Renocally
Building renovation passports
for deep energy renovations

FINANCING STRATEGIES FOR THE DEEP RENOVATION OF BUILDINGS 2024- 2027

EXECUTIVE SUMMARY AND ACTION PLAN FOR BULGARIA (Gabrovo Municipality Dobirch Municipality, Krushari Municipality, Lom municipality, Distirct Vitosha at Sofia Municipality)

This report is part of the EUKI-funded project
“Renocally- enabling municipal renovation action plans and using technical assistance”

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Project consortium

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Introduction

The financing strategies for the in-depth renovation of buildings intended for the Bulgarian municipalities of Gabrovo, Dobrich, Krushari and Lom and Vitosha district in Sofia municipality are carried out within the “Renocally” project, financed by the European Climate Initiative (EUKI) programme.

The project empowers municipalities and decision-makers to decarbonise the building stock in a cost-effective, people-centred way, while preparing for legislative changes at the EU level.

Renocally supports Bulgaria, Romania and Slovakia to implement effective building renovation policies aligned with EU policy, including the “Fit for 55” package, which aims to increase the ambition and efficiency of climate change mitigation actions and renovation through national building renovation plans.

Renocally aims to trigger deep renovations in target municipalities by supporting town halls in:

- Implementing building renovation passports
- Creating a technical assistance masterclass on access to financing for renovation
- Preparing for the implementation of the future requirements of the Energy Performance of Buildings Direction (EPBD) recast
- Improving the general knowledge and skills of the target municipalities in decarbonisation of the building stock and deep renovation.

Renocally is a collaborative effort between energy agencies, think-tanks, foundations and industry professionals at the cutting edge of the built environment.

Project partners are:

- Buildings for the Future (B4F) [Slovakia]
- Buildings Performance Institute Europe (BPIE) [Belgium and Germany]
- Center for Energy Efficiency (EnEffect) [Bulgaria]
- AE3R Ploiesti [Romania]
- TERRA Mileniul III Foundation [Romania].planned by the municipalities to achieve these objectives. This summary provides a deeper understanding of the key elements of the strategies.

To support Bulgarian municipalities in implementing sustainable policies to update their managed building fund, EnEffect organised a series of trainings within the Renocally project. During these sessions, municipal specialists were introduced to the latest policies and tools related to building renovation, current financial mechanisms supporting renovation, and best practices for municipal strategic planning of building fund renovation. As a result, five Bulgarian municipalities have developed their own long-term financing strategies to achieve climate-neutral buildings, guided by EnEffect experts.

Financial strategy for the renovation of the municipal building stocks of Dobirch Municipality, Gabrovo Municipality, Lom municipality, Krushari Municipality, Distirct Vitosha at Sofia Municipality outlines the comprehensive plans for these municipalities to achieve climate neutrality in their building stock. The document provides a detailed analysis of the local public building stock, sets ambitious targets, and explores various financial and technical measures

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Commitment of the municipalities to sustainability and strategic goals

All five municipalities have placed a high priority on their sustainability policies, as evidenced by the descriptions in their key political documents.

Sofia and Gabrovo municipalities have shown strong commitment by joining the Net Zero Energy Cities initiative and have pledged to achieve climate neutrality within their territories by 2030, surpassing national climate neutrality goals. By becoming part of this initiative, these municipalities have raised their own targets under the Global Mayors' Agreement for Climate and Energy, as outlined in the Sustainable Energy and Climate Action Plans by 2030. In line with their overarching strategic plans, the Municipality of Gabrovo and Vitosha district in the Municipality of Sofia have set a goal in their financial strategies to renovate municipally owned buildings to achieve climate neutrality by 2030.

Dobrich, the second largest city in northeastern Bulgaria, demonstrates a strong commitment to sustainable development. The city has pledged to reduce CO_2 emissions by at least 35% by 2030, compared to the levels in 2000, as a signatory of the Covenant of Mayors initiative. In addition, the municipality aims to reduce energy consumption by 35% and increase the share of renewable energy sources in its total energy consumption to 32% within the same timeframe. The strategic goal stated in its document is to achieve climate neutrality for all buildings under municipal ownership by 2040.

