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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 Poland

Dissemination Level: Public

WP3 Tackling the barriers hindering building related interventions in vulnerable districts

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## 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 Poland. This analysis of Poland regulatory and policy frameworks regarding the renovation of multiapartment buildings is a crucial step among many needed to enhance energy efficiency of Poland'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 Poland 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 Poland 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 Poland 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 Poland. The findings of the analysis were the basis of specific policy recommendations for policy actors and relevant decision-makers in Poland 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 Poland'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 Poland.

Summary of **REGULATORY AND POLICY BARRIERS**:

- **Insufficient regulations addressing energy poverty**: The absence of detailed regulations and guidelines related to energy poverty leads to inconsistent and ineffective measures targeting the most vulnerable social groups.
- **Inadequate reporting frequency and transparency**: The infrequent reporting undermines the transparency and efficiency of the processes involved in the implementation and monitoring of energy renovations and energy poverty alleviation initiatives.
- **Financial and institutional challenges**: The high costs of renovations, coupled with limited access to funding, complex bureaucratic procedures, and a lack of technical support, create substantial barriers to effective participation in renovation programs.
- **Informational and awareness deficiencies**: The limited awareness of available programs and the complexity of regulatory requirements significantly hinder the engagement of MAB residents in renovation efforts.

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

- **Insufficient data**: The lack of detailed information regarding energy-poor households and the allocation of financial resources significantly hinders a comprehensive assessment of program effectiveness.
- **Conditional approvals**: The introduction of conditional approvals for certain actions may discourage participation and result in fragmented rather than comprehensive renovations.
- **Lack of transparency in application processes**: Uncertainties in post-application procedures and variability in processing times undermine participant confidence and may negatively impact program engagement.
- **Limited eligibility criteria**: Income-based criteria alone fail to consider other critical factors, potentially leading to suboptimal identification and support of energy-poor households.

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

1. Formulating precise guidelines for public policies;

2. Addressing the issue of low energy efficiency in multi-apartment buildings;

3. Developing mass replacement of heating systems combined with shallow thermal modernization by 2030;

4. Increasing the scale of deep thermal modernization;

5. Supporting the decarbonization of the housing sector;

6. Reviewing regulations on building energy efficiency;

7. Enhancing efficiency, social inclusion, and sustainability of renovation efforts.

## 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

[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.

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 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 Poland, multi apartment buildings[4] (MABs) represent a significant portion of the housing stock, totaling approximately 553 000 buildings. The majority of these structures were erected during the period of a centrally planned economy when energy prices were artificially low and did not reflect their true economic cost. Consequently, the technical solutions implemented at that time often lacked adequate thermal insulation, resulting in high energy demand, particularly for heating purposes.

Buildings constructed prior to 2002 exhibit significantly higher primary energy consumption compared to those built according to current standards. For example, buildings from the period 1945-1970 typically consume between 250 and 300 kWh/m² annually for heating, whereas those constructed between 1989 and 2002 achieve consumption levels ranging from 140 to 180 kWh/m² annually.

A study conducted by the Central Statistical Office (GUS) in 2019 indicated that approximately 39,3% of multi-apartment buildings require thermal modernization to comply with current energy efficiency standards. Among these, 9,4% had already undergone or were scheduled for modernization between 2017 and 2020, while 29,9% still lacked any plans for such improvements. It is estimated that approximately 210 000 multi-apartment buildings in Poland remain in need of thermal modernization to enhance their energy performance. Thermal modernization is a critical process for Poland to meet its energy efficiency targets by 2050. These initiatives are focused on deep thermal modernization, with the objective of reducing the primary energy consumption (EP) index to a maximum of 65 kWh/m²·year in multi-apartment buildings[5].

[4] A multi-apartment building is defined as a structure that contains more than two residential units. This definition applies when a building does not meet the criteria for a single-family residential building as outlined in Article 3, point 2a of the Act of July 7, 1994, Building Law, which states that a single-family residential building is either a detached building or one in semi-detached, terraced, or group housing that constitutes a structurally independent unit, with no more than two residential units or one residential unit and a commercial unit occupying no more than 30% of the total area of the building [Act of July 7, 1994 - Construction Law (Journal of Laws of 2024, item 725, as amended)].

[5] Long-Term Building Renovation Strategy. Supporting the Renovation of the National Building Stock. Annex to Resolution No. 23/2022 of the Council of Ministers dated February 9, 2022, Warsaw.

## 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 addressing issues of energy poverty of households. 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 can aid decision makers in future improvement of regulatory frameworks and to 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 by providing a comparative outlook between pilot countries.

