumers	Low
Emergency Ordinance on the use of renewable energy	Renewable energy communities; Prosumers	Low

The three following sub-sections represent the findings of the second phase of the analysis. Given the nature of the collected data, these findings are structured in a way that they narratively address the three pre-defined and presupposed areas of challenges concerning legislative and policy frameworks in the field of energy renovations of MABs and energy poverty alleviation in MABs on a national level. These sections also provide summaries and key takeaways of these broader reflections which highlight positive aspects as well as opportunities for improving the existing legislative and policy framework in Romania regarding energy renovations of MABs and energy poverty alleviation in MABs.

5.1 Targets

Romania, as an EU country, has assumed and transposed into national legislation the EU objectives for energy efficiency and the energy performance of buildings. Strategic documents such as the National Integrated Energy and Climate Plan (PNIESC) and the National Strategy for Long Term Renovation (SNRTL) outline objectives and strategic measures to increase energy efficiency in buildings, particularly in housing.

However, considering the large number of residential buildings in the Multi-Apartment Buildings sector, the vast majority of which were built before 1990, energy renovation of a significant percentage of these buildings is highly problematic. Out of the stock of residential blocks built until the year 2000 totalling 172.2 million square meters, only 7% have been renovated by 2020, leaving a stock of MABs totalling 160.1 million square meters to be renovated by 2050.

The majority of MABs renovated to date have been carried out with funding from national programs (in smaller percentage) and mainly European funds (ERDF), co-financed through local funds and contributions from property owners. To increase the renovation rate, the development of new renovation schemes is necessary, involving financing schemes utilizing loans (with subsidized interest rates) for families with average

or higher incomes, and prioritizing subsidized funding programs for families affected by energy poverty.

Given the substantial opportunity for energy savings and emission reductions, prioritizing building renovations is crucial for Romania's energy transition. Ambitious targets, robust support, and efficient implementation are key. This requires a mix of regulations, financial incentives, technical assistance, and public awareness campaigns to engage building owners and residents.

Statistical data from the Ministry's website responsible for implementing programs targeting MAB renovation works indicate that these are somewhat distributed across the entire territory of Romania; however, this distribution has not been based on comprehensive analyses of needs or other aspects related to energy poverty. Since 2009, when renovation programs and funds allocations began, they have been distributed based on requests from municipalities rather than priorities established through analyses. The volume of rehabilitation works has been fluctuating throughout these years, and it cannot be said that their distribution followed a linear or uniform pattern across all regions of Romania.

There is some coherence in the targets across different strategies, but energy poverty is not identified as a significant focal point for the scheduled works in Multi-Apartment Buildings (MABs). Energy poverty criteria are not yet integrated into the legislative aspects of MAB renovation as Romanian legislation framework in this regard is currently underdeveloped.

Summary and identified barriers

The first area of potential legislative and policy barriers refers to targets for energy renovations of MABs and energy poverty alleviation in MABs on a national level. In this sense it was important to determine whether the national targets are:

- Sufficiently **ambitious and prioritised** in the national planning for the energy transition;
- Based on **comprehensive data and appropriate methodologies** for the widescale baseline analysis and tracking of the national building stock and energy poverty on a national level;
- **Coherent** across the relevant legislation and policies **and compatible** with other targets relevant to the energy transition in the country.

Summary: Romania has aligned its national legislation with EU objectives for energy efficiency in buildings. Despite ambitious targets and strategic measures outlined in national plans, only 7% of the pre-2000 residential multi-apartment buildings have been renovated by 2020. Significant efforts, including new financing schemes and prioritizing energy-poor families, are necessary to meet the 2050 renovation goals and ensure energy efficiency and emission reductions. Targets for energy building renovations of multi-apartment buildings (MABs) in Romania are not based on a comprehensive analysis of national building stock or other relevant data such as energy poverty and housing conditions. Instead, renovation program funds have been allocated based on municipal requests, leading to an inconsistent and non-uniform distribution of renovation efforts across the country. While there is some coherence in the targets for energy building renovations across different strategies, energy poverty is not a significant focus for the renovation of Multi-Apartment Buildings (MABs). The criteria for

addressing energy poverty are not integrated into the legislative aspects of MAB renovation due to the underdeveloped legislative framework in Romania.

Identified barriers regarding the TARGETS for energy renovations and energy poverty alleviation in MABs:

1. **Lack of comprehensive analysis of national building stock, underdeveloped legislation and lack of updated situation of low-income families and property owners in the renovation process**. Additionally, proper energy poverty filtering criterion for MAB renovation projects is currently leading to unprioritized and ad-hoc allocation of MABs renovation funds.
2. Current **funding mechanisms are insufficient**, necessitating the development of new renovation schemes and access to low-interest loans for low-income owners in need of renovation of their house/apartment. This causes a low renovation rate of MABs due to the vast stock of outdated buildings.
3. **Fluctuating and uneven territorial distribution of rehabilitation funds** due to reliance on municipal requests rather than a strategic, analysis-based approach.

5.2 Measures

There are inconsistencies in the deployment of measures for energy renovation for various building types. This outcome is generated by the funding structure and various grants being mostly dedicated to public buildings and individual houses, also considering the additional funding that these buildings can benefit for RES equipment.

As there is a lack of support for Energy Communities and the representation of MABs property owners in strong ECs or homeowner associations, mainly as a result of poor legislative support and lack of relevant legal rights for MABs property owners, are some of the root causes for these buildings being several steps behind when compared to other types of buildings where the property owners are more clearly identifiable as direct beneficiaries of funding.

The legal framework to support ECs is currently developing in Romania and this should create the environment for MABs property owners to be better recognized by national and regional financing authorities and to benefit from energy renovation measures. The municipality and distributor of electricity are also important stakeholders in this process as they can mobilize and support the use or RES in MABs and other various sustainability measures.