Lom and Krushari are smaller municipalities but consistently follow sustainable local policies. The two municipalities are longstanding members of the municipal energy efficiency network EcoEnergy, which brings together the most active municipalities in the field of sustainable energy development in the country to exchange experience and good practices. These two municipalities, like Dobrich, have set a goal in their strategies to achieve climate neutrality for all buildings under municipal ownership by 2040.

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Key challenges faced so far

The first part of the municipal financial strategies gives an overview of the challenges in the renovation of buildings that municipalities have faced so far. The following general difficulties may be highlighted:

- **Unfavourable market structure:** The high capital and production costs associated with energy efficiency and renewable energy technologies, compared to conventional energy sources, present a challenge in terms of market competitiveness.
- **Unstable policy and regulatory environment:** Fluctuations in policy and regulatory frameworks can create uncertainty and hinder long-term investment in the sector.
- **Limited financial resources:** Securing sufficient financial resources to achieve ambitious targets remains a major obstacle.

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Comprehensive assessment of municipal buildings

The municipal financial strategies for the renovation of public buildings provide a thorough assessment of municipal buildings. All documents adhere to a standardised framework for these analyses. The municipal buildings are categorised into four distinct groups based on their energy efficiency status:

1. Energy-renovated buildings: this category comprises buildings that have undergone extensive energy efficiency renovations, including energy-saving measures implemented throughout the entire building envelope. The majority of these buildings have achieved an energy class of "C", with a smaller number reaching class "B" and only a limited number attaining the highest energy efficiency class, "A". This indicates that for most of these buildings, new renovation projects will be necessary to achieve the ambitious goals set for climate neutrality.

For instance, in Dobrich municipality, buildings in this category account for 41% of the total area of all municipal buildings, amounting to 232,528m^2. The total area of buildings renovated to the highest energy class "A" is 13,327m^2, representing 6% of the overall area of all municipal buildings. The majority of buildings have been renovated to class "C", totalling 65,398m^2 or 29% of the total area of all municipal buildings.

A similar percentage of fully renovated buildings can be observed in Gabrovo, where they represent 37.5% of the total area, which is 187,280m^2. The most common energy class achieved is "C," encompassing 20% of the overall area, while those reaching class "B" account for 15.9%. The buildings renovated to class "A" have a total area of only 1,520m^2, which is just 0.8% of the total.

In Lom, the combined area of all buildings owned by the municipality is 92,762m^2, of which 62% is already renovated. The largest proportion has been renovated to energy class "B"- a total of 49,874 m2 or 54% of the area of all buildings. Only 4% of buildings by area (3,567m^2) have been renovated to class 'A'. Heat pumps are installed in seven buildings with a combined area over 15,000m^2.

In the Vitosha district of Sofia, the highest percentage of fully renovated buildings has been achieved, reaching 67% of a total area of 60,779m². Unfortunately, there are no buildings renovated to "A" class standards; instead, the majority have been upgraded to "C" class, totalling 23,775 m², which constitutes 39% of the total area of all municipal buildings.

2. Partially energy-renovated buildings: These buildings have undergone partial energy efficiency improvements, often funded by the municipalities' own resources. These improvements typically include measures like window replacement and thermal insulation of walls; they are fully described in the strategies. Some buildings in this category have also benefited from specific projects, such as photovoltaic installations, showcasing the municipalities' commitment to integrating renewable energy sources.

In Dobrich, for example, buildings in this category encompass a total area of 27,773m^2, equivalent to 12% of the overall area of all municipal buildings. These buildings have an EPC, with the majority holding an energy class rating of "C". In Lom, by contrast, only two out of nine partially renovated buildings possess energy performance certificates (EPCs). The combined area of these partially renovated buildings amounts to 4,471m^2, representing nearly 5% of the total area of all municipal buildings.