To understand said regulatory and policy barriers the CEESEN-BENDER project partners 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, 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 data in the form of written answers to questions provided by the TL and 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. This resulted in qualitative data grouped into topics relevant for identifying legislative and policy barriers on a national level.

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

This policy and regulatory framework analysis covered a total of nine 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 Poland's regulatory and policy framework for energy renovations of MABs.

| Legislation/policy | Year of publication | Subject area | Source | Version | Key stakeholders |
|---|---|---|---|---|---|
| **The Act on Energy Efficiency** | 2016 | Energy | Link | Final | Local and regional governments |
| **The Act on Energy Law** | 1997 | Energy | Link | Final | Producers, distributors, retailers, and consumers of energy |
| **The Act on Construction Law** | 1994 | Buildings | Link | Final | Investors, designers, contractors, and inspectors |
| **Regulation of the Minister of Economy on the methodology of calculating the energy characteristics of a building and a residential premises and the energy certificate of a building and a residential premises** | 2023 | Energy | Link | Final | Building owners and managers; Energy auditors; Financial institutions; Citizens and tenants |
| **Regulation of the Minister of Infrastructure on the technical conditions to be met by buildings and their location** | 2022 | Buildings | Link | Final | Architects and engineers; Building contractors and developers; Property owners and investors; Construction product manufacturers; Building inspectors and certifiers; Public authorities (national and local); Firefighters and emergency services; Occupants of |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | buildings (residents, tenants, workers); People with disabilities |
| **Act of October 7, 2022 amending the Act on the energy performance of buildings and the Construction Law Act** | 2022 | Buildings | Link | Final | Construction sector actors; Building owners; Landlords; Engineers |
| **Regulation of the Minister of Infrastructure of November 17, 2020 on the technical conditions to be met by buildings and their location** | 2019 | Buildings | Link | Final | Construction sector actors; Designers |
| **State Policy on Energy Efficiency by 2030** | 2009 | Energy efficiency | Link | Final | Local and regional governments |
| **Low-Emission Economy Plan** | 2008 | Local government responsibilities | Link | Final | Local authorities |

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 Poland** within the analysed documents.

| Legislation/policy | Targets (unit) | Measures | Financial scope (EUR) | Financial source | Impact |
|---|---|---|---|---|---|
| **The act on energy efficiency** | No | No | No | No | Medium |
| **The act on Energy Law** | No | No | No | No | Medium |
| **The act on Construction Law** | No | No | No | No | Medium |
| **Act of October 7, 2022 amending the Act on the energy performance of buildings and the Construction Law Act** | No | No | No | No | Medium |
| **Regulation of the Minister of Infrastructure of November 17, 2020 on the technical** | No | No | No | No | Medium |

| | | | | | |
|---|---|---|---|---|---|
| **conditions to be met by buildings and their location** | | | | | |
| **The Long-Term Building Renovation Strategy (DSRB) adopted by the Council of Ministers on February 9, 2022** | Achieve EP ≤ 65 kWh/(m² ·year) for multi-apartment buildings by 2050 | Deep thermal modernization, reduction of energy consumption, improvement of thermal insulation | The amount is estimated at several billion EUR | EU funds, state budget, private investments | 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 Poland** within the analysed documents.

| Legislation/policy | Measures | Financial scope (EUR) | Financial source | Impact |
|---|---|---|---|---|
| **The act on Energy Law** | Support programs offered by the electricity or gas retailers at the sensitive customer's request when they have overdue or current electricity or gas debts. Conclusion of overdue and current energy debts agreement, with options: postponement of payment; | No | No | Medium |

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 |
|---|---|---|
| **The Act on Energy Law** | Energy community | Medium |

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 Poland regarding energy renovations of MABs and energy poverty alleviation in MABs.