Currently there are no specificities between regions when it comes to measure design and funding allocation. There are some construction regulations that will impose different specifications based on elevation (average altitude) of the territory (e.g. thicker insulation, deeper pipelines as compared to low elevation municipalities).

If social issues and energy poverty indicators were to be available across Romania and standardized, then some important differences between regions will be uncovered regarding the MABs owners' financial capacity also reflected in their quality of life, health issues based on air pollution and industry, population age, earthquake risks, distance from medical centers, etc.

The projects targeting MABs do include social criteria, but this criterion is not updated to integrate current problematic and specific indicators such as energy poverty and indoor air quality. Connected to this, we can identify a lack of methodology for

selection of renovation works targeting MABs based on a prioritization of vulnerable social groups for example.

Currently the implementation of renovation works for MABs is mostly done randomly or based on various facts such the availability of an agreement for starting the renovation works of most MAB property owners or the availability of project/building structure and documentation form similar buildings that were previously renovated to simply duplicate the renovation work. This is applicable in many cases, as during communist era, the MABs were constructed in waves across Romanian municipalities, with very similar building structure among them even in opposite corners of the country.

Most of the analyzed documents do recognize and incorporate principles of just transition and social inclusion in the planning and implementation of measures of energy building renovations of MABs and energy poverty alleviation of MABs in various extents. However, there are big gaps regarding the specificities between building types and missing connection with energy poverty (EP) specific objectives or indicators as ground-level EP data to support this is currently insufficient. There is currently poor legislative support for Energy Communities (EC) which are the basis for citizen energy initiatives. Most of the existing documents do not have a common focus/targets or definitions aimed to specifically support the mitigation/research of EP or the creation and empowerment of ECs. This result in a poor mobilization of known actors for purposes dedicated to MABs, with obvious effects like for example the absence of solar PV installations on MABs in Romania.

Summary and identified barriers

The second segment of potential barriers refers to national measures for energy renovations of MABs and energy poverty alleviation in MABs. Regarding this topic we were interested in whether said measures are:

- **Suitable and comprehensive** enough given the specific national context, and, for that purpose, **created inclusively** as a result of social dialogues with key stakeholders;
- Sufficiently addressing the importance of energy renovations of MABs and energy poverty alleviation in MABs on a **local and/or regional level** in Romania;
- **Recognizing vulnerable social groups** at all levels in Romania and specifically addressing **energy poverty in residential, multi-apartment buildings**.

Summary: The measures for energy building renovations of Multi-Apartment Buildings (MABs) in Romania are inconsistent, with funding structures favouring public buildings and individual houses. A significant barrier is the lack of support for Energy Communities (ECs) and homeowner associations for MABs, due to poor legislative backing and insufficient legal rights for MAB property owners. There are no region-specific measures for energy building renovations of Multi-Apartment Buildings (MABs) in Romania. Current construction regulations vary by elevation, but social issues and energy poverty indicators are not standardized, which could reveal significant regional differences if properly assessed. Measures for energy building renovations of Multi-Apartment Buildings (MABs) in Romania do include social criteria, but these criteria are outdated and do not integrate specific indicators such as energy poverty and indoor air quality. There is a lack of methodology for prioritizing renovation works based on the vulnerability of social groups, leading to a largely random implementation process.

Identified barriers regarding the MEASURES for energy renovations and energy poverty alleviation in MABs:

1. **Lack of support and underdeveloped legal framework for Energy Communities (ECs) and homeowner associations** representing MAB property owners.

2. **Absence of legally defined social intervention processes and prioritisation methodology** based on energy poverty indicators in regions and municipalities.

3. **Managing authorities do not provide or enforce specific selection methodologies for municipalities**, resulting in inconsistencies in addressing energy poverty through MAB renovations.

5.3 Implementation and monitoring

The entities that are currently involved in the process of MABs renovation do not do research or follow up-to-date situations of energy poverty in MABs. Meanwhile the government is rather using short-term solutions such as energy vouchers for low-income persons and cost ceilings schemes for vulnerable residential energy consumers to pay for the consumed energy itself, instead of developing a sustainable system to identify inefficiency hotspots and lower the overall energy demand in buildings, by optimising the way the way the renovations are made and use the funds for this purpose.

Ministry for Development, Public Works and Administration: This ministry is responsible for the development and implementation of financing mechanisms and policies in the fields of construction, urban planning, energy and transport. It oversees the implementation of legislation and national programs relating to the energy renovation of buildings/MAB.

Regional Development Agencies (NGO/NPO): These organisations are managing ROP – Regional Operational Programme - previous and current (2021 – 2027) subsidies for the energy renovation of buildings/MABs. This is responsible for allocating funds, monitoring the implementation and the effectiveness of measures, and reporting the results up to the Ministry for Development, Public Works and Administration.

Ministry of Investments and European Projects is the managing authority of PNRR – The Romanian Recovery and Resilience Fund that do support the energy renovation of buildings/MAB on component 5 – Renovation wave – Axis 1 (dedicated for MABs): Grants for energy efficiency and resilience of MABs moderated or deep energy renovation. These funds are made available to municipalities.

Municipalities: These play a key role in the selection of MABs, deployment, implementation/monitoring of local MAB energy renovation projects and measures. Key elements are: deploying public procurements for MABs buildings feasibility studies and projects documentations, own contribution from local budget to MABs renovation projects financing, issuing building permits, supervising and monitoring the implementation of projects.

