Ref. Ares(2024)4489254 - 21/06/2024

SMAFIN D.2.1 ASSESSMENT OF RELEVANT PROJECTS AND INITIATIVES

June - 2024

The project is co-funded by the European Union's Programme for Environment and Climate Action (LIFE) under Grant Agreement No. 101120412

The Report at a Glance

Grant Agreement	101120412	Acronym	SMAFIN Expanded
Full Project Title	Supporting smart financing implementation for energy renovation of existing private and/or public buildings, investments in SMEs and the tertiary sector		
Funding Scheme	LIFE 2022-CET-FINROUND		
Start Date	October 2023	End Date	September 2026
Project URL	www.smafin.eu		
EU Project Officers	Pierre-Antoine VERNON		
Deliverable	2.1 Assessment of relevant projects and initiatives		
Work Package	WP2 - Policy analysis and market assessment		
Date of Delivery	Contractual April 2024	Actual	June 2024
Nature	Report	Dissemination Level	Public
Lead Beneficiary	REGEA		
Responsible Author(s)	Morana Plejić (REGEA)	e-mail	mplejic@regea.org
Contributors	Kiki Papadopoulou (CRES), Eleftheria Touloupaki (INZEB), Horia Petran (Pro-nZEB), Florentina Nanu (Pro-nZEB), Stanislav Andreev (EnEffect Consult), Damir Staničić (JSI)		
Reviewers	Hrvoje Maras (REGEA) Alice Corovessi (INZEB)		
Keywords	Energy Efficiency Investments, Financing, Energy Efficiency Initiatives		

Disclaimer

ABSTRACT – EXECUTIVE SUMMARY

In recent years, EU Member States have faced multiple crises, including the COVID-19 pandemic, the energy crisis due to the Russian invasion of Ukraine, and the escalating impacts of climate change. The European Commission has introduced policy packages to address market failures like energy inefficiency and high carbon footprint in buildings and industries, aiming to allocate resources efficiently and enhance Europe climate resilience and energy sustainability. The **Fit for 55**[1] package, unveiled in July 2021, aims to align the EU with ambitious climate targets, including a 55% reduction in greenhouse gas emissions by 2030. Concurrently, the EU has established a legislative framework that includes the revised Energy Performance of Buildings Directive (EU/2024/1275)[2] and the revised Energy Efficiency Directive (EU/2023/1791)[3]. Together, these directives promote policies aimed at achieving a highly energy-efficient and decarbonized building stock by 2050, creating a stable environment for investment decisions, and enabling consumers and businesses to make more informed choices to save energy and money.

The **REPowerEU Plan**[4], introduced in May 2022, seeks to overhaul EU energy system, reduce reliance on Russian fossil fuels, and accelerate efforts to combat climate change. Significant funding is earmarked to meet the investment requirements outlined in these initiatives, focusing on energy efficiency and renewable energy projects. The European Commission is also leveraging funds from programmes such as the **NextGenerationEU**[5] and the **Multiannual Financial Framework**[6] to support climate action and stimulate economic recovery. Additionally, tools like the **Recovery and Resilience Facility**[7] **and the Cohesion Policy**[8] funds are being utilized to drive investments and provide technical assistance. Furthermore, the **EU Taxonomy**[9] serves as a classification system that defines environmentally sustainable economic activities, providing clear criteria for investors and businesses to identify sustainable investment opportunities. This **framework aligns with the objectives of both the REPowerEU and Fit for 55 initiatives. Projects like EEFIG, SEIF, and SMAFIN are further bolstering private investments in energy efficiency at both national and European levels**. National Roundtable events organized as part of the SMAFIN project have served as a platform to discuss the transposition of EU policies within country frameworks with key stakeholders. The main conclusions from these discussions are included in this document.

[1] European Green Deal, Fit for 55, European Commission. Available at: Fit-for-55/#what
[2] European Parliament, Regulation (EU) 2024/1275, April 2024. Available at: Directive - EU - 2024/1275 - EN - EUR-Lex (europa.eu)
[3] European Parliament, Regulation (EU) 2023/1791, September 2023. Available at: Directive - 2023/1791 - EN - EUR-Lex (europa.eu)
[4] European Green Deal, REPowerEU European Commission. Available at: REPowerEU (europa.eu)
[5] NextGenerationEU plan. Available at: NextGenerationEU - European Union (europa.eu)
[6] European Parliament, Multiannual Financial Framework. Available at: Multiannual financial framework | Fact Sheets on the European Union | European Parliament (europa.eu)
[7] European Commission, Recovery and Resilience Facility. Available at: Recovery and Resilience Facility (RRF)
[8] European Commission, Cohesion Policy. Available at: Inforegio - Cohesion policy (europa.eu)
[9] European Commission, EU Taxonomy. Available at: EU taxonomy for sustainable activities - European Commission (europa.eu)

Table of Contents

Table of Tables

Table of Figures

List of Abbreviations and Acronyms

Abbreviation	Full name
ANRE	National Authority for Energy Regulations, Romania
BMWK	German Federal Ministry for Economic Affairs and Climate Action
CBA	Cost-Benefit Analysis
CIRCABC	Communication and Information Resource Centre for Administrations, Businesses and Citizens

CNB	Croatian National Bank
EC	European Commission
EE	Energy Efficiency
EES	Energy Efficiency Services
ELENA	European Local Energy Assistance
EIB	European Investment Bank
EnPC	Energy Performance Contracting
ESCO	Energy service company
ESG	Environmental, Social and Governance standards
ESIF	European Structural and Investment Funds
EUKI	European Climate Initiative
HBOR	Croatian national bank for reconstruction and development
LTRS	Long Term Renovation Strategy
MCRD	Ministry of Cohesion and Regional Development, Slovenia
MECE	Ministry of Environment, Climate and Energy, Slovenia
METS	Ministry of Economy, Tourism and Sport, Slovenia
MFF	Multiannual financial framework
MOI	Ministry of Infrastructure, Slovenia
NDF	National Decarbonisation Fund, Bulgaria
NECP	National Energy and Climate Plans
NGO	Non-governmental organizations
NPOO	National Recovery and Resilience Plan Croatia
NPRR	National Recovery and Resilience Plan
nZEB	Nearly Zero Energy Building
OG	Official Gazette
OP	Operational Programmes
OSS	One-Stop-Shop
PPP	Public-Private Partnership
RES	Renewable energy sources
SEIF	Sustainable Energy Investment Forum

SME	Small and medium enterprises
UN SDG	United Nations Sustainable Development Goals

1. INTRODUCTION

1.1. SMAFIN EXPANDED PROJECT

The SMAFIN Expanded project aims to enhance energy efficiency investments and initiatives building upon successful SEIF initiative and National Roundtables established in Bulgaria, Croatia, Greece, and Romania under the SMAFIN Horizon 2020 project and extends them to include Slovenia. Building on previous experience, SMAFIN Expanded project addresses challenges in financing energy efficiency projects in the private and public buildings, SME and tertiary sector. By fostering structured dialogue among stakeholders, including government, financial sectors, ESCOs, and SMEs, SMAFIN Expanded seeks to upgrade policy measures, develop or upgrade financial instruments, and support the development of large-scale investment programmes that mobilise private finance for energy efficiency.

1.2. RATIONALE FOR ASSESSMENT

Strengthening investments in the energy efficiency of buildings is a new area that requires a harmonized approach, and it is crucial to leverage the insights gained from past initiatives to shape national policy recommendations and financial models effectively.

By **examining the outcomes of previous SMAFIN and SEIF Roundtables**, we can identify sector-specific challenges and topics that require further investigation. This approach builds upon existing knowledge to comprehensively address key thematic areas and national priorities. Special attention is given to ongoing national and EU initiatives, as well as to previous EU projects aimed at increasing investments in energy efficiency and building renovation. The **SMAFIN concept and methodology have already been established in Bulgaria, Croatia, Greece, and Romania, and will be extended through the SMAFIN Expanded** project. **Slovenia** will benefit from this expertise**,** as it enters the project as a new consortium member and starts analysis from the beginning. These insights will be integrated into the assessment, providing valuable context for the discussions in the SMAFIN Expanded National Roundtables, Thematic Working Groups, and Cross-Country labs.

The methodology for obtaining these answers and information includes a three-fold approach:

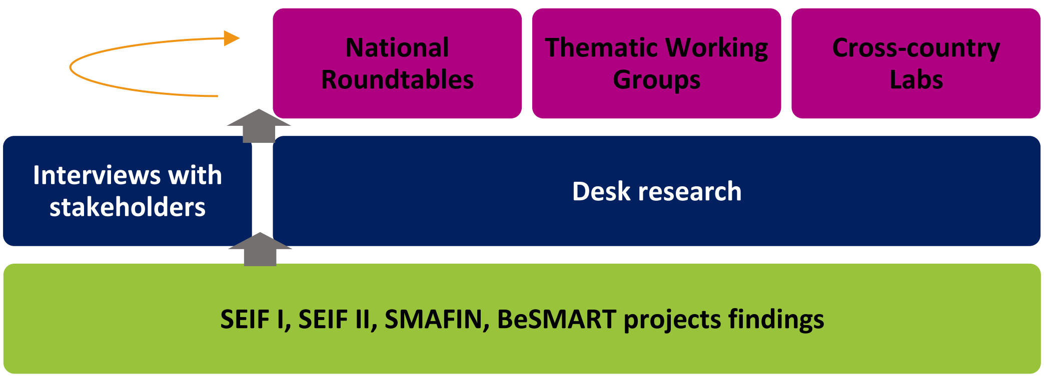

FIGURE 1: SMAFIN EXPANDED PROJECT METHODOLOGY AND THE CONCEPT OF WORK

Project partners will take insights from the SEIF I, SEIF II, SMAFIN, and BeSMART project findings. Bulgaria, Croatia, Greece, and Romania will enhance their capabilities by leveraging insights from the SEIF roundtables, along with conclusions from the SMAFIN project. Additionally, Bulgaria will incorporate conclusions from the BeSMART roundtables. As a newcomer to the SMAFIN Expanded project, Slovenia will be included in the comprehensive initial analysis of the current situation.

After the analysis, the insights will be built upon by evaluating EU and national projects and initiatives relevant to SMAFIN Expanded. The findings of project partner countries and the assessment of EU projects and initiatives will be captured and summarized in Chapter 2. In parallel, partner projects will explore best practices and access to finance by each country, documenting their findings in separate documents.

Ultimately, these three documents—the assessment of relevant projects and initiatives, the repository of best practices, and the market assessment on financing models—will form the foundation for stakeholder engagement in SMAFIN Expanded, as well as for policy recommendations and enhanced access to finance for energy efficiency and renovation projects.

2. ASSESSMENT OF RELEVANT PROJECTS AND INITIATIVES IN PARTNER COUNTRIES

Improving energy efficiency remains crucial for EU Member States. To better understand relevant topics, it is important to document the lessons learned from past initiatives. These experiences have provided valuable insights and results, guiding toward specific areas that require further exploration and investigation.

The initial findings from the SMAFIN Expanded relevant EU and national projects and initiatives, will undergo reassessment and improvement for Bulgaria, Croatia, Greece, and Romania. Special attention will be given to SEIF I, SMAFIN and BeSMART findings. Meanwhile, Slovenia will create its report from scratch based on SEIF II findings.

Furthermore, all EU and national projects and initiatives relevant to SMAFIN Expanded will be reviewed, and the findings from desk research on EU and national initiatives and projects will be documented in Chapter 4 of this report and in Annex 1: Inventory of EU and national energy efficiency and sustainable finance projects and initiatives.

These Inventory tables will provide analysis and assessment of EU and national projects and initiatives, specifying project name and status, key topics, key beneficiaries and involved countries, specifying short descriptions and topics relevant to SMAFIN Expanded.

The assessment of EU and national projects and initiatives will provide a baseline for future roundtable and working group discussions.

Bulgaria organized two (2) Sustainable Energy Investment Forums (SEIF) in Sofia in June 2018 and June 2019, with 220 participants in total. SEIFs were further expanded through the Horizon 2020 projects SMAFIN and BESMART, organizing 12 Roundtables between 2021 and 2024 with 1,506 participants in total. These events focused on themes critical to advancing energy efficiency and the green energy transition. The Roundtables **facilitated dialogue among stakeholders**, including energy agencies, public authorities, financial institutions, SMEs, and citizens, promoting collaborative efforts towards sustainable energy solutions. **Key findings** focused on establishing **innovative financing schemes** like the National Decarbonisation Fund (NDF)**, quality assurance in energy efficiency projects, renewable energy investments, ESCO** opportunities and the development of digital platforms for **energy management** and **data integration**. Another **milestone** should be met to alleviate energy poverty and align the national policies with UN SDGs[10]. **Recommendations** emphasized cross-border cooperation, capacity building, risk management in energy projects, and the creation of **standardized tools and benchmarks**. Looking ahead, the SMAFIN Expanded project aims to continue the dialogue with new and already involved stakeholders aiming the effective implementation of all policy recommendations generated within the previous initiatives.