## 5.1. Targets

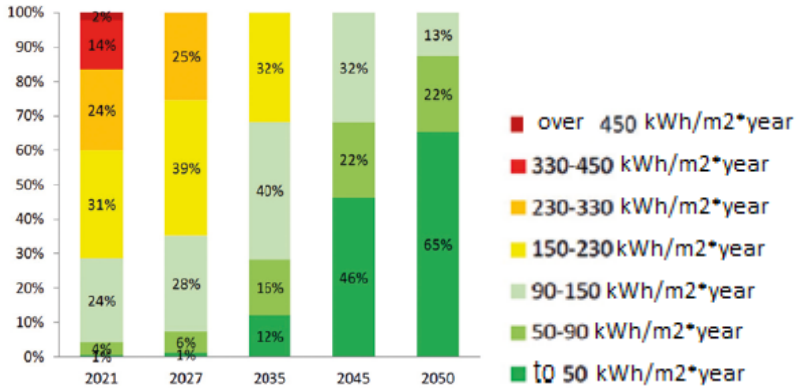



Figure 1. Distribution of residential and public utility buildings across different periods according to the EP indicator [recommended scenario][6]

Figure 1 demonstrates a significant improvement in building energy efficiency over time, with a definitive target set for 2050. In 2021, a substantial percentage of buildings consumed more than 150 kWh/m² per year, with a notable segment exceeding 450 kWh/m² per year, indicating high energy consumption and low efficiency.

By 2027, a clear shift towards lower energy consumption ranges is evident. The most significant improvements are anticipated by 2050, with the majority of buildings (65%) projected to achieve energy consumption levels below 50 kWh/m² per year. These data suggest that Poland has developed a comprehensive and ambitious strategy to enhance the energy performance of its building stock, consistent with the "Long-Term Renovation Strategy" recommended by the Ministry of Development, Labour, and Technology.

The national targets reflect well the necessity of wide scale energy building. In overall, the total percentage of the MABs to the total number of buildings in Poland is small (less than 10%), however most of the population lives in MAB. What is more, most of the MABs were set up in the soviet times and need energy renovation. Parallelly with the public buildings, MABs are on the roadmap of the national renovation plan.

The conducted analyses have been confirmed as comprehensive by the Ministry and other relevant experts. This conclusion is based on the identification of key areas such as policy, legislation, and methodologies. However, there are significant shortcomings in the methods used and the availability of reliable energy data. The lack of uniformity in audits conducted across different regions exacerbates this issue, as not all areas are assessed with the same level of accuracy. Additionally, there are currently no official statistics on energy poverty. Despite these limitations, the data already collected, including energy, social, cost, financial, and technical data, allows for drawing indirect

[6] Long-Term Building Renovation Strategy. Supporting the Renovation of the National Building Stock. Annex to Resolution No. 23/2022 of the Council of Ministers dated February 9, 2022, Warsaw.

conclusions about where energy poverty is most likely to occur and where targeted actions are needed.

**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:** The national targets for energy building renovations in Poland align well with the need for wide-scale renovations. Despite MABs comprising less than 10% of the total buildings, a significant portion of the population resides in them, and most were constructed during the Soviet era, necessitating energy renovations. MABs are included alongside public buildings in the national renovation plan. The targets for energy building renovations of MABs in Poland are based on a comprehensive analysis of the national building stock as identified by the Ministry and relevant experts. There is no official energy poverty statistics held in such scope and relevancy yet, but existing data allows indirect conclusions on where energy poverty occurs and where actions are needed.

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

1. The historical context and construction period of MABs (Soviet-era) suggest that **existing structures may not meet current energy efficiency standards**, posing a challenge for renovations.

2. The fact that **MABs constitute a small percentage of the total building stock** might result in less focused policy measures specifically targeting these buildings.

3. **There is a lack of detailed analysis and insufficient reliable energy data**, with inconsistencies in the scope of audits across different regions.

4. **The lack of official and relevant energy poverty statistics** hinders direct and precise identification and planning for energy poverty alleviation actions in MABs.

## 5.2. Measures

The technical requirements encompass parameters such as primary energy demand, U-values, CO2 emissions, and standards for air quality and pollution. This process primarily involves technical experts, engineers, and scientists, while excluding representatives of the public.

Currently, there are no regulations or guidelines that directly address the factors of energy poverty or establish a plan for its systematic reduction. The actions taken at the

national level have led to the development of a general national plan. This plan has inspired individual cities and municipalities to create their own regional plans, which have been tailored to local political conditions and available resources.

Although low-income groups have been identified, the measures implemented treat the entire population as a homogeneous unit, without clearly addressing the specific needs of different social groups.

**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 Poland;
- **Recognizing vulnerable social groups** at all levels in Romania and specifically addressing **energy poverty in residential, multi-apartment buildings**.

**Summary:** The identified measures for energy building renovations of MABs in Poland are based on technical requirements like primary energy demand and CO2 emissions, involving technical experts and scientists. However, there is a lack of regulations and recommendations addressing energy poverty factors. Existing measures for energy building renovations of MABs in Poland primarily address the national level, resulting in a national plan. This national plan has prompted some cities and municipalities to develop their own regional plans based on local politics and resources. The measures recognize low-income groups but treat the entire population as a single unit. There is no clear connection between energy renovation of MABs and national or regional energy poverty alleviation in the documents.