Summary and identified barriers

In the last segment we were interested in potential barriers in the process of implementing and monitoring the above-mentioned measures for energy renovations of MABs and energy poverty alleviation in MABs. This mainly refers to the assessment of:

- **Governing bodies** overseeing the implementation and monitoring of the measures and the **transparency and efficiency** of the implementation and monitoring processes;
- Available national **financial instruments and mechanisms** in your country and the perceived **gaps between the necessary and available public resources** for the implementation of measures;
- **Just transition and social inclusion** elements in the planning and implementation of measures and the role of **citizen energy initiatives** energy building renovations of MABs and energy poverty alleviation in MABs;

Summary: The implementation and monitoring of energy renovation measures for Multi-Apartment Buildings (MABs) in Romania are overseen by several governing bodies, including the Ministry for Development, Public Works and Administration, Regional Development Agencies, the Ministry of Investments and European Projects, and local municipalities. Each entity plays a distinct role in funding allocation, project management, and local implementation. In Romania, financial instruments and mechanisms for energy building renovations of Multi-Apartment Buildings (MABs) do not clearly align with energy poverty (EP) targets. The selection methodology for MABs renovation financing lacks EP-specific criteria, largely due to the absence of comprehensive EP data and the lack of mandated selection guidelines from managing authorities. While principles of just transition and social inclusion are recognized in the planning and implementation of measures for energy building renovations of MABs and energy poverty alleviation, significant gaps exist. These gaps include the lack of specificity between building types, insufficient connection with energy poverty objectives, and poor legislative support for Energy Communities (ECs).

Identified barriers regarding the IMPLEMENTATION AND MONITORING processes for energy renovations and energy poverty alleviation in MABs:

1. Insufficient ground-level energy poverty data hampers **the connection between renovation measures and energy poverty alleviation**, limiting the **integration of energy poverty criteria in the allocation and distribution of renovation financing**.

2. **Outdated renovation norms and no legal requirements for indoor air quality monitoring**, to account for inhabitants' health risks derived from poor indoor air quality before and/or after renovation works. E.g. radon gas measurements, CO_2 measurements, humidity monitoring.

3. **Limited mobilisation of key social actors and a lack of emphasis on specific vulnerable groups**, resulting in inadequate support for MABs and **minimal implementation of renewable energy solutions** like solar PV installations.

6. Barriers related to public calls to energy renovations of MABs in Romania

This chapter provides an analysis of public programs aimed at energy renovation of multi-apartment buildings in Romania, focusing on efficiency, application processes, eligibility criteria, renovation activities, co-financing rates, and the involvement of

energy-poor households. Across all programs analyzed, there is a significant lack of comprehensive data. Information on total financial resources, number of approved projects, and number of applications is not available. This data gap makes it difficult to assess the programs' effectiveness, reach, and overall impact. The absence of detailed financial and performance data raises concerns about transparency and accountability. Detailed and accessible information is crucial for stakeholders to understand the scope, effectiveness, and fairness of these programs. There is a need for better reporting and transparency, including clear and detailed information on financial allocations, grant amounts, project approvals, and application numbers. These improvements would help in monitoring progress, making informed policy adjustments, and building public trust. Only buildings constructed after 2000 are eligible, and only full building renovations are accepted (excluding commercial spaces if owners disagree). Applications must be submitted electronically. However, there is no information on the duration of the application revision process and the time taken to resolve complaints and sign agreements. This lack of information introduces uncertainty for applicants and can hinder project planning and execution. Energy renovation works focus on improving the building envelope, such as walls, roofs, windows, and doors, aiming to reduce heat loss, improve energy efficiency, and enhance living conditions. There is no information on obligatory annual minimum energy savings for heating or primary energy savings compared to pre-renovation conditions, indicating a lack of defined performance benchmarks. There is no available information on how many energy-poor households have been involved in the programs, nor on the criteria used to define energy-poor households. This suggests a need for better tracking and reporting mechanisms. Improved data collection and management practices are essential. Establishing clear criteria and transparent financial reporting will ensure that programs are reaching and benefiting the intended recipients. Prioritizing the identification and inclusion of energy-poor households is crucial for maximizing the social and economic impact of the grants. In summary, the analysis reveals significant gaps in data and regulatory challenges in Romania's energy renovation programs. Addressing these issues through improved transparency, clear performance benchmarks, and better support for energy-poor households will enhance the effectiveness and impact of these programs, ensuring they meet their energy efficiency and social goals.

1. Insufficient financial data, incomplete performance metrics along with transparency and accountability issues

There is a lack of comprehensive data on the total financial resources allocated to each program. This includes missing information on the overall budget and how funds are distributed. The absence of detailed financial data makes it difficult to assess the financial health and capacity of the programs. Information on the number of approved projects and the number of applications received is missing. This data is crucial for evaluating program effectiveness and understanding application success rates. Lack of specific targets for annual energy savings (both heating and primary energy) prevents the measurement of energy efficiency improvements. The absence of detailed and accessible information raises concerns about the transparency and accountability of these programs. Stakeholders are unable to fully understand the scope, effectiveness, and fairness of the programs.

2. Legal barriers for renewable energy implementation and inconsistent eligibility criteria

The lack of legal support for electricity sharing among multiple apartment buildings has hindered the implementation of photovoltaic (PV) solar plants and solar thermal systems. This regulatory gap prevents the full integration of renewable energy sources in renovation projects. Different eligibility criteria for multi-apartment buildings across programs create confusion and limit the pool of eligible applicants. For example, the National Recovery and Resilience Plan targets buildings constructed after 2000, while the Regional Operational Programme focuses on buildings constructed between 1950 and 1990.