[10] United Nations, The 2030 Agenda for Sustainable Development. Available at: THE 17 GOALS | Sustainable Development (un.org)

Croatia organized three (3) SMAFIN Roundtables between 2021 and 2023, with 175 participants in total. These Roundtables built on insights from the (SEIF) National Roundtables organized from 2020 to 2021, with 120 participants in total. **Key Findings** highlighted the need for diverse **financial models**, **blended financial instruments**, **incentives** and **principal write-offs** to accelerate building renovations in both the private and public sectors. Additionally, a lack of know-how and resources in private and public sectors emphasized the importance of a national **One-Stop-Shop (OSS)**. The success of the ELENA initiative underscored the necessity for **technical assistance** in project preparation and supervision. **Recommendations** included **standardized EnPC documentation**, simplification of **public procurement** procedures to leverage **public-private partnerships (PPP)**, regular public funding calls, and **incentives** for energy efficiency investments across private, public, and commercial sectors. Addressing **energy poverty** and raising awareness about energy efficiency were also identified as key priorities. Looking ahead, the SMAFIN Expanded project aims to rethink **national policies and financial models**, explore **One Stop Shop** and **technical assistance** progress, support **capacity building** and incentives for energy efficiency.

Greece organized three (3) SMAFIN national Roundtables between 2021 and 2023, with a total of 168 participants, involving stakeholders from various sectors to tackle energy efficiency financing. **Key findings** emphasized the importance of **innovative financing mechanisms**, such as **the "Save 2021" program**, and regulatory frameworks like the **EU taxonomy**. **Recommendations** included increasing **funding allocation, improving communication strategies**, and streamlining processes through initiatives like **One-Stop-Shops (OSS).** Looking ahead, the SMAFIN Expanded project aims to build upon these findings, focusing on **upgrading core national programs**, deepening work on **energy efficiency auctions**, and exploring **new financing schemes** to advance energy efficiency initiatives across sectors.

Romania organized three (3) Sustainable Energy Investment Forum (SEIF) events: a regional public conference in 2018 and two (2) Roundtables on energy efficiency financing in 2018 and 2019 with 353 participants in total. **Key findings** emphasized importance of **capacity building** and fostering **collaboration** among stakeholders to develop large-scale investment programs and enhance **access to financing** for energy efficiency projects. Three (3) SMAFIN Roundtables continued from 2021 to 2023, with 261 participants focusing on energy renovation of buildings and energy efficiency in the industry. **Key findings** emphasized limited experience and **complex loan documentation** as the main barriers to financing energy efficiency, the role of new financial instruments and guarantee schemes in de-risking energy efficiency investments and the need for regular stakeholder meetings and **financial education** programs. **Recommendations** encouraged **One-Stop-Shop (OSS)** and **integrated home renovation services, data inventory and monitoring tools**, support for **ESCO market**, improvement of national operational and financing programs and setting up a **National Energy Efficiency Fund (NEEFD)**. Looking ahead, the SMAFIN Expanded project aims to strengthen the previous SMAFIN achievements by continuing to provide support for the operationalization of the OSSs planned by the RePower instrument and the development of ESCO market as well as activating key stakeholders from the SME and tertiary sector in the dialogue for tailored financial instruments to support increasing their contribution to reaching country's EE targets.

Slovenia, a new SMAFIN Expanded member, organized two (2) national Sustainable Energy Investment Forum (SEIF) Roundtables as part of the "Smart Finance for Smart Buildings" initiative, attracting a total of 133 participants. **Key findings** emphasized the necessity of technical support and national **One-Stop-Shops (OSS), Energy Performance Contracting (EnPC), public-private partnerships (PPP)**, and targeted **incentives** to stimulate energy efficiency investments. **Public-private collaboration** was deemed crucial for harmonising **national policies and investments with EU energy efficiency strategy, meeting EU Taxonomy and ESG reporting standards, supporting sustainable investments, and accelerating deep renovations** in both public and private buildings. The recommendations prioritized enhancing financial instruments and promoting private investments in energy efficiency. Projects such as LIFE IP CARE4CLIMATE and RENOINVEST are highlighted as key initiatives in developing financial instruments and fostering cross-border collaboration to stimulate investment in energy renovations and sustainable building projects. Looking ahead, the SMAFIN Expanded project aims to build upon the findings from SEIF roundtables. It seeks to strengthen dialogue with financial institutions and other key stakeholders, and to integrate detailed recommendations into strategic documents related to energy efficiency, such as the National Energy and Climate Plan and the National Building Renovation Plan. By doing so, the project aspires to mobilize private investment and promote market uptake for energy efficiency initiatives.

2.1. BULGARIA

2.1.1. *OUTCOMES AND RESULTS ON FINANCING ENERGY EFFICIENCY*

GENERAL INFORMATION ABOUT BESMART AND SMAFIN NATIONAL ROUNDTABLES IN BULGARIA

The process of discussing sustainable energy financing started with the Sustainable Energy Investment Forums (SEIF), the first one taking place in Sofia in 2018. Detailed information about the events is available in the SEIF assessment report prepared in 2021 under the SMAFIN project and is available here. Subsequently, two Horizon 2020 projects (SMAFIN and BeSMART) continued the initiative, organising a total of 12 Roundtables between 2021 and 2024. Both projects gathered stakeholders, analysed barriers and concluded with policy recommendations.

SMAFIN focused on 3 main topics as follows:

- Structure and functionalities of the National Decarbonisation Fund (NDF),
- Development of energy poverty definition,
- Measures for mass introduction of energy communities.

The SMAFIN policy recommendations are available in the respective report here.

BeSMART focused on 8 topics as follows:

- Creation of a national interactive public ESCO register,
- Creation of a dedicated segment under the NDF with the capacity to support ESCO-type innovative models for implementation of EE/RES projects,
- Programming NRRP to minimize the financial burden of multifamily building renovation for homeowners,
- Development of a roadmap for renovation of multi-family buildings
- Introduction of an innovative ESCO mechanism into Phase II of the National Programme for EE renovation of residential buildings under the NRRP
- Financial mechanisms and instruments facilitating the development of the market for energy efficiency services and renewable energy sources, integration with the National Decarbonisation Fund and other enabling financial platforms,
- Structuring of an initial evaluation and screening framework for an EE project as well as a link to the UN Sustainable Development Goals (UN SDG),
- Recommendations to the NRRP to achieve sustainable renovation of the building stock (residential and non-residential), opportunities and challenges for the industrial sector.

The detailed BeSMART recommendations can be found here.

Additionally, below is a summary of the themes of the two projects (SMAFIN and BeSMART) and more detailed information on the outcomes of the events can be found on the project web pages.

1st National Roundtable (SMAFIN)

The 1st SMAFIN National Roundtable on 19 May 2021, titled "Climate and Energy: Policies and Financial Mechanisms for Sustainable Development in the New Planning Period," brought together 172 stakeholders in total, including 22 speakers and 30 in-person delegates, with 120 participants online. Key discussions focused on financing energy efficiency within the Recovery and Resilience Plan and the Programme Development of the Regions 2021-2027, and the role of the forthcoming National Decarbonisation Fund. The importance of local authorities in implementing national energy efficiency policies was highlighted. Quality assurance through energy audits, certification, and the development of energy efficiency renovation projects were also examined.

2nd National Roundtable (BeSMART)

The event on 5 October 2021, titled "Bulgarian Recovery and Resilience Plan: Are We Able to Convey the Planned Reforms with the Current Investment Priorities?", gathered 126 stakeholders in total, including 12 speakers and 20 in-person delegates, with 96 participants online. Discussions focused on financing for residential building renovations within the NRRP, funding energy efficiency for public and industrial buildings, and the practical application of project 10, "Program for the Financing of Single Renewable Energy Measures."

3rd National Roundtable event (BeSMART)

The event on 29 November 2021, titled "The Role of Financial Institutions for the Green Energy Transition: Do National Policies Promote New Business Opportunities or Impede Market Developments?" gathered 95 stakeholders, including 10 speakers and 20 in-person delegates, with 70 participants online. Discussions focused on existing financial instruments for energy efficiency (EE) and renewable energy sources (RES) projects and quality assurance for EE project financing.

4th National Roundtable (SMAFIN)

The event on 16-17 March 2022, titled "Municipal Energy Management & Sustainable Energy Investments," gathered 130 stakeholders, including 18 speakers and 30 in-person delegates, with 100 participants online. Discussions focused on municipal energy management systems and their role in attracting funding, challenges, and solutions for funding renewable energy sources (RES) projects for energy communities and financing building renovations involving energy-poor households.

5th National Roundtable (BeSMART)

The event on 2-3 June 2022, titled "Sustainable Energy Projects at Local Level as Key Factor to Overcome the Energy and Economic Crisis: Presenting the Investment Concept for the National Decarbonisation Fund," gathered 130 stakeholders, including 9 speakers and 91 delegates, with 30 participants online. Discussions focused on the role and opportunities of existing financial mechanisms for collaboration with the National Decarbonisation Fund (NDF), financing opportunities for renewable energy projects, and the effect of NDF on energy efficiency projects in the building stock.

6th National Roundtable (BeSMART)

The event on 26-27 September 2022, titled "Sustainable Energy Projects at Local Level as Key Factor to Overcome the Energy and Economic Crisis," gathered 104 stakeholders, including 13 speakers and 30 delegates, with 61 participants online. Discussions focused on the role of financial institutions in implementing national programs and the importance of municipal energy management systems and standards in attracting market financing.

7th National Roundtable (SMAFIN)

The event, titled "Financial Instruments for Energy Efficiency in the Industry," took place on 29 November 2022 and gathered 161 stakeholders, including 10 speakers and 76 delegates, with 75 participants online. Discussions focused on available financial instruments supporting energy efficiency and renewable energy sources (RES) in the industry and SMEs and the implementation of energy management systems in these sectors.

8th National Roundtable (BeSMART)

The event, titled "The National Decarbonisation Fund: Structuring, Operational Management, Market Deployment," was held on 1 March 2023 and gathered 152 stakeholders, including 10 speakers and 80 in-person delegates, and 72 participants online. Discussions focused on priority areas for the functioning of the National Decarbonisation Fund, sources of capitalization and leveraging private capital, and renovation of residential and public building stocks, including financing instruments for vulnerable groups.

9th National Roundtable (BeSMART)

The 1-2 June 2023 event "Financing for Zero-Energy Buildings and Building Renovations," gathered 120 stakeholders, including 16 speakers and 42 delegates, with 62 participants online. Discussions focused on the transition towards co-financing by property owners for national renovation programs and financing instruments supporting new energy-efficient buildings.

10th National Roundtable (BeSMART)

The event on 5 October 2023, titled "The Life After the National Recovery and Resilience Plan: A Strategic Vision with Practical Implications at the Local Level," gathered 133 stakeholders, including 16 speakers and 54 delegates, with 63 participants online. Discussions focused on the present and future of financial instruments to support the clean energy transition and solutions to support sustainable energy investments at the local level.

11th National Roundtable (BeSMART)

The event, "Policies and Investments for a Sustainable, Efficient, and Secure Energy System" was held on 27 November 2023 and gathered 139 stakeholders, including 13 speakers and 64 delegates, with 62 participants online. Discussions focused on monitoring and evaluation tools for smart and efficient buildings, addressing market gaps, and emerging best practices in clean energy transition skills.

12th National Roundtable (BeSMART)

The event on 30 January 2024, titled "Energy Efficiency of the Building Stock: The Cornerstone of the Sustainable Energy Transition," gathered 204 stakeholders, including 14 lecturers and 110 delegates, with 80 participants online. Discussions focused on the critical role of building stock energy efficiency in the sustainable energy transition, strategies, and legislation for decarbonization, and financial instruments, including the National Decarbonization Fund, to support building stock needs.

2.1.2. Executive summaries of SMAFIN and BeSMART roundtables with sector findings

Based on a detailed analysis of the results of all 12 roundtables, the main findings, barriers, and recommendations in the three sectors (public buildings, residential buildings, and industry) are highlighted below.

I. Financing Energy Efficiency and Deep Renovation in Public Buildings

Findings:

- Sufficient funds are available from various sources, such as the Recovery and Resilience Plan and the European Structural and Investment Funds, to renovate public buildings.
- Most of the already renovated public buildings do not meet modern energy efficiency requirements, and their renovation will be problematic as the projects financial results are poor.
- The market is still underdeveloped for high-quality deep renovation projects and services.

Barriers:

- The 'lowest cost' criterion is still the main driver of energy efficiency projects, a practice that needs to be overcome.
- The lack of knowledge and technical expertise among market players, including energy experts, designers, builders, and procurers, limits the ambition and quality of projects.
- The market is characterised by high grant intensity (typically 100%), which limits the scope for more sustainable funding mechanisms.
- Lack of an effective quality control mechanism through monitoring and verifying implemented project results.
- Insufficient integration of energy efficiency into public procurement processes.