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

**1. The absence of regulations and recommendations focused on energy poverty factors.**

**2. Lack of specific measures tailored to the regional and local levels in the national plan.**

**3. Inconsistencies in the development and implementation of regional plans** due to varying local politics and resources.

**4. Lack of specific recognition and targeted measures for different vulnerable social groups.**

**5. Absence of a clear link between energy renovation efforts and energy poverty alleviation strategies**

## 5.3. Implementation and monitoring

Based on the analysed documents and the Polish context, there isn't a single, clear-cut institutional jurisdiction for implementing and monitoring MAB renovations and energy poverty alleviation. Ministry of Development and Technology (MRiT): Leads the national energy policy and the Long-Term Renovation Strategy for Buildings. They establish overall goals and funding mechanisms (like Czyste Powietrze). National Fund for Environmental Protection and Water Management (NFOŚiGW): Manages and distributes state funds for environmental and energy-related projects, including some renovation programs Local and regional Authorities: Possess some authority over building regulations and can offer additional funding or support programs for MAB renovations within their jurisdiction.
The Ministry of Development, Labour, and Technology, along with the Council of Ministers, play key roles in the implementation and monitoring processes. Other advisory partners include the Director of the Bank Gospodarstwa Krajowego (BGK), the National Bank, the Chief Inspector of Construction Supervision, the President of the Main Office of Construction Supervision Authority, and the Ombudsman for Small and Medium-sized Enterprises.

The transparency and efficiency of these entities are documented through cooperative reports. However, the lack of a consistent reporting frequency, which is presented without a regular schedule, diminishes the overall effectiveness and appropriateness of these processes, despite the importance of the information provided.

The current financing programs in Poland are not directly targeting energy poverty but rather focusing on improving energy efficiency and air quality. There is a significant monetary gap, primarily due to the high costs associated with deep renovations needed to achieve substantial energy savings, particularly in older multi-apartment buildings (MABs). Additionally, access to funding is limited; although programs like "Czyste Powietrze" exist, the available funds may not be sufficient to cover all renovation needs, especially for low-income residents or MAB associations.

The institutional gap is of medium concern, with complex bureaucratic processes often deterring participation in renovation grant programs. The application procedures can be cumbersome and require extensive paperwork, which may discourage MAB residents or associations. Moreover, there is a lack of technical expertise among these groups, making it challenging for them to effectively manage renovation projects.

An informational gap also exists, as awareness of available renovation programs is limited. Many MAB residents or associations are not fully informed about the programs and their benefits. Additionally, the complexity of regulations and requirements can be difficult for non-experts to understand, further hindering effective participation in these initiatives.

The analysed documents do not adequately recognize or incorporate the principles of just transition and social inclusion, particularly in the planning and implementation of energy building renovations for multi-apartment buildings (MABs) and the alleviation of energy poverty within these buildings. Although the documents consider low-income criteria, they fail to address broader social criteria, which limits their effectiveness in

promoting social inclusion. Furthermore, the documents do not acknowledge the importance of wider social dialogue and public participation in these processes. While the concept of citizen energy initiatives, such as energy communities and energy clusters, is briefly described and defined, it is primarily recognized as a potential future contributor to energy building renovations of MABs. However, there is currently no connection between these initiatives and efforts to alleviate energy poverty.

**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 Ministry of Development, Labour and Technology, along with the council of ministers and various advisory partners, oversee the implementation and monitoring of MAB renovation measures. The transparency and efficiency of these processes are hampered by infrequent reporting, which impacts the appropriability of vital information. Financial programs in Poland primarily target energy efficiency and air quality improvements, not specifically energy poverty. Significant gaps exist in terms of monetary resources, institutional processes, and informational dissemination for energy renovations of MABs. The analysed documents do not adequately recognize or incorporate principles of just transition and social inclusion in the planning and implementation of measures for energy building renovations of MABs and energy poverty alleviation. There is no recognition of the need for wider social dialogue and public participation, and citizen energy initiatives are only briefly mentioned.

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

**1. Reporting and transparency deficiency**: The infrequent cooperative reporting undermines the transparency and efficiency of both implementation and monitoring processes.

**2. Financial and institutional barriers**: The high costs of deep renovations, coupled with limited access to funding—particularly for low-income residents and MAB associations—are exacerbated by complex bureaucratic procedures and a lack of technical expertise, which collectively hinder effective participation and project execution.