In Gabrovo, all partially renovated buildings (with a total area of 31,183m²) have EPCs, with the majority (covering 22,773m²) classified as "D". This represents 12.2% of the total area of all municipal buildings. In the Vitosha district of Sofia, 29% of the total building area has been partially renovated (17,799m²), with buildings classified as "C" being the most prevalent, representing 18% of all buildings. However, three of the smaller buildings have not received EPCs.

3. Certified but not renovated buildings: These buildings have been subjected to an energy audit, which provides a detailed understanding of their energy performance and identifies areas for potential improvements and have had EPCs issued but have not been renovated. Some of these buildings have secured funding for future renovations, indicating a proactive approach towards achieving higher energy efficiency standards. However, only for a small number of the buildings in this category will the energy saving measures prescribed in the energy audit lead to achieving energy class "A", This means that further assessments are necessary for these buildings to evaluate additional improvement measures.

For example, in Dobrich, there are 12 buildings in this category. Only three have been recommended energy-saving measures to achieve energy class "A". In Lom, none of the six buildings in this category have such recommended measures.
In Gabrovo, buildings with a total area of 85,837m² have undergone energy audits and been certified; however, energy-saving measures have not yet been implemented in these buildings. For buildings covering a total area of 27,292 m², recommendations have been made to achieve energy class "A".

In Vitosha, only one building falls into this category, and has been certified as class "D".

4. Buildings without implemented renovation activities: This category represents buildings that have not yet been renovated, and for which energy audits have not been conducted, nor have EPCs been issued. These buildings offer better conditions for planning and executing renovation activities in the most financially advantageous manner to achieve the highest possible level of energy efficiency.

This category includes a significant number of buildings – as in Dobrich, where there are 15 buildings with a total area of 47,846m2, and in Lom with 25 buildings with a total area of 22,901m2. In Gabrovo and Vitosha, however, no buildings fall into this category.

5

Financial and technical strategies for a sustainable future

The strategies emphasise the integration of energy efficiency and renewable energy measures as essential elements in all sectoral policies and capital investments undertaken by the municipalities. They also include the certification of all buildings and the development of building renovation passports. This integrated approach ensures a comprehensive and sustainable development pathway.

The common approach adopted by all municipalities in their strategies is to prioritise the renovation of buildings classified as “certified but not renovated”. Recommended energy-saving measures are suggested to elevate these buildings to the highest energy efficiency class, along with “buildings without implemented renovation activities”. For the remaining buildings falling into the first two categories outlined in the previous section, building renovation passports will be gradually developed. These passports will outline the necessary energy-saving measures, the optimal timing for implementation, and the financing methods to ensure that these buildings meet the high efficiency standards set by the municipalities.

Assessment of the necessary resources

The strategies outline the financial resources necessary to achieve the highest possible energy performance class and eliminate on-site fossil fuel emissions in the buildings. For each municipality, the required investments have been assessed by building category, with separate provisions for energy audits and certification, the development of building renovation passports, the development of technical project design documentation and the implementation of renovation measures. In Dobrich, for instance, the necessary investments for energy audits, building renovation passports, and design are estimated at BGN 3.27 million, while the total investment needed for building renovations amounts to BGN 114.98 million.

Municipalities that have set longer-term goals for achieving their objectives have included roadmaps for sustainable renovation by 2040 in their strategies. They are applying a phased approach to the renovation of municipal buildings, prioritising buildings based on their social, technical and economic feasibility for renovation.

Every five years, the area of buildings expected to be renovated is determined, along with the necessary investments for preliminary activities and the implementation of measures.

- **Phase 1 (2025-2030):** During this initial phase, the focus will be on buildings that have not undergone any prior energy efficiency renovations and those that have already reached project readiness. This prioritisation ensures that the most energy-intensive buildings are addressed first, leading to significant reductions in energy consumption and CO_2 emissions. Funding for these projects will be sought from Operational Programmes 2021-2027, the Recovery and Resilience Facility, and ESCO contracts, capitalising on available funding opportunities.