Recommendations:

- Incentives should be provided sustainably and according to well-defined criteria: tax alleviation, subsidies/grants, and technical assistance.
- Higher quality and energy efficiency requirements should be set in building renovation projects to meet the strategic objectives adequately.
- Capacity building is needed, not only of municipal experts but also of building users, e.g., through local information campaigns, meetings, and seminars.
- Alternative financial mechanisms, such as ESCOs, should be supported on a national level, and this should be integrated into the strategic documents.
- Innovative approaches to public procurement, such as pay-for-performance, should be encouraged.

II. Financing Energy Efficiency in Residential Buildings

Findings:

- At the current rate of renovating multi-family residential buildings, the process will take approximately 200 years to complete.
- There is no support for the renovation of single-family residential buildings.

Barriers:

- There has been unsatisfactory progress regarding the ongoing state policies that rely entirely on programs with 100% grant resources and no beneficiary participation. This results in market distortions and the fostering of a dependency mentality based on aid and grants.
- Although the definition of energy poverty is officially regulated, mechanisms targeted mechanisms that exist to help energy-poor households participate in building renovation programs.

Recommendations:

- Urgently end the practice of 100% grant funding for energy-efficiency renovation of multifamily residential buildings.
- Establish financial mechanisms to support energy-poor households, specifying the form of this support (subsidies, low—or no-interest loans, on-bill financing, etc.).
- Incentives should be provided sustainably and according to well-defined criteria: tax alleviation, subsidies/grants, and technical assistance.
- Establish tools and programs to support the renovation of single-family residential buildings.
- A dedicated communication and awareness-raising campaign is strongly recommended.

III. Financing Energy Efficiency in SME, industry, and tertiary sector

Findings:

- Bulgarian industry is one of the most energy-intensive in Europe.
- There are significant opportunities to improve energy efficiency.
- Despite the significant resources under the Competitiveness Programme, only a small part of them is invested in energy efficiency.

Barriers:

- Lack of technical expertise and specialized knowledge within companies.
- Inconsistent national policy supporting industry by subsidising energy prices rather than long-term and sustainable investments in energy efficiency.

Recommendations:

- Setting higher regulatory and compliance requirements.
- Convincing stakeholders of the long-term benefits and returns of energy efficiency investments.
- Promote and more effectively implement the Energy Savings Obligation scheme.

2.1.3. Key actions for enhancing energy efficiency financing in Bulgaria

Based on previous initiatives and Roundtable discussions, the following actions are highlighted according to key topics, specific country issues, action categories, and beneficiary or building sectors.

TABLE 1: KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN BULGARIA

Sector/ Buildings	Key Topics/Issues	Actions	Category
Public	National Decarbonisation Fund (NDF), energy efficiency financing	Structure and functionalities of the NDF, leveraging private capital	Financing models
Public	Energy audits and certification	Development of standardized documentation for energy audits and certification	Policy
Public	The role of Local Authorities	Enhancing the implementation of national policies through local authorities	Policy
Public Private	Quality assurance for EE project financing	Developing quality assurance mechanisms and standards	Technical assistance
Public Private	Financing residential building renovation	Implementing financing instruments for residential renovations	Financing models
Public Private	Renewable energy measures	Financing single renewable energy measures	Financing models
Public Private	Energy efficiency and RES in industrial buildings	Supporting EE and RES projects in the industrial sector	Technical assistance
Public Private	Municipal energy management systems	Establishing municipal energy management systems and standards	Policy
Public Private	Financial instruments for EE and RES projects	Expanding and improving financial instruments for EE and RES	Financing models
Public Private	Clean energy transition skills	Addressing skills gaps and promoting best practices in the clean energy sector	Technical assistance
Public Private	One-Stop-Shop (OSS) for energy efficiency	Establishing permanent OSS to provide continuous support	Technical assistance

2.1.4. Country initiatives and projects supporting EE

I. National policies

The political crisis in Bulgaria over the past few years has significantly hindered the necessary reforms for effectively utilizing the funds under the Recovery and Resilience Facility, which were intended to support sustainable investments in energy efficiency.

Furthermore, the European Commission's response from 26 April 2024 to the draft updated Integrated National Energy and Climate Plan (NECP)[11] submitted with a huge delay on 20 February 2024 was notably critical. However, it is imperative to mention that **many of the recommendations for improving the NECP in the energy efficiency sector were already discussed and made during the roundtables and closely mirror those of the Commission.**

For example, the Commission recommended specifying reforms to mobilize private investments for energy and climate targets, improving investment needs analysis, and providing a comprehensive overview of public and private investment needs. They advised detailing funding sources, describing financial support schemes using grants, loans, and public guarantees, considering cost-effective transfers to other Member States under the ESR, and assessing the macroeconomic impact of planned policies and measures. Roundtable outcomes emphasized the need for financial assessments of investments and benefits, defining a financial framework for the plan's lifetime to assess objectives, and prioritizing measures. The availability of suitable financial instruments is crucial, so attention must be paid to their structure and functioning.

Commission on Energy Efficiency and Energy Poverty at the National Green Deal Council – created in 2022, aimed at advising the Parliament on energy efficiency and energy poverty policies, and towards the promotion of systemic approach to building renovation policies, definition of energy poverty and relevant measures for its alleviation. Members of the commission will be regular participants in the forthcoming roundtables.

II. Funding programmes

Regional Development Programme 2021 – 2027

The first measure under the Programme, which will support regions in transition, will be for energy efficiency, under the procedure "Support for sustainable energy renovation of multi-family residential buildings, including tackling energy poverty". The call will be announced in the end of June 2024, and more than 196.4 million BGN[12] will be directed to investments in energy efficiency of multi-family residential buildings in the so-called ‘coal regions.’ Furthermore, there are several procedures that envision EE project financing to be opened this year of interest to municipalities, as well as the industry/ SMEs in certain cases:

- Procedure "Support for integrated urban development in the 10 urban municipalities - main growth centres”.
- Procedure "Technical Assistance for the 10 Municipalities - Key Growth Centres”.
- Procedure "Support for industrial and logistics parks and zones".

Energy efficiency of Municipal Schools and Kindergartens call for proposals

The call is under the Energy Efficiency of Municipal Schools and Kindergartens sub-programme by the National Trust EcoFund. The competitive selection has a deadline for

---

[11] European Commission, National energy and climate plans, Bulgaria. Available at: [Commission Recommendation, Assessment (SWD) and Factsheet of the draft updated National Energy and Climate Plan of Bulgaria - European Commission (europa.eu)]

[12] BGN is the currency code for the Bulgarian lev, which is the official currency of the country of Bulgaria.

applications in July 2024. The grant under the Call is for financing energy efficiency measures in municipal schools and kindergartens, at financing of 70% of the total investment costs for energy saving measures.

III. Other initiatives

Renovate Bulgaria initiative

Founded in 2022, it is the national support structure of Renovate Europe. Project partner EnEffect is the current vice chair and elected as chair for 2023.

The FLAG - Financial instrument for clean energy transition (FLAG FICET) project

Operated by Fund FLAG, it aims to develop, demonstrate and promote an innovative financial instrument in support of municipal investments in clean energy through multi-stakeholder collaboration and consultation.

Bulgarian Development Bank’s RES programme

The bank has launched its programme to support households applying to replace their solid fuel energy sources (stove, boiler, fireplace or other) with renewable ones under the National Recovery and Resilience Plan. Thanks to the guarantee provided by the bank, citizens can obtain unsecured loans from the commercial banks - partners of the programme. The requirement is to have signed a grant agreement under the National Household RES Scheme implemented by the Ministry of Energy.

In general, Bulgaria is of urgent need to implement robust policies within the energy efficiency sector aimed at achieving national energy efficiency targets, incorporating quantitative measures, and establishing appropriate financing mechanisms in all sectors. Thanks to SMAFIN Expanded, the continuation of the Roundtables will provide expert support to policymakers and the financial sector for these much-needed reforms and measures.

2.2. CROATIA

2.2.1. Outcomes and results on financing energy efficiency

GENERAL INFORMATION ABOUT SEIF AND SMAFIN NATIONAL ROUNDTABLES IN CROATIA

Sustainable Energy Investment Forums (SEIF) national Roundtable on Financing Energy Efficiency in Croatia, organized in 2021, emphasized the importance of integrating private and public financing, adopting strategic and legislative frameworks for energy efficiency, and fostering cooperation between sectors to achieve Croatia's ambitious energy and climate goals. SEIF findings were followed by three SMAFIN Roundtables in Croatia.

The Roundtables attracted a diverse group of stakeholders from the government, financial institutions, enterprise sector, academia, and the European Commission. The participation was robust, with stakeholders engaging in discussions to align on the challenges and opportunities in financing energy efficiency projects. The 1st Roundtable was held in January 2021 with a total of 43 participants, followed by the 2nd Roundtable in April 2022 with a total of 70 participants, and the 3rd Roundtable in April 2023 with as many as 62 participants.

The Roundtables covered a wide range of topics related to energy efficiency, including financing energy renovation in multi-apartment and public buildings and ways to enhance energy efficiency in the industry and commercial sector.

2.2.2. Executive summaries of SEIF and SMAFIN roundtables with sector findings

I. Financing Energy Efficiency and deep renovation in Public Buildings

The 1st SMAFIN Roundtable in January 2021 focused on leveraging European Structural and Investment Funds (ESIF) and private capital for **deep renovation of public buildings**. The Roundtable underscored the importance of integrating energy performance contracting (EnPC) and public-private partnerships (PPP) models to mobilize private investments. The successful Slovenian model of combining grants with private funding for public building renovation was discussed as a best practice that Croatia could emulate.

Findings:

- **Standardization of Contracts and Documentation:** there was a consensus on the importance of standardizing contract and tender documentation for Energy Performance Contracting (EnPC) to stimulate the ESCO market and mobilize private capital for the energy renovation of public buildings.
- **Development of Financial Mechanisms:** the need for dedicated financial models to support EnPC projects was identified as crucial to encourage the ESCO market to participate in these projects by providing access to more favourable dedicated capital, guarantee, and equity programs.
- **Technical Assistance for Project Preparation:** the establishment of permanent technical assistance, primarily intended for public sector representatives, was highlighted as fundamental due to the current low capacity within the public

sector for preparing and implementing projects using alternative procurement models.

- **EU Funding Allocation for Croatia**: Croatia has been allocated approximately EUR 9.92 billion from the Next Generation EU instrument, with around EUR 6.31 billion in grants and EUR 3.61 billion in loans. To access these funds, Croatia is required to submit a National Recovery and Resilience Plan[13] to the European Commission by April 2021. Additionally, funds from the Multiannual Financial Framework (2021-2027)[14] amount to about EUR 9.68 billion.

- **Barriers:**
- Lack of Interest in Energy Services: many Member States, including Croatia, experience low energy prices and easier access for the public sector to favourable financing, which results in a lack of interest in implementing energy services.
- Complex Public Procurement Procedures: these procedures prevent project aggregation and the consequent reduction of administrative costs.
- Lack of Information: a scarcity of available and verified information causes mistrust in the EnPC model, its related risks, and the achieved savings from energy renovation.

Recommendations:

- **Initiate the Preparation of Extended Standardized Documentation:** this initiative would involve improving the essential properties of buildings and including non-energy services in EnPC contracts to significantly impact the development of the ESCO market. Preparing extended standardized documentation for EnPC would require involvement from the Ministry of Economy and Sustainable Development, the Ministry of Regional Development, and EU Funds.
- **Develop an ESCO dedicated Financial Mechanism:** such a mechanism would allow ESCO companies access to more favourable allocated capital, guarantee, and equity programs, encouraging their participation in EnPC projects.
- **Establish Permanent Technical Assistance:** this would bolster the public sector capacity in project preparation and implementation under alternative procurement models, addressing the current lack of expertise and resources within the public sector.

II. Financing Energy Efficiency in Residential Buildings

The 2nd SMAFIN Roundtable in April 2022 expanded the discussions and emphasized the critical need for innovative financing mechanisms to support energy efficiency in **residential buildings, especially multi-apartment buildings**. Challenges such as the lack of continuity in funding, the need for private capital mobilization, and the demand for comprehensive renovation standards were highlighted. Recommendations include the development of standardized contracts and tender documentation to stimulate the market, the creation of dedicated financial mechanisms, and establishing technical assistance for project preparation.

13 European Commission, Croatia Recovery and Resilience Plan 2021-2026. Available at: Croatia's recovery and resilience plan - European Commission (europa.eu)

14 European Commission, Multiannual Financial Framework. Available at: 2021-2027 - European Commission (europa.eu)

Findings:

- **Significant funding gap:** the available public funding falls short of meeting the actual requirements for energy renovations, indicating a substantial deficit.
- **Overreliance on public non-repayable grants:** building co-owners are accustomed to high co-financing rates from public calls, hindering private investment in energy renovation projects.
- **High interest but limited funds:** public calls for energy renovation attract considerable interest, but the disparity between applications and available funds poses significant challenges.
- **Importance of regular funding calls:** continuous communication and regular publication of funding calls are crucial for effective planning and maximizing financing opportunities.
- **Perceived secondary benefits:** energy renovations primarily enhance building maintenance and value, with energy savings viewed as secondary due to low energy prices.
- **Market distortions from reconstruction projects:** large EU-funded investment programmes for renovating public and earthquake-damaged buildings create significant market distortions and exacerbate labour shortages.
- **Bank cooperation:** ensuring that bank loan terms are aligned with the requirements of the building sector is crucial for overcoming hesitancy in investment, especially in the absence of grants and support, and for advancing efforts to decarbonize building stock.