**3. Information and awareness deficits**: Limited awareness of available programs, combined with the complexity of regulations, creates significant informational barriers, preventing stakeholders from fully engaging with renovation initiatives.

**4. Social inclusion and participation gaps**: The absence of comprehensive social criteria beyond low-income status, along with a lack of mechanisms for public participation and wider social dialogue, limits the inclusiveness and effectiveness of planning and implementation processes.

**5. Underutilized citizen energy initiatives**: Although citizen energy initiatives, such as energy communities and clusters, are acknowledged, they remain underdeveloped and are not yet integrated into broader strategies for energy poverty alleviation.

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

Analysing Poland's programs Warm Apartment and Termo for energy renovation of multiapartment buildings the conclusion is as follows. The programs promote energy efficiency, sustainability, and support for vulnerable populations, including energy-poor households. They cover activities like dismantling ineffective heat sources, installing modern heating systems, and integrating renewable energy sources (RES) such as photovoltaics and heat recovery systems. This approach ensures various aspects of energy efficiency are addressed. The substantial co-financing rates for modernization and RES make renovations financially feasible, reducing the burden on property owners and encouraging participation. The programs offer flexible funding with a range of grant amounts for small and large projects, allowing for minor improvements to extensive ones. However, the lack of comprehensive data on energy-poor households involved, grants allocated, and energy savings targets limits program assessment. Consistent data collection is essential for transparent evaluation. The complexity of application processes, detailed requirements, and ambiguous criteria can deter applicants.

Simplifying processes and providing clear guidelines would enhance participation. Conditional approval for certain activities can create uncertainty and discourage participation. Clearer guidelines and reduced conditionality would improve uptake and ensure comprehensive renovations. The absence of clear timelines for complaint resolution and agreement signing, along with variable processing times, reduces applicant confidence. Standardizing these processes would build trust. Relying solely on income thresholds overlooks factors like energy consumption patterns, household size, and dwelling efficiency. Developing comprehensive criteria would better identify and support energy-poor households.

### 1. Lack of comprehensive data and detail on funding allocation

The absence of detailed data on the number of energy-poor households involved, total grants allocated to these households, and obligatory energy savings targets makes it difficult to fully assess the effectiveness and reach of the programs. Without this data, it's challenging to evaluate whether the programs are meeting their goals or to identify areas that require improvement. The variability in data reporting between different years (e.g., the absence of square meter data for 2022) hinders longitudinal analysis and tracking of progress over time. Consistent and comprehensive data collection is essential for transparent and effective program evaluation. While there are generous co-financing rates for term modernization, there is a lack of detailed information about

funding for other critical measures. This can result in incomplete renovations if homeowners are unable to secure adequate funding for all necessary upgrades.

**2. Conditional approval barrier to comprehensive renovations**

Conditional approval for certain activities, such as mechanical ventilation with heat recovery, might create uncertainty and potentially discourage participation. Applicants may be hesitant to apply if they perceive the funding conditions as unpredictable or difficult to meet. Conditional funding can lead to partly renovations rather than comprehensive upgrades. This fragmented approach may not achieve the full potential of energy efficiency improvements and can reduce the overall impact of the programs.

**3. Lack of transparency in post-application processes and variability in processing times:**

The absence of clear guidelines and timelines for complaint resolution and agreement signing can lead to frustration and dissatisfaction among applicants. Transparency in these processes is essential to build trust and ensure that applicants have a clear understanding of the steps involved. Without standardized processing times for all stages of the application and approval process, applicants may experience unpredictable delays. This variability can discourage participation and reduce the perceived reliability of the programs.

**4. Narrow Criteria for Energy Poverty**

Sole reliance on income threshold as a criterion for energy poverty might overlook other important factors such as energy consumption patterns, household size, and the energy efficiency of the dwelling. A more comprehensive set of criteria would better identify and support energy-poor households. By not considering additional factors, the programs risk missing out on supporting some of the most vulnerable households who do not meet the income threshold but still experience significant energy poverty due to high energy costs or poor housing conditions..