3. Application submission and processing delays and centralized approach

While electronic submission is intended to streamline the application process, the lack of information on the duration of application revision and complaint resolution introduces uncertainty and potential delays. Undefined timelines for resolving complaints and signing agreements further contribute to administrative inefficiencies and hinder project planning and execution. Restricting eligibility to municipalities centralizes the management and implementation of renovation projects. While this can ensure alignment with urban development plans, it may also introduce bureaucratic complexities and slow down project approvals.

4. High threshold for co-owner agreement and lower consensus requirement in the National multiannual program

The requirement for a high percentage of interested co-owners (66% for the National Recovery and Resilience Plan and the Regional Operational Programme) can be challenging to achieve, especially in buildings with diverse resident populations. This high threshold can prevent the initiation of necessary renovation projects. Although the National Multiannual Program requires a lower consensus (51%), this might lead to situations where a significant minority of residents oppose the renovation, potentially causing conflicts and dissatisfaction.

5. Lack of data on energy-poor households

There is a significant gap in data regarding the involvement of energy-poor households in the renovation programs. Without clear data, it is challenging to assess the impact on and benefits for these households. The absence of standardized criteria for defining energy-poor households suggests a lack of targeted policy measures. Clear definitions are essential for identifying and supporting the most vulnerable populations effectively. The lack of specific grants or financial allocations for energy-poor households indicates potential inequities in program design and implementation. Ensuring targeted support for these households is crucial for maximizing the social impact of energy renovation programs.

6.1 Efficiency of public calls/programs

Table 5 presents the efficiency and effectiveness of public plan / program in Romania emphasizing total value, the highest and lowest amounts of grants that can be awarded to an individual project, number of applied and approved projects. Table 5. Efficiency and effectiveness of public calls in Romania.

Table 5. Efficiency and effectiveness of public plan / program

Public Program / Plan	The total value (available financial resources)	The highest and lowest amounts of grants that can be awarded to an individual project	Number of applied projects that have been approved	Number of projects applied to the Call
National Recovery and Resilience Plan (2022-2024)	No info.	100.000,00 – 5.000.000,00 EUR	No info.	No info.
Regional Operational Program (2014-2020)	No info.	No info.	No info.	No info.
National Multiannual Program for energy performance improvement of housing blocks (2019-2021)	No info.	No info.	No info.	No info.

The most glaring issue across all programs is the lack of comprehensive data. This includes information on the total financial resources, the number of approved projects, and the number of applications. This data gap makes it difficult to assess the effectiveness, reach, and overall impact of these programs. For the National Recovery and Resilience Plan, the specified grant range (100,000 – 5,000,000 EUR) indicates flexibility in funding, allowing for a variety of project sizes. This could potentially encourage broader participation from different types of applicants, provided the total available funding is sufficient. The absence of detailed financial and performance data raises concerns about transparency and accountability. Detailed and accessible information is crucial for stakeholders to understand the scope, effectiveness, and fairness of these programs. To improve these programs, there is a need for better reporting and transparency. This includes providing clear and detailed information on financial allocations, grant amounts, project approvals, and application numbers. Such improvements would help in monitoring progress, making informed policy adjustments, and building public trust. The table reveals significant gaps in data across major energy renovation programs in Romania. While the National Recovery and Resilience Plan provides some insight into grant amounts, the overall lack of comprehensive data hinders a full understanding of these programs' effectiveness and reach. Addressing these data gaps through improved transparency and reporting will be essential for enhancing the impact and credibility of these energy renovation initiatives.

6.2 Application processes and eligibility criteria

Table 6 presents a comparison of the requirements of public calls in Romania regarding the eligibility, ways of submitting the project, deadlines of revision, resolving the complaint, and signing the agreement.

Table 6. Comparison of application processes and eligibility criteria.

Criteria	Details
Criteria for Multi-Apartment Buildings	For the National Recovery and Resilience Plan - only MABs built after 2000, only full building renovation is acccepted (commercial spaces at the ground floor can be skipped if not agree) For the Regional Operational Programme - only MABs built between 1950-1990

	National Multiannual Programme covers MAB renovation (envelope, roof, sidewalks) and replacement of building utilities pipework
Eligible Applicants	Municipalities
Percentage of Interested Co-Owners Required	National Recovery and Resilience Plan and Regional Operational Program: 66%(2/3) National Multiannual Program: 51%
Manner of Application Submission	Electronically
Duration of Application Revision Process and Resolving Complaints	No info.
Duration for Resolving Complaints and Signing the Agreement	No info.

Only full building renovations are accepted, meaning partial renovations are not allowed. However, commercial spaces on the ground floor can be excluded if the owners do not agree to the renovations. This criterion focuses on newer buildings, potentially to ensure that investments are made in structures with a longer remaining lifespan. Full renovations are likely to yield more significant energy savings but may also involve higher costs and more extensive work. The Regional Operational Program targets older buildings that are likely to be less energy efficient. Renovating these buildings can have substantial impacts on reducing energy consumption and improving living conditions. The specified period covers a range of building technologies and materials, which may present unique renovation challenges. The comprehensive approach of the National Multiannual Program addresses multiple aspects of building infrastructure, potentially leading to significant improvements in both energy efficiency and overall functionality. The inclusion of utility pipework replacement indicates a focus on modernizing essential services within the buildings. Restricting eligibility to municipalities suggests a centralized approach to managing and implementing renovation projects. Municipal oversight can ensure that projects align with broader urban development plans and standards, but it may also introduce bureaucratic complexities. High threshold (66% of co-owners that must be interested) of the National Recovery and Resilience Plan and Regional Operational Program ensures that a substantial majority of the building's residents support the renovation project, which can help mitigate conflicts and ensure smoother implementation.