- **Phase 2 (2030-2040):** This phase prioritises buildings based on a comprehensive assessment of their social, technical and economic suitability for renovation. By considering these factors, the municipalities can ensure that renovations are carried out in a sustainable and cost-effective manner. The municipalities plan to utilise all available financial instruments to achieve sustainable renovation of their building stock during this period, leveraging successful practices from the previous phase and exploring new market-based financing mechanisms.

For example, the municipality of Dobrich plans to renovate all buildings, with a total area of 232,258m^2, of which 103,836m^2 of buildings are set to be completely renovated, with the rest partially renovated. This will require a total of over BGN 118 million. For the first five-year period until 2030, 79,913m^2 are scheduled for renovation, requiring a total of BGN 53.9 million.

The smallest of the five municipalities, Krushari, plans to renovate a total of 35,890m^2 of buildings at a cost of over BGN 20 million. This includes renovating buildings, corresponding to an area of 9,434m^2, for approximately BGN 8.5 million by 2030.

Gabrovo and Vitosha are setting more ambitious goals by planning to upgrade all of their buildings to "A" class within a shorter timeframe — by 2030. Gabrovo aims to renovate a total of 185,760m^2 of municipal buildings, with a total investment exceeding BGN 90 million. Meanwhile, Vitosha plans to upgrade a total of 60,779m^2 of municipal buildings, with a total budget of over BGN 22 million.

Administrative capacity building

Developing administrative capacity has a crucial role in successfully implementing energy efficiency and renewable energy projects in public buildings.

The strategies highlight the need for a dedicated unit within the municipalities, specifically tasked with planning, implementing and monitoring sustainable energy policies, ensuring a strategic and integrated approach. The strategy of Dobrich proposes leveraging the existing expertise of the Municipal Energy Efficiency Bureau to create an Energy Management Unit, responsible for data analysis, planning, implementation and control of energy efficiency measures. The strategies also underscore the importance of:

- Training and capacity building: Equipping personnel in relevant departments with the necessary knowledge and skills to foster a strategic and integrated approach to sustainable energy development.

- Clear roles and responsibilities: Establishing a well-defined system outlining work procedures, responsibilities and accountability for key personnel involved in the implementation of energy efficiency policies.

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Sources of financing

The strategies identify a diverse range of potential funding sources, including:

- **Own budgetary resources:** The municipalities are planning to allocate funds annually within their budgets specifically for building renovation and renewable energy projects. This demonstrates a commitment to investing in a sustainable future.
- **Credit lines and loan capital:** The municipalities are exploring various financial instruments, such as bank loans, funds, financial leasing and issuing municipal bonds. These instruments can provide the necessary capital for implementing energy efficiency and renewable energy projects.
- **Grants and subsidies:** The municipalities will actively seek opportunities for grant funding and subsidies from various national and international programmes. Some of the key programs highlighted include:
  - **National Recovery and Resilience Plan:** This plan, designed to address the economic and social impacts of the COVID-19 pandemic, offers funding opportunities for projects related to education and skills development, as well as investments in a green and low-carbon economy.
  - **Energy Efficiency and Renewable Sources Fund (FEERSF):** This fund provides support for identifying, developing and financing viable energy efficiency projects. It offers a range of financial instruments, including low-interest loans, credit guarantees and expert consultations.
  - **National Trust Eco Fund (NTEF):** This fund manages resources dedicated to environmental protection projects, sourced from the state budget, debt-for-environment swap agreements, international emissions trading and other sources. It plays a crucial role in supporting projects that align with Bulgaria's environmental goals.
  - **Operational Programmes (2021-2027):** The strategy highlights the potential of using financial instruments to leverage EU Structural and Investment Funds for energy efficiency projects. These instruments encourage efficient use of public funds, attract private investments and provide access to expertise from the private sector.

- **Financial Mechanism of the European Economic Area:** This mechanism supports projects in various priority sectors, including environment, energy, climate change and the development of a low-carbon economy. It provides an additional avenue for securing funding for energy efficiency and renewable energy initiatives.