Barriers:

- **Lack of continuity in funding announcements:** fluctuating public calls create market turbulence, affecting contractors and manufacturers.
- **Labor shortages:** the existing workforce and construction companies are insufficient to meet green transition targets, exacerbated by a lack of workers from neighbouring countries.
- **Heavy reliance on grants:** current financial mechanisms depend heavily on grants, conditioning building co-owners to wait for new funding rather than seeking alternative financing solutions.

Recommendations:

- **Enhance funding continuity:** ensure the regular and predictable announcement of public calls to stabilize the market and provide a steady workload for contractors.
- **Develop and promote new financing models:** create innovative financial instruments or mobilize private capital to incentivize building co-owners to engage in energy renovation projects. Develop and communicate new financing approaches to reduce grant reliance and accelerate energy renovation rates.
- **Bank cooperation:** collaborate with banks to align loan terms with the needs of the building sector and support national building stock decarbonization efforts.

- **Facilitate short-term working capital loans:** provide access to short-term loans for building managers and co-owners to cover upfront costs and ensure project continuity.
- **Boost workforce capacity:** increase training programs and incentives to attract workers, potentially improving conditions or offering benefits to workers from the Balkan region.
- **Standardize documentation:** encourage the use of standardized documentation in public calls to streamline the application process for building co-owners and managers.
- **Implement systemic solutions:** facilitate access to short-term loans and develop support systems to ensure continuous payments to contractors.
- **Shift mindset on renovations:** emphasize the long-term benefits of energy renovations beyond grants, such as maintenance and increased building value.
- **Industry and commercial sector focus:** utilize European funds and private capital to finance energy efficiency measures, emphasizing a holistic approach combining regulatory support, financial incentives, and technical assistance. Explore initiatives like the New European Bauhaus to drive sustainable financing and investments in the sector.

III. Financing Energy Efficiency in SME industry and tertiary sector

The tertiary sector was not a direct subject of discussions at SMAFIN Roundtables, but 2nd SMAFIN Roundtable in April 2022 and the 3rd SMAFIN Roundtable in April 2023 highlighted the importance of EU Taxonomy on financing industry energy efficiency for all SME and Large caps. In Croatia, a significant part of the tertiary sector refers to the hospitality sector and tourism (followed by real estate), trade, transport, and banking. Currently, energy efficiency financing schemes are aimed at entrepreneurs (micro, small and medium) whose business premises are in multi-apartment buildings, and industry is encouraged to use renewable energy sources. For industry and commercial sector in Croatia, the national Roundtables highlighted specific findings, identified barriers, and proposed recommendations for financing energy efficiency.

Findings:

- **Budget for Industry Energy Efficiency**: a significant budget allocation indicates a targeted effort to enhance sustainability in the industry sector. Integrating renewable energy sources, even in previously excluded sectors like food, signals an expanded scope of support**.**
- **Industry Perspective on Green Transition**: survey results reveal a diverse industry perspective on the green transition, with a notable percentage expressing neutrality or negativity. This suggests a need for further engagement to align industry perceptions with the benefits of sustainability.

Barriers:

- **Challenges in Adapting to Green Transition**: the industry sector faces significant hurdles in transitioning to sustainability, with over 70% of companies not initiating preparations. Barriers include financing, legislative frameworks, and administrative processes.

- **Lack of Strategic Direction and Cooperation**: clearer national-level strategic direction and stronger public-private sector cooperation are essential for facilitating the green transition. This involves ensuring co-financing sources and providing implementation support to navigate complex project financing and legislative requirements.

Recommendations:

- **Prioritize Green Transition**: make the green transition a strategic priority by harmonizing strategic and legislative frameworks, leveraging public-private sector synergies, ensuring access to co-financing sources, and providing robust support for project implementation.
- **Multifaceted Approach**: engage the industry and commercial sector in the green transition through a multifaceted approach. Focus on strategic alignment, regulatory support, and capacity building alongside financial incentives to ensure sustainable development and contribution to national energy and climate goals.

2.2.3. Key actions for enhancing energy efficiency financing in Croatia

Based on previous initiatives and Roundtable discussions, the following actions are highlighted according to key topics, specific country issues, action categories, and beneficiary or building sectors.

TABLE 2: KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN CROATIA

Sector/ Buildings	Key Topics/Issues	Actions	Category
Public	ESCO, Energy performance contracting (EnPC), public-private partnerships (PPP)	Integration of Energy performance contracting (EnPC) and public-private partnerships (PPP) models to mobilize private investments	Initiative
Public	ESCO	Develop new capital, guarantee, and equity programs	Financing models
Public Private	National Recovery and Resilience Plan (NRRP)	Establish NRRP to access Next Generation EU instruments and loans	Policies
Private Public SME	ESCO, EnPC documentation	Simplification of Public procurement, Standardization of EnPC Contracts, and documentation	Policies
Private Public SME	Lack of expertise and resources	Permanent help in the form of One-Stop-Shop (OSS)	Technical assistance
Public	Standardized documentation for public calls	Standardized documentation to leverage renovations	Policy
Private Public	Workforce	Strategy for the construction workforce	Initiative

SME			
Private	Residents cannot participate in financing EE renovations	Co-financing energy poverty	Financing models
Private	Private houses, multiapartment buildings	Increasing numbers of public calls for renovation	Financing models
Private	Literacy on EE	Advancing literacy and the importance on EE	Initiative
Commercial SME	Green transition in the industry	Blended finance for RES financing	Financing models
Commercial SME	Sustainable industry, Green Transition	Strategic alignment, regulatory support, capacity building and financial incentives	Initiative
Commercial SME	EE renovation of industry and commercial buildings	Public/Private co-financing sources	Financing models
Commercial SME	High costs for EE	Incentives for energy renovation (tax or interest rates)	Initiative
Commercial Tertiary	Sustainable tourism	Sustainable Tourism Development Strategy 2030	Policy
Financial institutions	High rates and lack of EE loans	New financing opportunities for EE beneficiaries	Financing models

2.2.4. Country initiatives and projects supporting EE

Based on the conclusions and recommendations put forth by participants of the SEIF and SMAFIN round tables, two national initiatives emerge as crucial for supporting sustainable financing of energy efficiency projects and the renovation of public and private sector buildings. The launch of national dialogues on sustainable financing represents a significant stride toward incentivizing financial market participants to channel investments into sustainable activities and sectors.

I. **Working Group for Sustainable Financing**

Coordinator: Ministry of Finance, Croatia

Stakeholders: national authorities, national development bank, regional and local authorities, government bodies

The "Working Group for Sustainable Financing" [15] held its inaugural meeting on October 24, 2023, at the Ministry of Finance of the Republic of Croatia. Comprising stakeholders from diverse sectors, including government bodies, academia, financial institutions, and regulatory agencies, the working group's objective is to catalyse the transformation of Croatia financial sector towards sustainability. By **fostering collaboration** among these entities, the group aims to prepare and enhance local financial infrastructure to

[15] Coalition of Finance Ministers for Climate Action, Ministry of finance, Working Group for Sustainable Financing, Croatia, February 2024. Available at: Ministarstvo financija Republike Hrvatske - Održivo financiranje (gov.hr)

accommodate sustainable business practices. Additionally, plans are underway to establish the Sustainable Finance Forum[16] by the end of the fourth quarter of 2023. This forum will serve as a platform for broad coordination on sustainable financing initiatives in Croatia, with discussions underway to engage an international institutional partner to provide expertise and support in implementing sustainability principles and advancing sustainable financing practices.

II. Climate Strategy of the Croatian National Bank

Coordinator: Croatian National Bank, Croatia

Stakeholders: stakeholders from the financial sector

The main objectives of Climate Strategy of the Croatian National Bank[17] are to recognize and manage its own climate-related risks and the risks to the financial system, promote sustainability and support the transition to a low-carbon economy. In the forthcoming period (2023-2027), the Croatian National Bank will analyse **climate-related risks** for price stability and financial stability, **integrate climate-related risks** into the supervision of credit institutions and financial stability, **promote investments** in activities related to the adaptation to climate change and low-carbon technology through cooperation with stakeholders, join the work of the **Eurosystem[18] and the European Systemic Risk Board[19]** (ESRB)

Action plans with objectives and activities related to supervision of the financial sector and public engagement are aligned with SMAFIN Expanded objectives and, therefore, valuable insight for working groups and national roundtables.

[16] Government of the Republic of Croatia, Proposal for a conclusion on the establishment of a Sustainable finance Forum, Croatia, December 2023. Available at: 273 - 33.doc (live.com)
[17] Croatian National Bank, Climate strategy, Croatia, December 2023. Available at: Climate Strategy (hnb.hr)
[18] European Central Bank, Eurosystem. Available at: Eurosystem mission (europa.eu)
[19] European Systemic Risk Board.Available at: European Systemic Risk Board (europa.eu)

2.3. GREECE

2.3.1. OUTCOMES AND RESULTS ON FINANCING ENERGY EFFICIENCY

GENERAL INFORMATION ABOUT SMAFIN NATIONAL ROUNDTABLES IN GREECE

The SMAFIN project, a significant initiative in the field of energy efficiency, successfully organised three Roundtables in Greece. Building on the legacy of the previous SEIF initiative, these Roundtables played a crucial role in shaping the discourse on energy efficiency financing. They were held in May 2021, April 2022, and May 2023.

The roundtables were attended by various national and EU-level stakeholders, including the government, national and EU policymakers, representatives from the financial institutions and banks, the business sector, the technical sector, academia, energy efficiency and finance research, relevant EU-funded projects, and the media. The first Roundtable in May 2021, conducted online due to COVID-19 restrictions, was attended by 99 stakeholders, 22 of whom were speakers. The second Roundtable in April 2022, again conducted online, was attended by 59 stakeholders, including 18 speakers. The third and last one, delivered as an in-person event, was attended by 63 persons, 13 of whom were speakers.

The Roundtables covered many topics, with intelligent financing for energy efficiency projects taking the lead. The discussions delved into the specifics of financing energy efficiency in residential and public buildings, in the industry sector, and through energy efficiency auctions for tertiary sector companies. The EU Taxonomy topic was also explored, adding a regulatory perspective to the discussions.

2.3.2. EXECUTIVE SUMMARIES OF SMAFIN ROUNDTABLES WITH SECTOR FINDINGS

1st SMAFIN National Roundtable

The 1st SMAFIN Roundtable in Greece titled "Supporting the Implementation of Smart Financing for Energy Efficient Buildings in Greece," was organized by CRES and INZEB, under the auspices of the Hellenic Ministry of Environment and Energy. The agenda included a plenary session and three parallel ones titled Financing Energy Efficiency in Residential Buildings, Financing Energy Efficiency in Public Buildings and Energy Efficiency Auction for Tertiary Sector Companies.

The conclusions of the 1st SMAFIN national Roundtable are available in a comprehensive factsheet, available at this website link.

I. Financing Energy Efficiency in Residential Buildings

The first session focused on the newly launched national funding scheme "I am Saving—I am Getting Autonomous," released in 2020. This scheme aimed to renovate 12-15% of buildings or building units from 2021-2030, with a new program expected to be announced by the end of 2021. The session provided proposals for the scheme's further development, resulting in critical findings, barriers, and stakeholders' recommendations, as presented below:

Findings

- 1,5 billion euros has been allocated for the renovation of the residential buildings for 2021-2022.
- "Energy Efficiency First" is gaining traction in the residential sector.
- A simplification of the evaluation process for access to renovation funding schemes is expected.

Barriers

- The slow repayment rates affect liquidity and fund movement.
- There is a lack of available tools and data for real estate valuers to consider energy savings in valuations.
- The public awareness about the benefits of energy savings is still considered Insufficient.

Recommendations

- Increase the speed of repayment to enhance liquidity.
- Banks should help communicate and manage funding programme expectations to improve the financial policy framework.
- The development of a database for energy-efficient buildings to assist real estate valuers in the valuation process would be beneficial.
- The establishment of a sub-fund as a loan guarantor to increase approvals for renovation programmes would be a supportive tool.

II. Financing Energy Efficiency in Public Buildings

The second session presented supportive funding programmes and mechanisms for public sector buildings, with reference to municipal buildings. The National Energy and Climate Plan foresaw redesigning the ELECTRA programme[20], which was concerned with financing energy efficiency interventions in general governmental buildings.

Findings

- Only 9% of public buildings are in an efficient energy class, with 43% in the lowest class.
- 60% of public buildings use electricity, with minimal use of sustainable energy sources.
- From 2025, new systems will be implemented to record building energy consumption.

Barriers

- The current renovation rate of public buildings is low. Double the renovation target is considered necessary.
- There is a limited application of the ELECTRA programme, and the same applies to the role of energy managers in public buildings.