However, achieving this level of consensus might be challenging, especially in buildings with a diverse resident population. A lower threshold (51%) compared to the other programs, making it easier to secure approval for renovation projects. This could facilitate quicker initiation of projects but may also lead to situations where a significant minority of residents are opposed. Electronic submission modernizes and streamlines the application process, making it more accessible and efficient. This approach can reduce paperwork and expedite the processing of applications. However, it also assumes that applicants have access to and are comfortable with digital technologies. Lack of information on the duration of the application revision process and the time taken to resolve complaints introduces uncertainty for applicants. Clear timelines are essential for planning and managing expectations. The absence of this information can lead to frustration and delays in project implementation. Like the application revision process, the absence of specific timelines for resolving complaints and signing agreements creates ambiguity. Applicants may face extended periods of uncertainty,

which can hinder project planning and execution. Establishing and communicating clear timelines would enhance transparency and trust in the process.

6.3 Renovation activities and co-financing rates

Table 7 presents data on various aspects of these programs, including the acceptable project activities, co-financing rates, the number of square meters included, obligatory energy savings, and included renewable energy sources (RES).

Table 7. Renovation activities

Acceptable project activities	Energy renovation works (MAB envelope)
The minimum and maximum rates of co-financing measures for the same activities.	National Recovery and Resilience Plan: 100% Regional Operational Programme: 75% National Multiannual Programme: 80%
Number in square meters in total that were included in the call / program	No info
Obligatory annual minimum energy savings for heating compared to the condition before renovation.	No info
Obligatory annual primary energy savings compared to the situation before the renovation.	No info
Included RES in the Call / Program	PV plant solar thermal, but not implemented due to lack of legal support for electricity sharing in MABs
RES co-financing rate	No info.

There is a comprehensive energy efficiency improvement of the building envelope (e.g., walls, roof, windows, and doors) in multi-apartment buildings. The aim is to reduce heat loss, improve energy efficiency, and enhance living conditions. The National Recovery and Resilience Plan offers full financing for energy renovation activities, which suggests a strong commitment to improving energy efficiency without requiring additional financial contributions from beneficiaries. The National Multiannual Programme covers 80% of the renovation costs, leaving beneficiaries responsible for the remaining 20%. This level of support indicates significant but not complete financial assistance, encouraging co-investment from beneficiaries. There is no data provided on the total area covered by the program. This lack of information makes it difficult to assess the scale and impact of the program. The absence of specified targets for annual minimum energy savings for heating indicates a lack of defined performance benchmarks for energy efficiency improvements.

Clear targets are essential for measuring the success of renovation efforts. Like heating energy savings, there is no information on mandatory annual primary energy savings compared to pre-renovation conditions. Defined energy saving goals are crucial for evaluating the overall effectiveness of the renovation works. While photovoltaic (PV) solar plants and solar thermal systems were considered for inclusion, they were not implemented. The primary barrier was the lack of legal frameworks supporting electricity sharing among multiple apartment buildings, highlighting a significant regulatory challenge. There is no information on the co-financing rate for renewable energy sources. Knowing the co-financing rates would help understand the financial incentives available for incorporating renewable energy technologies in renovation projects. There is a strong governmental support for energy renovation through various financing

schemes, but also highlights significant gaps in data, regulatory challenges, and the need for clearer targets and transparency. Addressing these issues would enhance the effectiveness and impact of energy renovation programs for multi-apartment buildings in Romania.

6.4 Energy poverty

There is a significant gap in data regarding energy-poor households. There is no available information about how many energy-poor households have been involved in the energy renovation programs. This indicates a need for better tracking and reporting mechanisms to identify and support these households. There is no information on the criteria used to define energy-poor households. This lack of defined criteria suggests that there may not be a standardized or widely accepted definition being used in the context of these grant programs. Establishing clear criteria is essential for targeting and assisting the most vulnerable populations effectively. The total grants used for energy-poor households in the calls are also unspecified. This lack of transparency and detail in financial allocation points to a potential issue in the accountability and effectiveness of the grant programs. Without this information, it is challenging to assess whether the programs are adequately supporting those in need. The absence of detailed data implies a need for improved data collection and management practices. To effectively address energy poverty, it is crucial to gather comprehensive data on the demographics and needs of energy-poor households. The lack of defined criteria and unspecified grant allocations indicate that current policies and program designs may need to be revisited. Clear definitions and transparent financial reporting are necessary to ensure that the programs are reaching and benefiting the intended recipients. Without specific data, it is difficult to provide targeted support to those most in need. The energy renovation programs must prioritize the identification and inclusion of energy-poor households to maximize the social and economic impact of the grants.

7. Policy recommendations for improvements of national regulatory framework

The proposed general recommendations outline broad guidelines for public policies aimed at improving the process of achieving energy efficiency goals, particularly focusing on the energy renovation of MABs in Romania and energy poverty alleviation in MABs. Energy inefficiency of multi-apartment buildings remains one of the key infrastructural barriers to sustainable management of renewable energy and the overall transformation of energy production and consumption systems in Romania. Apart from the major role that the transformation of the residential sector plays in the overall energy transition in Romania, ensuring the energy efficiency of residential buildings through comprehensive energy renovation is a crucial initial step toward unlocking the significant potential of citizen energy in MABs in Romania. This effort also greatly contributes to the overall decarbonization of the housing sector and the attainment of the goals[5] of transforming the European building stock into (nearly) zero-emission buildings.

[5] In March 2023, the European Parliament adopted a draft of measures aimed at increasing the rate of energy renewal and reducing energy consumption and greenhouse gas emissions. The proposed revision of the Energy Performance of Buildings Directive (EPBD) aims to significantly cut greenhouse gas emissions and energy consumption in the EU building

These recommendations stem from previously displayed analysis of previous public calls for energy renovations of MABs in Romania, and the barriers identified in the analysis of the regulatory and policy framework outlining energy renovations of MABs and energy poverty alleviation in Romania. Implementing elements of these policy recommendations into the current procedures, policies and legislation could significantly enhance the effectiveness, inclusiveness, and sustainability of energy renovation calls in Romania, leading to improved energy efficiency and ultimately result in reduced energy poverty across the country.