## 6.1 Efficiency of public calls

Table 5 presents the efficiency and effectiveness of public programs in Poland emphasizing total value of the programs, 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 Poland

| Public Call | 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 |
|---|---|---|---|---|
| Program Termo (2022)<br><br>The Warm Apartment Program (2016) | In 2022 403.000.000,00 EUR<br><br>In 2016 505.000.000,00 EUR | The lowest amount is 3.800,00 EUR, and the highest is 86.000,00 EUR | In 2022 there were 250 applications in a new edition of Program Termo (no information about the total number). | No info. |

| | | | | |
|---|---|---|---|---|
| | | | In 2016 there were 13.765 applications. | |

There is a noticeable decrease in the total available financial resources from 2016 to 2022. This reduction could indicate a shift in budget priorities or a reallocation of funds to other areas. However, it also suggests that despite the high importance of energy efficiency, the funding has seen a reduction, which might impact the scope and reach of the programs. The wide range of grant amounts indicates a flexible approach to funding, allowing for support of both small-scale and large-scale projects. This flexibility suggests an inclusive strategy designed to accommodate various types of renovation projects, from minor improvements to extensive ones. There is a significant decrease in the number of applications from 2016 to 2022. This could be due to several factors such as changes in program awareness, application complexity, or eligibility criteria. The drop in applications might also reflect a shift in demand or a reduced push for energy renovation initiatives. The absence of detailed data on approved projects hampers the ability to fully assess program efficiency and effectiveness. Therefore, the emphasis is on: considering restoring or increasing funding levels to match or exceed the 2016 figures to ensure broader impact and reach, launching targeted awareness campaigns and simplify application processes to boost participation rates, implementing detailed data collection on the number of approved projects to enable a thorough evaluation of program success and areas for improvement and conducting studies to understand the decline in applications and address any identified barriers, ensuring that the programs are accessible and attractive to a wider audience.

## 6.2 Application processes and eligibility criteria

Table 6 presents a comparison of the requirements of public calls in Poland 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 | No info. |
| Eligible Applicants | Program Termo is for individuals who have a legal title to a residential premises located in a multi-family residential building resulting from: ownership right or limited property right to the residential premises, from the lease of a residential premises.<br>Eligible Applicants are owners or managers of:<br>- residential buildings;<br>- collective housing buildings;<br>- public buildings owned by local government units used to perform public tasks;<br>- local heating networks;<br>- local heat sources. |

| | |
|---|---|
| | The program Warm Apartment is for individuals in multi-apartment building and for housing society including 3-7 apartments. |
| Percentage of Interested Co-Owners Required | No. info. |
| Manner of Application Submission | Electronically and directly in the bank. |
| Duration of Application Revision Process | 3-4 months for The Warm Apartment program. |
| Duration for Resolving Complaints and Signing the Agreement | No info. |

Both programs aim to support energy renovations in multi-apartment buildings but have slightly different eligibility scopes. Program Termo has a broader range, including public buildings and local heating infrastructure, whereas the Warm Apartment program focuses more narrowly on smaller housing societies. Offering multiple submission methods (electronic and bank) is a consistent approach across both programs, indicating an effort to make the application process accessible and convenient for applicants. The Warm Apartment program has a defined timeframe for application revision, which helps manage applicant expectations. However, there is no information on the timeframe for the Program Termo, which could imply variability in processing times or a need for more structured timelines. The lack of information on this aspect indicates potential gaps in transparency and communication regarding the post-application process. Clear guidelines and timelines for complaint resolution and agreement signing could improve applicant satisfaction and trust in the programs. In summary, there is a need to provide clear, detailed criteria for eligibility across both programs to ensure all potential applicants understand their qualifications and continue offering multiple submission methods. Suggestion is to consider adding support services to help applicants through the process, to implement and communicate standard processing times for all stages of the application and approval process across both programs and to address information gaps by providing detailed guidelines and timelines for all critical stages, including complaint resolution and agreement signing, to improve transparency and applicant confidence.

## 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** | Dismantling ineffective solid fuel heat sources and purchasing and installing heat sources for heating the premises and heating domestic water or connecting the residential premises to an effective heat source in the building.<br><br>Conditionally also the purchase and installation of mechanical ventilation with heat recovery, window and door joinery, as well as preparation of design documentation.<br><br>- term modernization; |

| | |
|---|---|
| | - RES installation;<br>- energy renovation; |
| **The minimum and maximum rates of co-financing measures for the same activities.** | - term modernization: 26 -41% in the Termo program<br>- for other measures, there is no info. |
| **Number in square meters in total that were included in the call / program** | In 2016:<br>752.500 m2<br>No info. for 2022. |
| **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** | - heat recovery,<br>- photovoltaics |
| **RES co-financing rate** | 50% |