- **Other financial mechanisms:** The strategies explore several alternative financing mechanisms:

  - **Third-party financing:** Contracts with energy service companies (ESCOs) allow municipalities to improve energy efficiency in their buildings without upfront investments. These contracts typically involve a guaranteed performance-based payment structure, ensuring cost savings for the municipality.

  - **Concession-based financing:** Build-Own-Operate-Transfer (BOOT) schemes are often implemented through public-private partnerships for large-scale projects. These schemes can attract private investment for infrastructure development while transferring ownership to the municipality after a defined period.

  - **Traditional financing instruments:** Mechanisms such as bank loans, financial leasing and municipal bond issuance can support investment projects.

  - **Energy communities and cooperatives:** The strategies promote the formation of energy communities and cooperatives, enabling citizens to actively participate in renewable energy production and benefit from the shared advantages. These initiatives foster community engagement and support local, sustainable energy solutions.

7

Conclusion

All five municipalities are developing and following long-term sustainability energy development policies. This is exemplified by their commitment to actively participate in various European, national, regional and local projects and initiatives, promoting collaboration and knowledge sharing to accelerate the achievement of their strategic objectives. In their financial strategies, the five municipalities set ambitious goals to achieve climate neutrality for all public buildings within their territories. Gabrovo and the Vitosha, in line with their commitments to the Net Zero Cities initiative, aim to achieve climate neutrality for their own building stock by 2030. The remaining three municipalities – Dobrich, Lom, and Krushari – have set a target to achieve this result by 2040.

The strategies' detailed analyses of the current situation, and diverse range of financial and technical measures, provide a solid foundation for achieving these ambitious goals. By effectively addressing the identified challenges and leveraging available opportunities, these five municipalities are poised to become a model for sustainable urban development in Bulgaria. Successfully implementing energy efficiency and renewable energy measures can transform the municipalities into modern and attractive communities with a high quality of life, fully embracing the principles of sustainable development.

The municipalities plan to achieve their goals by implementing energy efficiency measures and utilising renewable energy sources. All buildings will undergo an energy audit and receive an energy performance certificate. The three municipalities with longer-term financial strategies intend to develop building renovation passports for step-by-step upgrades. These passports will cover all previously renovated or partially renovated buildings that require additional energy-saving measures, as well as all buildings that have not yet undergone an energy audit.

The renovation process will prioritise buildings that have already been audited but where no measures have yet been implemented. These will be followed by buildings without energy audits, then partially renovated buildings. Finally, additional measures will be applied to fully renovated buildings.

8 Action Plan

Period	2025-2030	2030-2035	2035-2040	Total
Lom Municipality				
Renovated area (m²)	8,208	15,921	57,182	**81,311**
Energy audits, EPCs, BRPs, design (million BGN)	0.127	0.2975	0.812	**1.24**
Construction works (million BGN)	10.16	12.13	21.00	**43,30**
Dobrich Municipality				
Renovated area (m²)	79,913	58,216	94,129	**232,258**
Energy audits, EPCs, BRPs, design (million BGN)	0.98	0.76	1.53	**3.27**
Construction works (million BGN)	53.88	28.67	32.43	**114.99**
Krushari Municipality				
Renovated area (m²)	9,434	8,511	17,945	**35,890**
Energy audits, EPCs, BRPs, design (million BGN)	0.18	0.24	0.18	**0.60**
Construction works (million BGN)	8.31	8.09	3.39	**19.79**

Period	2025-2026	2027-2028	2029-2030	Total
Gabrovo Municipality				
Renovated area (m²)	26,909	60,137	98,714	**185,760**
Energy audits, EPCs, BRPs, design (million BGN)	0.38	0.75	0.98	**2.11**
Construction works (million BGN)	11.41	27.89	50.92	**90.23**
Vitosha District of Sofia Municipality				
Renovated area (m²)	14,417	22,792	23,570	**60,779**
Energy audits, EPCs, BRPs, design (million BGN)	0.19	0.31	0.34	**0.84**
Construction works (million BGN)	4.83	7.48	10.04	**22.35**

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