RECOMMENDATION 1: **Establish a multi-apartment building inventory at local level and assign a responsible body for keeping this inventory up to date.**

For the purpose of optimising the entire process of multi-apartment buildings renovation, One of the key starting points is to begin with an updated inventory of buildings in a municipality than not only contain the initial constructive aspects, but an updated datasheet on current building status such as constructive (structural) vulnerabilities, type of utilities distribution networks and vulnerabilities (electrical, water, natural gas, etc.), building habitation and living conditions inside the building, leading to a labelling methodology of multi-apartment buildings as "priority buildings" based on the constructive status and habitation structure (e.g. more than 50% of inhabitants can be classified as social cases). An existing regional or local organisation can be put in charge of keeping this inventory up to date. This is similar to what we currently do for earthquake risk labelling in Bucharest. A budget must be allocated to facilitate the development of database structure for data input (survey), data visualisation (reports) and the staff that need to monitor the MABs (and possibly other buildings) using various means (e.g. drones, smart energy/water metres at building level, etc.)

RECOMMENDATION 2: **Supporting the establishment of RES energy communities in multi-apartment buildings from Romania.**

For the purpose of increasing the use of renewable energy in multi-apartment buildings in Romania, it is crucial that associative structures for sharing energy are established in MABs. Energy communities can be this structure, but currently the regulations of energy distribution in MABs do not facilitate energy sharing and two-way metering of electricity from a common renewable energy source (e.g. solar panels on MAB roof). Another issue is related to the structural resistance of existing MABs roofs to support the added weight of solar panels, with alternatives such as installing solar panels on a nearby building, on the vertical walls of the building or the ground. For the inhabitants of a MAB to benefit from such a system, the renewable energy must be allocated for more than one resident. Usually in multi-apartment buildings from Romania, each apartment has an individual contract with the energy provider, a contract that does not allow sharing of energy with other apartments in the building or a consumed energy deduction scheme at building or staircase level. This is where a clear, updated regulation on energy distribution systems from MABs must come in, to facilitate the sharing of renewable

sector by 2030, with the goal of achieving climate neutrality by 2050. Starting in 2028, all new buildings are required to be zero-emission and equipped with solar technologies, while residential buildings undergoing major renovations must meet these requirements by 2032. According to the MC001/2022 methodology, the NZEB standard refers to a building with a very high energy performance, where the energy consumption is almost equal to zero or is very low and is covered, in a minimum proportion of 30%, with energy from renewable sources , including energy from renewable sources produced on site or nearby, within a radius of 30 km from the GPS coordinates of the building, starting with the year 2021 (after 2031 the minimum proportion of energy from renewable sources will be established by Government Decision , according to the provisions of Law no. 372/2005, republished).

energy and multi-apartment energy consumption compensation in MABs to become a working system.

RECOMMENDATION 3: **Definition of a clear multi-apartment buildings renovation prioritisation criteria as part of existing and future MAB renovation programmes focused on residents living conditions and incomes - energy poverty and social cases.**

There are 2 components that can be considered problematic in the current conditions:

1. In Romania the allocation of funding for MABs renovation (and other funds as well) is either from a common national-level fund or is split per development region. The issue occurs when larger municipalities in these regions rapidly exhaust all funding for MABs renovation for the entire region. That is due to a missing funding allocation mechanism within these regions to allocate funds in smaller divisions (e.g. a maximum number of applications per county or per municipality).
2. At local level, the lack of energy-poverty based prioritisation criteria for MABs renovation, creates a tendency for municipalities (the applicants) to mainly renovate the largest MABs by size (to reduce the administrative load) or the ones that are at main boulevards and are directly visible by many people, even if in most cases vulnerable energy consumers live in less visible MABs, that are often comprised from smaller apartments and have degraded roofs, walls or their facades have inconsistencies due to some owners intervention.

Based on these facts, the current criteria for the allocation of funds for MABs renovation can be updated so that the available renovation funds will be directed based on the residents living situation (income level, living conditions, indoor air quality, health issues including disabilities). The outcome of the proposed prioritisation criteria will refocus the beneficiaries of renovation funds from apartment owners that generally can afford to pay from their own money for the renovation works, to apartment owners that cannot afford to pay for this (low income), placing these limited renovation funds in the "social funds" category, which is more desirable. This will also help to reduce the amount of government-granted energy vouchers and subsidies for vulnerable energy consumers living in these MABs.

RECOMMENDATION 4: **Increasing the involvement of homeowner associations representatives from multi-apartment buildings in the decision process at regional and national level.**

Given the limited amount of funding granted for MABs renovation at national, regional and local level, it is crucial that the organisations managing the renovation funds must be connected to the real-life situations in the field. That is why homeowner associations representatives from multi-apartment buildings must be better involved in the decision process regarding the allocation of funds for residential buildings renovation at regional and local level. Along with other key stakeholders such as municipalities, the homeowner associations representatives cand better indicate what are their needs and paint a credible image about the real living conditions and constructive issues of the buildings. Based on their influence the use of funds can be optimised by identifying exactly what type of interventions buildings should be subjected to and what would be the perceived impact of these interventions, reduction of costs with energy and other facts such as the long-term impact of renovation works, changes in building

maintenance costs, cost and quality optimisation of renovation works - improving the spending of renovation funds by increasing the investment sustainability overall.