Recommendations

[20] ELECTRA programme, Subsidies for Energy Efficiency of Public Buildings, Greece, November 2022. Available at: Building Sector ELECTRA: Subsidies for Energy Efficiency of Public Buildings – Policies - IEA

- Achieve Energy Class B for public buildings, aiming for up to 65% energy savings with sustainable energy sources.
- Increase funding, leveraging the Recovery Fund and other financial models like PRODESA and HORIZON 2020 for a public-private funding mix.

III. Energy Efficiency Auctions for Tertiary Sector Companies

The third session focused on energy efficiency auctions to establish the institutional framework for competitive processes to improve energy efficiency as outlined in the National Energy and Climate Plan. These auctions will be based on the economic efficiency of interventions, with clear guidelines for calculating and verifying energy savings. The measure encourages maximum energy savings by incentivising project grouping and economies of scale. A dedicated working group at the Ministry of Environment and Energy drafted a proposal presented to Roundtable participants for feedback and suggestions.

Findings

- Energy efficiency auctions in the tertiary sector are a new but innovative initiative.
- Real estate management companies are interested in such tools but note a lack of **specialised programmes.**

Barriers

- Advanced selection tools for identifying cost-effective building interventions are still missing.

Recommendations

- The development of a holistic framework for energy efficiency auctions to maximise energy savings and related benefits.
- The involvement of ESCOs in future phases of the schemes is recommended to support the implementation of renovation interventions.

2nd SMAFIN National Roundtable

The 2nd SMAFIN Roundtable in Greece was organised online on Thursday, 14 April 2022, by CRES in collaboration with INZEB. The Roundtable was entitled "Supporting the Implementation of Smart Financing for Energy Efficient Buildings in Greece.2022". The agenda included a plenary session and three parallel ones titled Financing Energy Efficiency in Residential Buildings, Financing Energy Efficiency in Public Buildings and EU Taxonomy. A detailed summary of the main Roundtable findings is available here.

I. Financing Energy Efficiency in Residential Buildings

During this session, the successful "Save 2021"[21] financing program and the application and connection of the One-Stop-Shop (OSS) service were examined for further upgrades. The "Save 2021" program, introduced by adapting and improving the previous financial scheme, aimed to maximize benefits for citizens by increasing the number of eligible households, especially vulnerable and low-income citizens. It simplified the certification

[21] Save 2021: Energy efficiency plan, Greece. Available at: Save 2021: Energy efficiency plan – Policies - IEA

of interventions and activated the market by mobilizing private capital to finance the required interventions. The 1st Roundtable discussions supported all these suggestions.

Findings

- Regarding the 2021 funding programme outcomes, almost 100,000 applications were registered, with a significant approval rate of 86,000 and notable rejections of 22,000. This points to a strong demand for energy renovation funding and demand for increased funding allocation.

Barriers

- For the financial sector constraints, while banks are inclined to finance energy-saving projects, their ability to assess and fund these projects effectively depends on better support from ESCOs and clear sustainability criteria.

Recommendations

- The implementation of One-Stop-Shops could streamline processes, offering end-to-end guidance and improving the viability of investments in energy renovations.
- Building Renovation Passports are recommended to facilitate renovation growth, promote gradual investment in energy savings, and, in turn, enhance the mobilisation of private capital.
- A significant need exists for improved communication strategies to deepen property owners' understanding of the benefits and potential of energy savings, which is crucial for stimulating demand in the residential sector.

II. Financing energy efficiency in public buildings

The second session focused on supportive financing programs and mechanisms for public buildings, especially municipal ones. It emphasized discussing the new energy upgrade program "ELECTRA," announced by the Ministry of Environment and Energy, which was open for public consultation. The participation of Energy Services Companies (ESCOs) in the program aims to develop a new market, boosting actions to improve energy efficiency.

Findings

- The ELECTRA programme goals are crucial for achieving Greece's 30% primary energy savings. Funding is up to 50%, and specific targets have been established.
- Key challenges for ESCOs include lack of energy consumption data, high initial project costs, and insufficient building information, particularly for older structures.

Barriers

- Concerns about data validity include the accuracy of energy consumption data for municipal buildings, which could be better, indicating a potential underestimation of achievable energy savings.

Recommendations

- A guarantee mechanism to facilitate lower interest rates on energy efficiency contracts, ensuring timely payments to ESCOs.

- Advocating for mixed partnership contracts to enhance market confidence and control, although grouping projects for municipal and central government buildings remains challenging.
- Emphasising the need for Cost-Benefit Analysis (CBA) to reflect the extensive benefits of energy efficiency, aligning with market demands.

III. EU Taxonomy

The EU taxonomy is a powerful and scientifically proven transparency tool for businesses and investors. It creates a common language that investors can use when investing in projects and economic activities that significantly impact the climate and the environment. The EU Regulation (EU) 2020/852[22], which has been in force since July 2021, concerns the establishment of a framework for evaluating and classifying green investments. During the 3rd session of the SMAFIN Roundtable, the most critical articles on the regulation and results of European projects that dealt with EU Taxonomy were presented and discussed.

Findings

- The EU Taxonomy Act covers a significant portion of the market, focusing on climate change mitigation and adaptation. It impacts 80% of greenhouse gas emissions in the EU and 40% of listed companies.

Barriers

- The EU Taxonomy is considered complex and requires high technical compliance. Verification is often challenging due to the simplicity of the attestation and self-declaration process.
- Many companies lack awareness of the necessary steps for compliance and need more specialized technical support.

Recommendations

- Establishing transparent monitoring processes and controls will ensure ongoing compliance and change adaptability, even without sanctions.
- Implementing standardised indicators calculation and data collection procedures, with comprehensive training and technical support for all stakeholders.
- Future expansions of the EU Taxonomy should include social impacts and health effects to ensure a holistic approach to sustainability.

3rd SMAFIN National Roundtable

The 3rd SMAFIN Roundtable discussion in Greece was organised on Wednesday, 3 May 2023, at the AMALIA Hotel in Athens by CRES, in collaboration with INZEB. It was titled "Supporting the Implementation of Smart Financing for Energy Efficient Buildings in Greece.2023". The agenda included a plenary session and three parallel titled Financing

[22] European Parliament, Regulation (EU) 2020/852, June 2020. Available at: Regulation - 2020/852 - EN - taxonomy regulation - EUR-Lex (europa.eu)

Energy Efficiency in Residential Buildings, Financing Energy Efficiency in the Industry and Energy Efficiency Auctions for Tertiary sector companies. All the Roundtable findings are available here.

I. Financing energy efficiency in residential buildings

The first thematical Roundtable session included the “Save 2021” flagship programme, subsidised by the Recovery and Resilience Fund. The programme aimed at improving the energy class of households. It presented the results of the last funding cycle and insights regarding implementation problems while asking for proposals for improvement.

Findings

- The One-Stop-Shop (OSS) model is proposed to include a central super fund, which integrates all renovation-related funds available for citizens whenever needed.
- The experience of the Citizens' Service Centres can be beneficial for designing, establishing, and operating an OSS.
- The OSS should be not only an information point for the citizens but also a tool for concrete support; thus, municipalities need to be flexible in deciding on the best model that can fit their needs and those of their citizens.

Barriers

- OSS operations may not adequately support all citizens, mainly focusing on vulnerable households.

Recommendations

- Training and a registry for OSS consultants are recommended to support the OSS operations and citizen needs fully.
- OSS should provide information and offer concrete support, allowing municipalities to adapt the model to local needs.

II. Financing energy efficiency in the industry

The 2nd parallel session focused on financing energy efficiency in industry, discussing both the main challenges and financing mechanisms with participants. The National Energy and Climate Plan (NECP) anticipated the creation of specific financial mechanisms to enhance energy efficiency in the industrial sector through Energy Performance Contracts, such as subsidizing borrowing costs and facilitating access to financing for Energy Services Companies. However, progress in this sector has been lacking. To address this, CRES has prepared a guidance note for improving the energy efficiency of industrial units in the Prefecture of Eastern Macedonia and Thrace.

Findings

- Industry financing challenges include a lack of technical knowledge, insufficient human resources for managing funding, and doubts about the effectiveness of known energy-saving practices.

Barriers

- The Net Zero Industry Act imposes ambitious targets, requires significant investment, and highlights gaps in readiness and financial allocation.

Recommendations

- Standardised contracts with energy-saving technology providers and insurance to guarantee savings could enhance trust and investment in energy efficiency.
- Starting with familiar investments like lighting in the industrial sector can build trust, leading to more substantial energy-saving projects.

III. Energy Efficiency Auctions for tertiary sector companies

The 3rd parallel session focused on designing and implementing the energy efficiency auction measure as outlined in the National Energy and Climate Plan. This measure aims to achieve significant final energy savings and contribute to Article 7 of Directive 2012/27/EU [23] on improving energy efficiency. It will provide financial support for energy-saving interventions in high-potential sectors such as industry and the tertiary sector. The legislative framework proposal for these auctions was discussed during the first roundtable, while the 3rd session focused on preparing the tender documents, which are expected to be launched in autumn, to improve energy efficiency in companies in the tertiary sector.

Findings

- Proposed evaluation indicators now include cumulative energy savings over the total lifetime of interventions, alongside environmental and social criteria.

Barriers

- Lack of energy data poses challenges; alternative certification methods and integrating environmental criteria with energy indicators are suggested.

Recommendations

- Ensure measurement, control, and verification systems are cost-effective.
- ESCOs should be more involved in project maturation, auction participation, and implementation.
- Initial energy efficiency auctions in the tertiary sector do not set minimum savings thresholds due to uncertainties but show potential for structured energy efficiency improvements.

The findings from the SMAFIN project, detailed in the SMAFIN policy recommendations, roundtables, and Working Group (WG) reports, will inform the SMAFIN Expanded project. The transition from the initial project to the expanded one will be seamless, as the European and national priorities in this field remain consistent, with even more ambitious targets for energy efficiency, investments, and leveraging private financing.

SMAFIN Expanded will build on the ground that SMAFIN has efficiently set in public and private buildings, SMEs, industry, and the tertiary sector. More specifically, the new

[23] European Parliament, Regulation (EU) 2012/27, October 2012. Available at: [Directive - 2012/27 - EN - EUR-Lex (europa.eu)]

project will continue upgrading the core national programmes “SAVING” and “ELECTRA”, which will further promote the main policy recommendation of establishing a Municipal One Stop Shop for building renovation and will deepen work on the energy efficiency auctions for SMEs. In parallel, cooperation of funding tools such as the project PRODIGEE in Greece will be monitored, EIB and EBRD funding instruments will be discussed, and new schemes such as on-bill financing will be presented and discussed. In coordination with the current national priorities, the above axes will pass through the WG process, where the topics to be finally included in the Roundtables will be specialised.

2.3.3. KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN GREECE

Based on previous initiatives and Roundtable discussions, the following actions are highlighted according to key topics, specific country issues, action categories, and beneficiary or building sectors.

TABLE 3: KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN GREECE

Sector/ Buildings	Key Topics/ Issues	Actions	Category
Residential Buildings	Build motivation & capacity at the local level to provide support for home renovation – Creation of OSS.	Policy recommendation for the creation of OSS-Interest from 2 municipalities to adopt the action	Technical Assistance
Residential Buildings	Upgrade of national financing programmes	Proposals adopted in the SAVING programme in Greece (Differentiation of criteria - economic and social criteria, Simplification of the intervention evaluation process)	Financing Models
Residential Buildings	Encouraging the financial sector to provide reasonable offers & engage in OSS	Permanent cooperation with the Hellenic Bank Association	Initiative
Public buildings	Designing and Optimising the National ELECTRA programme for public buildings	The essential role of the Energy Manager in the success of the ELECTRA programme	Policies
Public buildings	Designing and Optimising the National ELECTRA programme for public buildings	Best practices of combining public and private financing - Energy efficiency contracts in Municipalities	Policies
Tertiary sector-Energy Efficiency Auctions	Design the national legislative framework for EE Auctions	Contribution to the design of the national legislative framework for EE Auctions	Policies

Tertiary sector- Energy Efficiency Auctions	Design the first call for proposals.	Contribution to the design of the first call for proposals-Set of proposals because of the RT parallel session	Initiative

2.3.4. COUNTRY INITIATIVES AND PROJECTS SUPPORTING EE

I. National policies: National Plan for Energy and Climate

As part of the revision of the National Plan for Energy and Climate[24], an updated version will be submitted to the European Commission by the end of June 2024, proposing a reduction in final energy consumption by 11.9% for 2020-2030. This goal aims to be achieved by upgrading 58,000 buildings annually from 2020-2025 and increasing to 68,000 buildings annually from 2025-2030. The plan also includes raising the share of heat pump usage from 7% in 2020 to 17% by 2030 and upgrading domestic appliances to improve efficiency by 9%, increasing average efficiency from 40% for white goods and 20% for black goods. Achieving these renovation goals will require €2.5 billion in funding for 2020-2025, rising to €4.1 billion for the period 2025-2030.