The programs cover a broad range of activities, including dismantling outdated heat sources, installing modern heating systems, and connecting to efficient heat sources. Conditional funding for mechanical ventilation, heat recovery, window and door joinery, and design documentation ensures comprehensive energy efficiency upgrades. The absence of data for the total square meters included in the 2022 program limits the ability to assess recent program effectiveness and growth. Inclusion of heat recovery systems and photovoltaics promotes the use of renewable energy, reducing reliance on fossil fuels and enhancing sustainability. A 50% co-financing rate for RES incentivizes the adoption of renewable technologies, making them more accessible and affordable. Missing information on annual energy savings targets and achievements reduces transparency and makes it difficult to evaluate the program's actual impact. No data on obligatory annual minimum energy savings for heating and primary energy savings compared to pre-renovation conditions hampers the assessment of the programs' efficiency gains. Without this information, it's challenging to quantify the environmental and economic benefits of the renovations. Conditional approval for certain activities, such as mechanical ventilation with heat recovery, might create uncertainty and potentially discourage participation. Clearer guidelines and less conditionality could improve uptake and ensure more comprehensive renovations. Co-financing rates of 26% to 41% for term modernization under the Termo program provide substantial financial support to property owners. These rates help reduce the financial burden on homeowners and encourage participation in the programs. While co-financing rates are generous, there is a lack of detailed information about funding for other critical measures beyond term modernization. This might lead to incomplete renovations if homeowners are unable to secure adequate funding for all necessary upgrades.

## 6.4 Energy poverty

There is a lack of information regarding the number of energy-poor households involved in the programs for energy renovation in multiapartment buildings. The absence of

information on the number of energy-poor households involved and the total grants used for these households limits the ability to evaluate the effectiveness and reach of the programs. This data gap makes it difficult to assess whether the programs are successfully targeting and benefiting energy-poor populations. The only criterion mentioned for identifying energy-poor households is the income threshold. This implies that households must meet a certain income level to qualify as energy-poor and be eligible for the program's benefits. This also shows an effort to target and support the most vulnerable groups in society and can help alleviate energy poverty and improve living conditions for low-income families. Nevertheless, the sole reliance on income threshold as a criterion for energy poverty might overlook other important factors such as energy consumption patterns, household size, and energy efficiency of the dwelling. A more comprehensive set of criteria could lead to better identification and support of energy-poor households. Similar to the number of households involved, there is no information provided about the total amount of grants allocated specifically for energy-poor households in the calls or programs. Without detailed data on grants specifically allocated for energy-poor households, there is a risk that the funding might not be equitably distributed. This could lead to a situation where energy-poor households do not receive the intended level of support, undermining the goals of the programs. This absence of data highlights a potential area for improvement in tracking and reporting financial support directed at vulnerable populations.

# 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 Poland 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 Poland. Apart from the major role that the transformation of the residential sector plays in the overall energy transition in Poland, 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 Poland. This effort also greatly contributes to the overall decarbonization of the housing sector and the attainment of the goals[7] of transforming the European building stock into (nearly) zero-emission buildings.

These recommendations stem from previously displayed analysis of previous public calls for energy renovations of MABs in Poland, and the barriers identified in the analysis of the regulatory and policy framework outlining energy renovations of MABs and energy

[7] 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 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.

poverty alleviation in Poland. 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 Poland, leading to improved energy efficiency and ultimately result in reduced energy poverty across the country.

RECOMMENDATION 1**: Formulating precise guidelines for public policies.**

Formulating precise guidelines for public policies is crucial to effectively implement long-term goals for building energy renovation in Poland. Achieving climate neutrality requires the gradual phasing out of fossil fuels. In this context, it is essential to fully eliminate the use of coal for heating purposes in residential buildings, starting with urban areas by 2030 and expanding to all other buildings by 2040. Public policies should support this process by allowing for the continued use of smokeless fuels until 2040, enabling a smooth transition to alternative, environmentally friendly energy sources. Additionally, financial and advisory support must be implemented to facilitate the replacement of heating systems in residential buildings. Mechanisms promoting the development of energy rating systems and energy passports should also be established to help manage and monitor renovation progress.

RECOMMENDATION 2: **Addressing the issue of low energy efficiency in multi-apartment buildings.**

Addressing the issue of low energy efficiency in multi-apartment buildings is one of the key actions required to achieve climate neutrality. These buildings, particularly those constructed before 1990, are often energy-inefficient and poorly insulated, leading to significant heat loss. The "Guidelines for Supporting Building Renovation in Poland" outline measures aimed not only at improving the energy efficiency of these buildings but also at reducing operating costs and lowering emissions. The low energy efficiency of these buildings also negatively affects air quality, especially in cities, where heating systems based on coal and other fossil fuels contribute to smog and adverse health effects for residents. To solve this problem, comprehensive thermal modernization is necessary, including improving building insulation and replacing outdated, inefficient heating systems. These actions will significantly reduce energy demand and emissions, improving residents' quality of life and reducing heating costs in the long term.