RECOMMENDATION 5: **Development of sustainable, transparent financing tools for owners of residential buildings in need of renovation from Romania.**

Considering the fact that there is a high number of residential buildings requiring renovation in all regions from Romania, both multi-apartment buildings and individual homes, there is a need to create new financing tools that will facilitate the renovation of residential building stock to increase energy efficiency, reduce health risks, and improve quality of life for residents. Such financial tools must include loans with preferential interest rates and other financing mechanisms for measures such as facilitating the migration of residents from old building stock to new or renovated building stock where ROI (return of investment), residents' safety, long-term living conditions and maintenance/hidden costs after the renovation works are not within reasonable margins.

This approach will require cost-benefit financial analysis on a case-by-case basis, but will generate advantages on multiple planes:

Helping residential building owners understand the true renovation cost profile for their house or multi-apartment building and expose hidden costs (including post-renovation maintenance costs)

Facilitating the adoption of cost-efficient technologies and materials for green energy generation, thermal insulation, and monitoring building management systems and automations

Avoiding high-risk investments and unnecessary debts that will prevent residential building owners to invest and waste their money on low-impact or unsustainable renovation works after a thorough risk assessment

Increase the transparency of building renovation investments, improve competition on renovation services market and accelerating the increase of high energy efficient (nZEB/NZEB) buildings

Regeneration of residential building stock (infeasible investments in heavily degraded on no unsuitable buildings will create new housing and landscaping development opportunities at modern standards, to replace existing buildings that are left out)

Extensive site-level risk analysis with current/forecasted climate hazards risk maps/simulations such as floods, landslides, fires and other environmental factors that might affect building integrity directly, the access of residents to the building, the safety of residents or their living conditions inside the building.

These financing tools can be developed and deployed at national or regional level, by the existing entities that are managing buildings renovation funds. (e.g. regional development agencies).

Annex 1

Instrument "T3.1 National regulatory framework analysis"

GENERAL INFORMATION

Q.1 Country

- Croatia
- Slovenia
- Romania
- Estonia
- Poland

Q.2 Document title (English)

(Open-ended question)

Q.2.1. Link to the document (if available)

(Open-ended question)

Q.3 Year of publication

(Open-ended question)

Q.4 Main subject area (eg., energy, buildings, ownership, etc.)

(Open-ended question)

Q.5 Secondary subject area (if applicable)

(Open-ended question)

Q.6 Version of the document

- Final
- Draft

ENERGY RENOVATIONS OF MABs

Q.7 Key STAKEHOLDERS (e.g. building owners, tenants, citizens, energy agencies etc.) specified by the document

(Open-ended question)

Q.8 The document sets quantitative TARGETS for energy renovations of multi-apartment buildings (y/n)

- Yes
- No

Q.9 If YES, insert target(s) in corresponding units

(Open-ended question)

Q.10 The document specifies MEASURES for energy renovations of multi-apartment buildings (y/n)

- Yes

- No

Q.11 If YES, provide a list (without description) of specified measures. Please copy & paste measures from the referenced document.

(Open-ended question)

Q.12 The document specifies FINANCIAL SCOPE for implementation of measures (y/n)

- Yes
- No

Q.13 If YES, insert the financial scope of each measure (if available) in EUR

(Open-ended question)

Q.14 The document specifies FINANCIAL SOURCES for implementation of measures (y/n)

- Yes
- No

Q.15 If YES, provide a list (without description) of specified financial sources. For each identified measure please copy & paste the financial source (if available) from the referenced document.

(Open-ended question)

Q.16 Overall self-assessed RELEVANCE of the document for the ENERGY RENNOVATIONS OF MABs

- Low
- Medium
- High

ENERGY POVERTY IN MABs

Q.17 The document ADDRESSES energy poverty alleviation in MABs, in general (y/n)

- Yes
- No

Q.18 The document specifies concrete MEASURES for energy poverty alleviation in MABs (y/n)

- Yes
- No

Q.19 If YES, provide a list (without description) of specified measures. Please copy & paste measures from the referenced document.

(Open-ended question)

Q.20 The document specifies FINANCIAL SOURCES for implementation of measures (y/n)

- Yes
- No

Q.21 If YES, provide a list (without description) of specified financial sources. For each identified measure please copy & paste the financial source (if available) from the referenced document.

(Open-ended question)

Q.22 The document specifies FINANCIAL SCOPE for implementation of measures (y/n)

- Yes
- No

Q.23 If YES, insert the financial scope of each measure (if available) in EUR

(Open-ended question)

Q.24 Overall self-assessed RELEVANCE of the document for ENERGY POVERTY ALLEVIATION IN MABs

- Low
- Medium
- High

CITIZENS ENERGY IN MABs

Q.25 The document defines the conditions for establishing citizen energy initiatives in MABs, e.g. energy communities or RES communities (y/n)

- Yes
- No

Q.26 Which types of citizen-led energy initiatives are referenced?

(Open-ended question)

Q.27 Overall self-assessed RELEVANCE of the document for CITIZENS ENERGY IN MABs?

- Low
- Medium
- High

Annex 2

Instrument "T3.1 National regulatory framework analysis_Open form"

Q1. Based on the reviewed national regulations and other official documents concerning energy building renovations, please describe the overall current level of ambition of your country for energy building renovations of MABs as they relate to specific national targets (if there are any) and those set by the EC. How well or poorly do current national targets reflect the necessity of wide scale energy building renovations of private households in your country? In your opinion, how important is the energy building renovations of MABs in the overall energy transition in your country, and/or is it prioritised in national planning of energy transition?

(Open-ended question)

Q3. Is there a coherency of identified targets across the relevant legislation and official documents? Are there any sectoral or any other discrepancies as they relate to the planning of energy building renovations of MABs and/or energy poverty alleviation of MABs? If so, please provide a brief description of them.