II. Funding programmes

Coordinator: Ministry for Environment and Energy, Greece

The Ministry for Environment and Energy announced its action plan for 2024 at the end of 2023. This plan foresees the creation of a roadmap for adopting innovative energy efficiency interventions, including introducing non-subsidy financial instruments to improve the energy efficiency of the industrial and tertiary sectors and households.

Target 6: Improving Energy Saving and Efficiency

1. Energy Upgrading of 40,000 Buildings & Units in Q4 2024:

   - Program Overview: Following the "Save - Self-sufficient" program of 2020, funded by the NSRF 2014-2020 and the Recovery Fund, a new program with a budget of €1,138M from the Recovery Fund is being implemented in 2022. It aims to support energy upgrades in 85,000 buildings and units in 2023 and 2024.
   - Goals: Achieve an 8% improvement in energy efficiency by 2030 compared to the 2019 National Plan for Energy and Climate (NPEC), ensuring final energy consumption is lower than in 2007. The European goal for 2030 is a 32.5% improvement in energy efficiency.
   - Save 2023 Program[25]: Implementing the 4th cycle of the program (2023), this initiative provides incentives for energy-saving interventions in the domestic building sector to reduce energy needs and consumption of conventional fuels. It targets legally existing buildings used as primary residences by owners meeting specific income criteria and includes special incentives for energy-poor and vulnerable households.

[24] European Commission, National energy and climate plans, Greece. Available at: National energy and climate plans (europa.eu)

[25] Save 2023 Program: Energy efficiency plan, Greece. Available at: https://exoikonomo2023.gov.gr/

- Save-Renovate Program[26]: Part of the "My Home" initiative, this sub-project implements the 3rd cycle of the programs (2022). It offers incentives for energy-saving interventions and complementary aesthetic and functional renovations for young people aged 18-39. The "SAVING" branch is financed by TAA (€200M), while the "Renovate" branch is funded by the National PDE and DYPA resources (€100M).

2. Energy Efficiency Upgrades for Public Administration Buildings:

   - Target: Upgrade 3% of the total area of central public administration buildings by Q4 2024.
   - Program: The "ELECTRA"[27] program finances energy upgrades in public sector buildings, with participation from Energy Service Companies (ESCOs). Annual interventions aim to improve energy efficiency by 8% by 2030 compared to the 2019 NPEC, ensuring that final energy consumption is lower than in 2007. The European goal for 2030 is a 32.5% improvement in energy efficiency.

3. Energy Saving and Efficiency Support Programs:

   - Sub-project 1[28]: Integrated energy efficiency interventions in the tertiary sector and tourism.
   - Sub-project 2[29]: Installation of energy-efficient equipment.

4. Energy Efficiency Programs in Clusters of Public Buildings through Energy Efficiency Contracts:

   - Objective: Improve energy efficiency in public buildings to meet the national target and achieve a 3% annual renovation rate for central public administration buildings. Buildings will be grouped into clusters for more efficient tendering and implementation through energy efficiency contracts.

5. Ongoing and Upcoming Programs:

   - "Save 2023": The second round of applications for energy-vulnerable households closes on March 29.
   - "EXOIKONOMO - EPIXEIRO": The application deadline is March 31.
   - "Change Device for Businesses": Continues until the budget is exhausted.
   - "Save 2024": Expected to be announced soon.

[26] Save-Renovate Program, My home initiative, Greece. Available at: https://exoikonomoneon.gov.gr/
[27] ELECTRA programme, Greece. Available at: https://hlektra.gov.gr/home
[28] Energy Saving and Efficiency Support Programs, Sub-project 1, Greece. Available at: Improving the energy efficiency of tertiary sector enterprises - action "saving business" - (ypen.gov.gr) /
[29] Energy Saving and Efficiency Support Programs, Sub-project 2, Greece. Available at: Εξοικονομώ Επιχειρώντας «Αλλάζω συσκευή για τις επιχειρήσεις» (exoikonomo-epixeiro2023.gov.gr)

2.4. ROMANIA

2.4.1. *Outcomes and results on financing energy efficiency*

GENERAL INFORMATION ABOUT SEIF AND SMAFIN NATIONAL ROUNDTABLES IN ROMANIA

Sustainable Energy Investment Forums (SEIF) organised a series of three (3) events in Romania: one regional public conference in 2018 and two (2) Roundtables on finance for energy efficiency in 2018, respectively, in 2019. The events aimed at enhancing the capacity of public and private stakeholders to enter a dialogue facilitating cooperation for the development of large-scale investment programmes and financing schemes, improved access to finance for energy efficiency investments and identification of common objectives and potential improvements in the existing policy framework and business practices in Romania. The 3rd (third) SEIF event was a follow-up Roundtable discussion on the selected topics aiming to provide recommendations and specific actions to facilitate energy efficiency investment in Romania, focusing on its buildings sector and the post-2020 period.

Starting with 2021 the SMAFIN Roundtables continued facilitating stakeholders dialogue with an updated format. The events were organised by the SMAFIN partners, ENERO – Centre for the Promotion of Clean and Efficient Energy in Romania (www.enero.ro) and Pro-nZEB – Cluster for Promoting nearly Zero Energy Buildings (www.pro-nzeb.ro) and benefitted from the support of the Romanian governmental authorities through the Department for Sustainable Development, Ministry of Investments and European Projects and Ministry of Development, Public Works, and Administration. Each event followed a similar organizational structure with 5 sessions (Introductory Plenary, 3 Parallel Sessions and a Closing Plenary) and an average 5 hours.

The SMAFIN National Roundtables were well attended by representatives of all stakeholder categories identified as relevant for the EE sector, contributing to their engagement in different processes for the development of sustainable EE financing. Representatives of central authorities (presidential administration, members of the Parliament, ministries, and other national authorities, etc.), local and regional public authorities, international donors and financial institutions, professional associations, think tanks and citizen organisations, and representatives of other relevant European projects.

1st SMAFIN National Roundtable

The 1st SMAFIN Roundtable, organized online on April 15th, 2021, focused on financing solutions for energy renovation of buildings. It gathered 94 participants and involved 23 speakers for the 3 main discussion pillars on the agenda: energy renovation of public buildings, integrated home renovation services, and the long-term renovation strategy—from set-up to implementation.

2nd SMAFIN National Roundtable

The 2nd SMAFIN Roundtable, organized online on April 12th, 2022, focused on financing solutions to increase energy efficiency in buildings and industry sustainably. The event gathered 88 participants and 20 speakers, with debates on three main themes: Integrated

Renovation Services for Residential and Public Buildings, Energy Efficiency in Industry, and Development and Operationalisation of Financial Instruments for the Long-Term Renovation Strategy. Each session was managed by a dedicated moderator, with a rapporteur summarizing discussions for the closing plenary. Presentations were held in Romanian or English, with simultaneous translation as needed.

3rd SMAFIN National Roundtable

The 3rd and final SMAFIN Roundtable held offline on April 4th, 2023, focused on increasing energy efficiency through sustainable financing solutions. Supported by the Ministry of Energy, the Ministry of Finance, and three other governmental institutions, the event had 80 participants (45 in person) and 21 speakers. The three debate panels covered Integrated Energy Renovation Services for Residential and Public Buildings, Financing Mechanisms for Energy and Climate Change Strategies and Action Plans, and Integrated Mechanisms for Monitoring Energy Efficiency Financing Programs.

2.4.2. Executive summaries of SEIF and SMAFIN roundtables with sector findings

The main outputs of the **SEIF events** in Romania are synthesised by the following **recommendations** formulated according to identified challenges at the time that also set the context for the SMAFIN activities:

I. **Integrated home renovation services**

- **Platform for Continuous Dialogue**: facilitate ongoing communication between local authorities and the Ministry of Development to share best practices and exchange knowledge on renovation projects.
- **Active Involvement of Homeowners Associations**: Encourage homeowners' Associations to take more responsibility in renovation projects, including securing the co-financing needed from households under the ERDF Programme.
- **Regulatory Amendments:** consultations with DG COMP[30] on the possibility of allowing homeowners associations to sell electricity to the grid without a producer license to address State aid issues or seek solutions under the De minimis regulation.
- **Increased Communication on ELENA/PDA Grants:** enhance awareness among local authorities about ELENA and PDA grants (EIB and H2020) to initiate investment programs, as these resources are currently underutilized in Romania.
- **OSS with a single point of entry for end-users** is generally considered a good mechanism to facilitate the implementation of energy efficiency measures in the residential sector:
    - The most effective type of OSS would be local government-driven because of the resources it might attract and the trust it might generate. Due to their role as facilitators for implementing local strategic visions, municipalities are in the best position to involve and coordinate all services to be supplied to the beneficiaries.

[30] European Commission, Directorate-General (DG) for Competition. Available at: Competition - European Commission (europa.eu)

- Other stakeholders to involve along the value chain would be designers, energy auditors, banks, ESCO companies (provided that the legal framework will be improved) etc.
- The financial sustainability of an OSS might be ensured through accessing EU funds for the first 2-3 years and by attracting the industry players (equipment providers, ESCO companies) as the most interested parties in getting the job done. Based on the Padova study case, engaging the local community is key for an OSS to start its functioning.
- the first step is a solid communication/information/education effort among the beneficiaries. Then, adapting the templates/standards tested and validated elsewhere. Then, getting industry players on board and aggregating/adapting their offers to the local needs as identified. Finally, identifying the most suitable financing source. All projects must end with solid monitoring of the results of the renovation in terms of reduced consumption, but also in respect to the new behaviour of the owners/inhabitants of the renovated buildings.

I. De-risking energy efficiency investments

The development of instruments dedicated to energy efficiency in Romania needs significant enhancement. Banks have shown interest in guarantee schemes, necessitating the design of these instruments in consultation with financial institutions. Regular meetings among sector representatives, relevant ministries, and stakeholders, including those from the energy sector, should establish a framework for working or coordination groups on topics like the green mortgage market and guarantee schemes. To stimulate demand, efforts should focus on financial education and improving the regulatory framework. This includes loosening national banking regulations regarding loan-to-value requirements and removing the 5-year limit on consumer credits. Raising awareness among households and companies about borrowing for energy efficiency investments is essential.

Developing guarantee schemes, standardised products, and technical assistance programs involving experts is crucial to minimize risks. Properly designed and implemented technology is important for de-risking, necessitating close coordination with experts from research, engineering companies, and technology providers. European Funds should leverage private finance more effectively, promoting standardization and benchmarking in project development, documentation, and monitoring, despite challenges from the fragmented Romanian market. Improving data collection will enhance documentation and aggregation around standardized procedures.

A greater focus on the client is needed, including intensified dialogue with homeowners and homeowner associations to manage performance and funding risks better. Raising awareness about borrowing for energy efficiency investments and supporting long-term investments is critical. Promoting energy efficiency should be based on replicating best practice models and results rather than just general benefits. Stimulating demand requires financial education within the financial and energy sectors and improving the regulatory framework.

Following the SEIF Roundtables, the Romanian banking sector has increased its focus on the DEEP database[31], further developing it and finding synergies with other tools created within various energy efficiency programs.

II. Energy renovation of public buildings

The discussions within the SEIF Round Tables showed that there is a need to review and strengthen the legal framework. The National Authority for Energy Regulations (ANRE) was leading a working group on this, but one should mention that tackling a very large set of regulations is needed, while four specific points for review were mentioned: Public procurement, Ownership of assets, Energy audits, Certification of ESCO companies. As expressed by the ESCO WG that was led by ANRE at the time when SEIF events were organised, the need to design a standard EnPC model for public buildings was highlighted. Considering the lower complexity and the relatively high savings potential in street lighting projects, it has been decided in the first phase, to design an EnPC model for the rehabilitation of Public Lighting Systems. Based on the experience gained, the energy performance contracting model will be modified to cover public buildings. The work is, amongst others, being coordinated with the Ministry of Public Finance.

In 2020, the responsibilities in this field were transferred from ANRE to the Ministry of Energy (after the restructuring of the Government), and it is expected that the ESCO WG will be restarted to continue the needed developments. Some needs were identified for these developments> guarantees for ESCO's to address their weak financial capacity, finding a way to combine EnPC and ERDF as currently the competition between them is counter-productive and prevents the EnPC market from developing and the establishment of an ESCO register in relation to an ESCO certification system (which is also related to the standard model under development).

Regarding the accounting of EnPC off-balance sheet, there could be a compliance check of contracts by an entity (which could be a Guarantee Fund that could provide guarantees for companies of ESCO type during the ESCO contracts with public authorities), as the national statistical authority cannot be expected to do this. Current initiatives are also closely coordinated with the EIB in relation to the Eurostat Guide, and particularly in relation to using "off-balance-sheet" or "Maastricht neutral" preferential financing. Both Roundtables have supported this cooperation.

It is necessary to allocate funds for increasing implementation capacity at the local level particularly for small and medium-sized municipalities. County-level expertise in energy management and project development should be established, but attention should also be paid to the consulting market, which can provide the services but against payment. Proposals were also raised about decreasing the co-funding part for small and medium-sized municipalities within structural funds.