RECOMMENDATION 3**: Developing mass replacement of heating systems combined with shallow thermal modernization.**

The development of mass replacement of heating systems combined with shallow thermal modernization by 2030 is a key component of the strategy to improve energy efficiency and reduce emissions in Poland. The main focus of these efforts should be the replacement of outdated, high-emission heating systems, such as coal boilers, with modern heating technologies, including heat pumps and installations that utilize renewable energy sources. Combining this process with shallow thermal modernization — involving insulation of walls, roofs, foundations, as well as the replacement of windows and doors — will lead to a significant reduction in heat loss, immediately improving the energy efficiency of buildings. For this process to run smoothly, it will be necessary to provide financial support to building owners. Grant programs, preferential loans, and other financial mechanisms should be accessible to all, in order to reduce cost barriers associated with heating system replacement and thermal modernization. Equally

important will be ensuring technical advisory services that help building owners choose optimal technological solutions and guide them toward the most efficient modernization measures.

Shallow thermal modernization in this context is intended to serve as preparatory work for deeper modernization efforts to be carried out in the following years. Ultimately, all buildings in Poland are expected to achieve near-zero energy consumption standards by 2050. Replacing heating systems by 2030 represents the first, crucial phase of this transformation, aiming not only to improve energy efficiency but also to reduce energy poverty and lower heating costs for households. Moreover, these actions will have a significant impact on improving air quality, which is extremely important for the protection of public health, especially in large urban areas. Mass replacement of heating systems, combined with shallow thermal modernization, will help tackle pollution and contribute to achieving the climate goals that Poland has committed to at both the national and European levels.

RECOMMENDATION 4: **Increasing the scale of deep thermal modernization.**

Increasing the scale of deep thermal modernization is essential to meet climate neutrality requirements by 2050. Deep thermal modernization involves comprehensive measures to improve the energy efficiency of buildings, including replacing windows, installing modern ventilation systems, and thoroughly insulating walls and roofs. This type of modernization significantly reduces energy consumption in buildings, which directly translates into lower greenhouse gas emissions. However, this process requires substantial investments and state support to accelerate its pace and achieve an annual thermal modernization rate of 3%. It is also envisioned that modernization should occur in stages, allowing buildings to gradually adapt to zero-emission standards over time.

RECOMMENDATION 5: **Supporting the decarbonization of the housing sector.**

Decarbonizing the housing sector is a priority in Poland's energy transition. By 2040, all residential buildings must eliminate the use of coal as a heating fuel, with this process set to be completed in urban areas by 2030. Additionally, the gradual phasing out of natural gas as an energy source in residential and non-residential buildings by 2050 requires the introduction of zero-emission alternatives such as biomethane, hydrogen, or synthetic fuels. Decarbonization of the housing sector will only be possible through comprehensive building renovation and the implementation of modern, environmentally friendly heating technologies, which will also improve air quality and reduce CO2 emissions.

RECOMMENDATION 6: **Reviewing regulations on building energy efficiency.**

Regularly updating regulations to reflect changing technological and economic realities is necessary. The planned introduction of an energy rating system for buildings will enable the assessment of their technical condition and facilitate decision-making on thermal modernization. The introduction of energy passports for buildings as a tool to track renovation progress and plan subsequent modernization phases will be a key aspect of future reforms. Additionally, supporting energy performance certificates and energy audits is essential to provide building owners with the necessary information regarding the technical state and potential solutions to improve energy efficiency.

RECOMMENDATION 7: **Enhancing efficiency, social inclusion, and sustainability of renovation efforts.**

Energy renovation efforts must be conducted in a socially inclusive and sustainable manner. This means that renovation programs must be accessible to a wide range of citizens, including those at risk of energy poverty, who often face financial barriers to necessary modernizations. To ensure the accessibility of renovation programs for all social groups, it is proposed to introduce financial support mechanisms such as grants, tax reliefs, and preferential loans. Additionally, technical advisory services are essential to help building owners identify the most efficient solutions from both technical and economic perspectives. Implementing these actions will reduce energy poverty, improve the quality of life for residents, and contribute to the achievement of Poland's long-term climate goals.

# 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)*