(Open-ended question)

Q4. Based on the reviewed national regulations and other official documents concerning energy building renovations, please briefly assess the suitability of identified measures for energy building renovations of MABs for the existing national context. If applicable, please describe the process of inclusion of key stakeholders in the (co-)creation of said measures and/or public discussion of defined measures. Are there any specific measures that are lacking in the national planning that should be implemented in your country regarding its specific infrastructural, institutional, socio-economic, and cultural background?

(Open-ended question)

Q5. How do the existing measures address the regional and/or local level in your country? Are there specific measures for cities and regions and how well or poorly do they reflect the actual needs and capabilities of sub-national units to implement said measures? Are there any inconsistencies regarding the conceptualisation of measures for energy building renovations of MABs between the national and local/regional level and, if so, please provide a brief description of them.

(Open-ended question)

Q6. How well or poorly do these measures recognize vulnerable social groups at the national and local levels in your country? Which social groups are, and which ARE NOT identified within the analysed legislation and official documents but are potentially especially vulnerable in your country? How well or poorly is energy poverty in MABs addressed in said documents considering existing measures? When considering the analysed documentation, is there a clear connection (in terms of main benefits, obstacles, etc.) between energy renovation of MABs and national and/or regional energy poverty alleviation?

(Open-ended question)

Q7. Which governing bodies oversee the implementation and monitoring of the measures for energy rennovantions of MABs defined in the analysed documents in your

country? Please briefly assess the transparency and efficiency of these processes or entities in the implementation and monitoring processes.

(Open-ended question)

Q9. When considering the analysed documents, is there an obvious institutional jurisdiction for the implementation and monitoring of measures of energy building renovations of MABs and energy poverty alleviation of MABs? Which (types of) institutions are accentuated the most in this regard in your country and how? How well or poorly are various national institutions coordinated within the existing planning, if at all, and how do you assess their role in the implementation?

(Open-ended question)

Q10. To what extent do the analysed documents recognize and incorporate principles of just transition and social inclusion in the planning and implementation of measures of energy building renovations of MABs and energy poverty alleviation of MABs? Do the analysed documents recognize the need for wider social dialogue and public participation in these processes, as described in the analysed documents? In this regard, how are these processes described? Which social actors are highlighted and given priority, and which ones ARE NOT, but should be, considering the wider social context? To what extent and how well or poorly is the concept of citizen energy initiatives incorporated within the analysed documents and how is its role defined regarding energy building renovations of MABs and energy poverty alleviation in MABs?

(Open-ended question)

Annex 3

Instrument "T3.1 Analysis of previous public calls"

Q.1 Country

- Croatia
- Slovenia
- Romania
- Estonia
- Poland

Q.2 What year was the Call published?

(Open-ended question)

Q.3 What is the name of the Call?

(Open-ended question)

Q.4 What is the criteria for a multi-apartment buildings? (e.g. Percentage of the total usable area that is used for housing; Minimum number of residential units; has a building manager, and other criteria)

(Open-ended question)

Q.5 Who are eligible applicants?

(Open-ended question)

Q.6 What is the (majority) percentage of interested co-owners required to initiate a project application for this Call?

(Open-ended question)

Q.7 How is the application submitted on this Call (e.g. electronically, by post)?

(Open-ended question)

Q.8 How long does the application revision process last, on average? (e.g. by calculating the time difference between the date of the application and the date of the notification of approval). Please specify in months, weeks, or days.

(Open-ended question)

Q.9 How long does it take for the complaint to be resolved?

(Open-ended question)

Q.10 What is the deadline for the signing of the Agreement from the date of adoption of the Funding decision?

(Open-ended question)

Q.11 How long is the maximum project's implementation period in this Call?

(Open-ended question)

Q.12 Please specify the total value (available financial resources) of the Call, in EUR?

(Open-ended question)

Q.13 Please specify the highest and lowest amounts of grants that can be awarded to an individual project? (in EUR)

(Open-ended question)

Q.14 Please provide a short list (in bullet points) of acceptable project activities (e.g. creation of project documentation, energy renovation)?

(Open-ended question)

Q.15 What are the minimum and maximum rates of co-financing measures for the same activities? (in EUR)

(Open-ended question)

Q.16 How many projects applied to the Call?

(Open-ended question)

Q.17 How many applied projects have been approved?

(Open-ended question)

Q.18 How many square meters in total were included in the energy renovation in this Call?

(Open-ended question)

Q.19 Are energy poor households also included in the Call?

- Yes
- No

Q.20 If YES, how many energy-poor households were involved in energy renovation?

(Open-ended question)

Q.21 Please provide a short description of the criterion for the energy poor households?

(Open-ended question)

Q.22 How much of the total grant for this Call was used? (in percentage points)

(Open-ended question)

Q.23 What are the obligatory annual minimum energy savings AS DEFINED IN THE TEXT OF THE CALL for HEATING compared to the condition before renovation? (kWh/year and/or percentage)

(Open-ended question)

Q.24 What is the obligatory annual primary energy savings AS DEFINED IN THE TEXT OF THE CALL compared to the situation before the renovation? (kWh/year and/or percentage)

(Open-ended question)

Q.25 Is RES co-financing included in the Call?

- Yes
- No

Q.26 Which RES are included in the Call (e.g. photovoltaic systems for the production of electricity)?

(Open-ended question)

Q.27 What was the RES co-financing rate in this Call?

(Open-ended question)

Co-funded by the European Union

The CEESEN-BENDER project has received funding from the European Union's Programme for the Environment and Climate Action (LIFE 2021-2027) under grant agreement no LIFE 101120994. The information and views set out in this material are those of the author(s) and do not necessarily reflect the official opinion of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.