[31] Energy Efficiency Financial Institutions Group (EEFIG) initiative, De-risking Energy Efficiency Platform (DEEP). Available at: DEEP - De-risk Energy Efficiency Platform (europa.eu)

A national task force is needed to coordinate all the working groups currently existing at the decision level regarding promoting energy efficiency in public buildings. The national strategy should be aligned with the local strategies, while the knowledge and experience at the local level should be considered to input local needs. The national strategy should be followed by a funded Action Plan to facilitate effective implementation.

The discussions highlighted that there is a general lack of valid data for credible project documentation and monitoring and in relation to the preparation of the national plan. There are many registers and databases, but their credibility is questionable. Registers need to be available publicly, and building data management needs to be strengthened. At the local level, the ownership of the buildings is often unclear, which makes it difficult to apply for grants. There is a need to synchronise building registration in municipalities with national programmes and records to get a clear definition of ownership. Also, there is a need to create some flexibility and coordination with respect to projects that received funding for earthquake risks and energy renovation.

III. Energy efficiency in the SME sector

There is a particular need for technical assistance towards SMEs to support them in identifying, documenting, and implementing EE projects. It should be considered to establish national support schemes, for example, related to awareness-raising activities, energy management and energy audits. There is a need to foster the use of energy audits for SMEs and increase the transformation into investments, but also to improve the correlation between energy management and access to financing. Energy management will help identify measures and provide statistical evidence for energy consumption and savings.

There is a need and interest in promoting an OSS approach, possibly in relation to a national platform with standardised information about measures and key figures (which could also be combined with standardised processes). The platform could be based on already gained experience from EBRD, EIB, The Romanian Energy Efficiency Fund, and the banks' portfolios – including tools (as well as EEFIG/DEEP). The platform could be used by various promoters/supporters/facilitators of SME projects (municipalities, regions, branch associations etc.). During the round tables, a working group was proposed to discuss the possible set-up of such a platform.

There is some good experience in guaranteeing funds for SMEs (EIB) that could be transferred to the SME sector. A guarantee fund could be related to the platform mentioned above.

The involvement of ESCOs was discussed during the SEIF Round Tables as part of the solution underlying the needed changes in the legislative framework for the development of the ESCO/EnPC market.

The **SMAFIN project** furthered the conversation by formulating and prioritizing topics for each round table by a dedicated working group that played an active role in assessing developments regarding relevant public policies and governmental instruments, progress on the financial and energy services market, and connection with complementary projects and initiatives.

Findings:

During the SMAFIN project, the primary focus was to facilitate the identification and operationalization of sustainable financing solutions for energy efficiency projects for buildings and the industrial sector to support leveraging the existing public financing opportunities for reaching EE objectives committed by Romania. The integrated energy renovation services and mechanisms for monitoring the implementation of EE progress were also part of the continued conversation for the same objective.

Barriers:

The main barriers identified by SMAFIN activities concern the significant resources required for financing energy efficiency and the development of a well-functioning market, involving financial institutions (FI), as crucial prerequisites for the implementation of energy efficiency objectives, with a special focus and efforts for the needs of the buildings sector where the energy savings are expected to be significant.

Several reasons were identified for the energy efficiency market not yet reaching its potential (many of these reasons being valid for all SMAFIN project countries):

- Loans have been the standard option until now. Cessions, guarantees, and bridge financing have been pointed out as relatively rare practices for EE project financing. Experience in the application of more elaborated EE financing schemes (e.g., collaboration/blending with public funding) is limited.
- Lack of a more structured programme and institutions able to govern and coordinate at the national level to attract diverse financial resources (FIs, EU, donors, government, etc.), distribute financial resources to the beneficiaries directly or via financial intermediaries, execute monitoring and control, and support technical implementation (guides, standard docs, etc.).
- Conditions for repaying and servicing energy efficiency loans with savings generated from improved efficiency are considered quite risky and difficult to document and verify. Municipal or residential clients are much less attractive to financial institutions than private sector clients due to their lack of capacity and knowledge, obscure and complicated decision-making, and the risks of election cycles.
- There is a gap of common understanding among the stakeholders in EE projects: FI, beneficiaries, technical analysts, etc. According to their experience, the FIs are inclined to consider that the technical studies systematically overestimate energy savings from efficiency investments, which results in uncertainty about the project performance.
- Other risks perceived by financial institutions: insufficient data and monitoring of the implemented EE measures, no established practice of monitoring and verification of the achieved results of EE projects. volatile energy prices evolution.

Recommendations:

- A New Architecture of the Operational Programmes 2021-2027 Prioritising Energy Efficiency for Sustainable Development.

- Improvement of the National Programme for Energy Efficiency of the Multifamily **Residential Buildings**. The requirements of the Programme should be improved by setting up higher levels of performance and coordinating the grant level with the estimated performance improvement to increase the interest and level of engagement of building owners in participating in the building renovation process.
- Support provided for the development of the ESCO market with both changes in legislation and the promotion of ESCO, as well as efforts to develop and implement simplified ESCO contracts on a pilot basis using public financing mechanisms.
- Establishing a National EE Fund. The Ministry of Energy should investigate the opportunity to set up and design a National Energy Efficiency Fund, aiming to promote innovative financing schemes, the development of ESCO and energy savings performance contracts, and support for training, pilot, and dissemination programmes.
- The implementation of integrated **residential and public building** renovation services by a **one-stop-shop** (OSS) structure is the main policy recommendation identified and elaborated by the SMAFIN project team aggregating information shared in working group and Roundtables dialogues in Romania. The policy recommendation regarding OSS was used in the TOR for the REPowerEU component of the National Plan for Recovery and Resilience, under inter-ministerial discussion in January 2024.
- During SMAFIN, steps forward were also made for promoting Energy Services Companies and effective Energy Performance Contracting in terms of elaborating the regulatory and implementation framework in Romania. The team also put forward a preliminary proposal for financing mechanisms for the implementation of energy and climate change strategies and actions, not as a stand-alone package but connected with the other two.

Further dialogues planned by SMAFIN Expanded will continue to support operationalization of the main identified policies, to encourage joining commercial financing with technical assistance, capacity building, project evaluation, monitoring, and reporting overcoming barriers and mitigating risks in the implementation of EE projects.

2.4.3. Key actions for enhancing energy efficiency financing in Romania

Based on previous initiatives and Roundtable discussions, the following actions are highlighted according to key topics, specific country issues, action categories, and beneficiary or building sectors.

TABLE 4: KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN ROMANIA

Sector/ Buildings	Key Topics/Issues	Actions	Category
Public	ESCO, Energy performance contracting (EnPC), public-private	Integration of Energy performance contracting (EnPC) and public-private partnerships (PPP) models	Legal framework

	partnerships (PPP)	to mobilize private investments	
Public Private	National Recovery and Resilience Plan (NRRP)	The National Digital Register of Buildings	Policies, legislation (monitoring)
Public Private	National Recovery and Resilience Plan (NRRP)	National network of OSS	Policies, legislation (information)
Public	Sustainable Financing of EE	Establishment of the Bank for Development and Investment	Legislation
Public	Sustainable Financing of EE	Romania's Sovereign Green Bond Framework	Financing Models
Private Public SME	Workforce – BUILD UP Skills (BUS4RoBOOST)	Strategy and Roadmap for construction workforce towards 2030	Initiative
Public	Casa Verde financing for EE and PV	Financing programs for EE in Public and in single-family buildings of EE + PV systems	Financing Models

2.4.4. Country initiatives and projects supporting EE

I. NRRP component 5: National Digital Register of Buildings

The legislation for the National Digital Register of Buildings, as part of Component 5 of the NPRR (Renovation Wave), is finalized. This IT system will catalogue the national building stock, complementing the INSPIRE Geoportal[32]. The register will be georeferenced and interoperable with local urban databases and other national systems. The pilot phase will include information on renovated buildings under the NPRR, allowing energy consumption monitoring. The energy passport of buildings will be part of a digital logbook with all energy-related intervention details. The National Building Register and pilot section will be available online by the end of 2024. This topic will be discussed at the first SMAFIN EXPANDED RT in Romania on May 21, 2024.

II. NRRP component 16: REPOWER EU, One-Stop-Shop

To enhance Romania's resilience and energy independence by decarbonizing the residential sector and improving building energy efficiency.

Planned Legislative Reforms:

- Overcome administrative barriers for individuals accessing information on energy efficiency projects.
- Stimulate investments in building energy efficiency.
- Develop a legal framework for establishing nationwide 'One Stop Shop' (OSS) information counters to provide energy consultancy and advisory services for energy efficiency and renewable energy projects from inception to completion.

[32] European Commission, INSPIRE Geoportal. Available at: INSPIRE Geoportal (europa.eu)

The implementation mechanism of this reform involves 3 (three) steps:

- Develop a specific legal framework to encourage OSS at the national level and harmonize it with existing renewable energy legislation.
- Mandate OSS Cooperation: include legal requirements for authorities and entities to cooperate with OSS, reducing approval/authorization times.
- Operationalization of 42 OSSs to provide energy advisory services. Training in the field will benefit OSS employees.

Progress on the first step and further needs will be discussed at the first Roundtable in Romania in May 2024.

III. ROMANIA'S sovereign Green bond framework

The Romanian Government has established a "Green bond framework"[33] to reduce greenhouse gas emissions, focusing on environmental protection and climate change mitigation. This framework prioritizes energy efficiency and green building projects. For energy efficiency, the eligible investments include infrastructure improvements to lower energy consumption below national averages, along with developing and implementing technologies for enhanced lighting, heating, cooling, smart grids, heat recovery, and the conversion of thermal power plants.

For green buildings, the financing aids projects that achieve high environmental certifications such as, but not limited to BREEAM Excellent or LEED Gold, support constructions with energy use at least 20% below NZEB standards, and fund renovations that increase building energy efficiency by at least 30%.

On February 15, 2024, the Romanian Ministry of Finance[34] launched two tranches of bonds, with 7-year and 12-year maturities, denominated in EUR. This included Romania's first green bond issue, valued at EUR 4 billion but subscribing over EUR 14.8 billion from more than 250 investors, indicating a robust interest with orders exceeding EUR 17 billion.

IV. EPBD.wise (LIFE)

EPBD.wise funded by the LIFE Programme, supports local authorities in six European countries—Bulgaria, Greece, Hungary, Poland, Romania, and Ukraine—in implementing the revised Energy Performance of Buildings Directive (EPBD)[35]. This three-year project collaborates with public authorities to ensure buildings align with climate objectives. It focuses on designing, implementing, and evaluating enhancements in the EPBD, such as zero-emission building standards, national building renovation plans, renovation passports, energy performance certificates, and minimum energy performance standards. Additionally, it develops guidelines for designing new policies, measuring effectiveness through monitoring and evaluation, and adapting to both EU and national goals. The

---

[33] Government of Romania, Sovereign Green Bond Framework, December 2023, Romania. Available at: Microsoft Word - Green bond framework revised 19.12.2023 Final (gov.ro)

[34] Ministry of Finance, Treasury and Public debt, Romania. Available at: România, la prima sa emisiune de obligațiuni verzi. Interes impresionant din partea investitorilor - TREZOR - MF (gov.ro)

[35] European Commission, EPBD, Energy Performance of Buildings Directive. Available at: Energy Performance of Buildings Directive (europa.eu)

project aims to establish a replicable model for the broad application of these measures across Europe.

V. RENOCALLY (EUKI)

The project is part of the European Climate Initiative (EUKI) of the German Federal Ministry for Economic Affairs and Climate Action (BMWK)[36]. The project aims to trigger deep renovation in target municipalities in Bulgaria, Romania, and Slovakia to reach Fit-for-55 compliance and climate targets by:

- Supporting municipalities in implementing Building Renovation Passports.
- Creating a Master Class on Technical Assistance to support municipalities' access to financing for renovation.
- Preparing for the implementation of the requirements of the revised EPBD.
- Increasing the target municipalities' overall knowledge and skills on building stock decarbonisation and deep renovation.

A diverse range of stakeholders will be engaged within the target countries throughout the project's lifetime. The Renocally consortium will empower municipalities to plan renovation activities, thereby realizing the building sector's GHG emission reduction potential. Workshops and knowledge-sharing webinars will be organized to sustain the project outcomes and facilitate replication of the results to other governance levels, jurisdictions, and stakeholders.

VI. The nZEB Roadshow (Horizon 2020)

The nZEB Roadshow project, building on European initiatives like the Building Knowledge Hub, focuses on a marketing campaign that engages stakeholders through on-ground "nZEB Days," featuring various events and activities. Initially, the project involved designing and constructing mobile demonstration units like the Croatian-developed mobile nZEB house. The Cluster Pro-nZEB crafted a model-filled mobile unit used for organizing nZEB Week events across cities like Bucharest, Brasov, Iasi, Cluj-Napoca, and Timisoara. These events, held in public spaces, include exhibitions, practical demonstrations, training sessions, and job fairs, primarily supporting local SMEs. Although the project concluded in May 2023, nZEB Week events have become recurring, now planned biannually, continuing to build a professional community and discuss nZEB implementation challenges. This model was highlighted at the 2023 SMAFIN Round Table, with related workshops conducted during the nZEB Weeks.

VII. nZEB Ready (Horizon 2020)

The nZEB Ready project focuses on stimulating demand for energy-related construction skills across Bulgaria, Croatia, Portugal, Poland, and Romania to enhance nZEB (nearly Zero Energy Buildings) implementation. It addresses this through three main strategies:

- **Overcoming Barriers**: It tackles the principal obstacles hindering nZEB adoption in targeted markets.

[36] EUKI, European Climate Initiative, Federal Ministry for Economic Affairs and Climate Action. Available at: Home - EUKI

- **Skill Enhancement**: The project supports the development of a new training and certification scheme that is driven by market needs, aiding in the necessary legislative changes for nZEB deployment.
- **Engagement and Tools**: The development of toolboxes and practical guidance aims to engage homeowners and public authorities in recognizing and achieving the benefits of nZEB.

The project operates across three pillars—awareness, training, and support tools—as identified from literature reviews and stakeholder consultations to respond to critical market barriers prevalent in Europe.

Additionally, the nZEB Ready procurement guide serves as a step-by-step manual for public authorities and procurement professionals. It outlines how public procurement can be leveraged to stimulate demand for nZEB construction skills. This comprehensive guide walks through the procurement process from need identification to contract monitoring, offering strategies to integrate nZEB skill requirements into tenders and stimulate skill demand effectively. It draws on examples from pilot projects, insights from the nZEB Cities Working Group, and lessons from related initiatives to aid public procurers in encouraging the adoption of nZEB skills in the construction sector.

2.5. SLOVENIA

2.5.1. MARKET CONTEXT OVERVIEW

In 2022, the largest share of final energy consumption remained in transport (82.709 TJ; 42 %), followed by industry (49.415 TJ; 25%), households (41.283 TJ; 21 %), and services (24.012 TJ; 12 %). The industry witnessed a significant decrease compared to 2005, dropping by 5 percentage points.

Financing measures in the energy use sectors are intensively supporting energy efficiency and renewable energy sources. This effort encompasses various initiatives, including financial incentives such as subsidies and loans with favourable interest rates. These incentives are sourced from entities like the Eco Fund, European funds, the state budget, and the Climate Change Fund. A crucial tool for buildings is the energy efficiency code, which is complemented by efforts to create a conducive environment for building renovations, focusing on multi-apartment buildings. Special attention is directed towards socially disadvantaged households. Energy Performance Contracting emerges as a vital instrument, especially within the public sector. In the industry sector, the focus shifts towards promoting the transition to a circular economy, encouraging the production of environmentally friendly products with lower greenhouse gas emissions, and incentivizing the adoption of synthetic gas and hydrogen. Sustainability criteria are being developed in the realm of buildings, aiming to limit the use of fossil fuels for heating. An energy and emissions register are also proposed, along with intensified support for household energy efficiency measures.

Industry

A 2021 study conducted under the LIFE IP Care4Climate[37] project revealed that nearly 60% of surveyed Slovenian SMEs invested in energy efficiency (EE) in the past three years. However, over half of them do not plan further investments in the next two years, raising concerns regarding national goals. Industry restructuring, propelled by high energy prices, has led to decarbonisation, with some energy-intensive branches like Talum discontinuing primary aluminium production.

The promotion of EE in the industry primarily relied on three financial mechanisms: the Cohesion Fund, mandatory energy efficiency obligation schemes for energy sellers, and soft loans and grants from the Eco Fund. In 2020, grants for EE and renewable energy sources (RES) in non-ETS industries totalled nearly EUR 5.9 million, quadrupling from the previous year and reaching the highest amount between 2010 and 2021. However, only incentives from the Eco Fund are considered, as projects co-financed by the Operational Programme for the Implementation of the European Cohesion Policy lack direct monitoring for EE goals and do not align with climate objectives. From 2010 to 2020, grants totalled EUR 13.3 million, just over one-third of what the Eco Fund allocated for EE and RES measures in households in 2020 alone. The Eco Fund also provides financial assistance

[37] Coordinator: Ministry of the Environment, Climate and Energy, Slovenia. Available at: CARE4CLIMATE - About the project

for energy audits in SMEs in the industry and in the service sector and for implementing energy management systems.

Residential sector

The Long-Term Strategy for Energy Renovation of Buildings for 2050[38] (LTSERB 2050), adopted in 2021, aims to make existing buildings highly energy-efficient and decarbonized by 2050. By 2030, it targets a 70% reduction in building greenhouse gas emissions compared to 2005, progressing towards net-zero emissions by 2050. This involves promoting energy-efficient renovations and adopting renewable energy sources for heating, including RES-based district heating systems. The strategy also aims for near-zero emissions over buildings' lifetimes and addresses seismic and fire safety, as well as indoor environmental quality, to reduce long-term GHG emissions and environmental impacts through efficient resource use.

Planned initiatives under LTSERB 2050 and the National Energy and Climate Plan (NECP) aim to boost financial incentives for EE and RES investments in households. This includes developing a long-term financial plan, introducing separate calls for partial and comprehensive renovations, creating new FIs, offering incentives for project preparation and technical assistance, implementing pilot projects, and reinforcing the Eco Fund's activities while simplifying administrative procedures for incentive grants.

LTSERB 2050 estimates EUR 725 million in subsidies from 2021 to 2030 for residential building renovations, with 75 % secured up to 2025 and additional measures planned for 2030. The NECP expects additional funds for Eco Fund programs by 2030 through a gradual increase in the EE contribution. However, annual funding for residential renovations is currently set at EUR 20 million, with no guaranteed increase. Additionally, EUR 95.6 million from other sources is available for EE and RES measures in households, including EUR 67.4 million for energy efficiency measures under the Climate Change Funding Programme (2022-23) and EUR 28.2 million for housing stock renovation under the European Cohesion Policy Programme (2021-27).

2.5.2. *Outcomes and results on financing energy efficiency*

In the framework of the Sustainable Energy Investment Forum (SEIF), the European Commission organized two (2) national Roundtables (SEIF NRT) in Slovenia to enhance cooperation between public and private stakeholders and to promote large-scale investment and financing programs for energy efficiency (EE). As part of the "Smart Finance for Smart Buildings" initiative, they aimed to contribute to the ambitious and timely implementation of the energy efficiency first principle (EE1st) in national energy policies, integrated planning, and investments. This initiative considers both supply and demand-side resource and fosters dialogue among diverse key stakeholders in sustainable energy efficiency financing.

[38] Government of the Republic of Slovenia, Long-Term Strategy for Energy Renovation of Buildings for 2050, February 2021. Available at: 4bed459f-121c-4309-97d2-507495e94e0f_en (europa.eu)

For both events, participants were provided with background materials on the thematic topics, enabling them to prepare for the thematic sessions. The events were conducted in Slovenian with English interpretation.

1ST NATIONAL ROUNDTABLE ON FINANCING ENERGY EFFICIENCY

In May 2022, the 1st SEIF National Roundtable on Financing Energy Efficiency was organized by the European Commission in collaboration with the Jožef Stefan Institute's Energy Efficiency Centre (JSI EEC) under the auspices of the Ministry of Infrastructure (MoI).

The national Roundtable brought together 63 Slovenian participants from ministries, local governments, public and commercial banks, public housing funds, the residential and commercial sectors, industry, energy service companies (ESCOs), energy suppliers, local energy agencies, business consulting firms, energy advisors, building managers, researchers, and non-governmental organizations (NGOs).

The Roundtable featured an introductory plenary session, **two parallel thematic breakout sessions focusing on financing energy efficiency in the public and residential sectors (Session A), and financing energy efficiency in commerce and industry (Session B)**. Additionally, there was a **thematic session on financial instruments (FI)**, followed by a summarizing closing session. The event documents and presentations are available on the dedicated page on CIRCABC.

The introductory plenary session updated energy efficiency and financing developments in the EU and Slovenia. It outlined pathways for financing energy efficiency until 2030 and beyond while considering the evolution of national financing drivers, needs, and practices for energy efficiency and renewable energy sources (RES) in buildings, small and medium enterprises (SMEs), and industry.

The two parallel thematic breakout sessions focused on scaling up and financing the rapid rollout of comprehensive renovation programs in the residential and public sectors and increasing the flow of EE investments in industry and commerce from a financial institution perspective. The session on FI concentrated on critical success factors, policies, market instruments, and financing solutions to accelerate private finance for energy efficiency and make energy efficiency financing more accessible. During the wrap-up closing plenary session, the audience and invited panellists reported and debated key findings from the thematic sessions.

Barriers to financing energy efficiency discussed on Sustainable Energy Investment Forum (SEIF)

Barriers to financing energy efficiency (EE) in various sectors were identified beforehand and were subsequently addressed through **key questions** posed during the sessions, as presented below.

Session A: Financing energy efficiency in the public and residential sector

- How can we improve existing EE financing processes by combining different funding streams?
- Which EE FIs are suitable for the public and residential sectors?

- How can renovation rates be doubled? How can we facilitate the rapid rollout of renovation programs? Is the supply chain prepared to meet demand?
- Should we consider renegotiating the National Recovery and Resilience Plan and reallocating some funding available under it?
- How can we further increase EU and public funding leverage factors?
- Are we effectively addressing market failures in the energy efficiency services (EES) sector (e.g., support for project preparation, lack of project pipelines, shortage of competitive EE service providers, etc.)?
- How can we integrate energy and seismic renovations financing and facilitate a rapid transition to RES?

Session B: Financing energy efficiency in the commerce and industry

- How large is the EE investment gap in industry and commerce? Are the available private and public financing sources appropriate and accessible?
- How prepared are industry and commerce for the transition to a low-carbon economy?
- What are the key drivers for stimulating private financing for sustainable EE investments?
- What type of assistance and advice do we need to provide for industry and commerce regarding sustainable EE investments?
- Based on your own experiences and observations from the financial environment, what changes are being observed in the financing industry regarding the green transition, and what will be the impact?
- Are combinations of FI and grants effective in structuring projects to make them more attractive to private investors?

Session C: Financial instruments

- How significant is the financing/refinancing gap for EE? Is refinancing of EE investments necessary?
- How can EE projects be structured to make them more appealing to private investors?
- What non-financial barriers to EE investments should be addressed to leverage funds effectively?
- What type of support should be developed concerning EE FI, considering sector-specific requirements?
- Should we explore additional EE FI (e.g., combinations of EE FI and performance-based grants)?
- Have we overlooked any existing but underutilized EE FI?

2ND NATIONAL ROUNDTABLE ON FINANCING ENERGY EFFICIENCY

In May 2023, the European Commission, in collaboration with JSI EEC and under the auspices of the **Ministry of Environment, Climate and Energy (MECE), Ministry of Economy, Tourism and Sport (METS)** and **Ministry of Cohesion and Regional**

Development (MCRD) organized [2nd SEIF National Roundtable] on Financing Energy Efficiency in Slovenia.

Over 70 participants from different sectors attended, and the event included a plenary, breakout sessions on residential and commercial/industrial financing, and a summarizing closing session. All materials and presentations are accessible on the CIRCABC[39] platform.

The plenary session covered EU and Slovenia's EE and financing developments, financing pathways until 2030 and beyond, and the evolution of financing for EE and RES in buildings, SMEs, and industry.

Parallel Session A focused on financing EE in residential areas, addressing market barriers and emphasizing a rapid renovation program for multi-apartment buildings, including transitioning to RES. The session aimed to identify innovative solutions, financing mechanisms, and public-private partnerships to scale up renovations and explored European program financing possibilities.

Parallel Session B centred on EE financing in commerce and industry, particularly from financial institutions' perspective. It highlighted the importance of allocating funds for EE investments in SMEs, combining financial sources with non-refundable funds, and promoting effective investments. The session also discussed demand and supply drivers within Slovenia's green transition framework, resilience plan, taxonomy, and environmental, social, and governance (ESG) considerations, aiming to define challenges and the roles of stakeholders in overcoming them.

The **closing plenary session** summarized key findings from the thematic sessions, fostering discussions among panellists and the audience and resulting in recommendations.

Barriers to financing energy efficiency discussed on Sustainable Energy Investment Forum (SEIF)

Barriers to financing EE in the residential sector, commerce, and industry were identified beforehand and subsequently addressed through **key questions** posed during the sessions, as presented below.

Session A: Financing energy efficiency in the residential sector

- How can we improve and expand existing initiatives on a larger scale? How can we double the rate of renovations? How can we prepare the supply chain for efficient delivery?
- How can we address the growing financing gap and implementation deficit concerning both current and more ambitious renovation objectives?
- How can we fully utilize the potential of reserve funds for multi-apartment buildings?
- How can we facilitate the aggregation and bundling of individual EE investments in buildings? Standardized implementation processes should support this and be complemented by project rating methodologies, risk assessment tools, and standardized legal and financial structures for assets. Can we identify potential aggregators?

[39] European Commission, digital database CIRCABC. Available at: Circabc (europa.eu)

- Should we extend grants beyond minimum energy performance standards? Should we incentivize individual measures as well as comprehensive packages?
- What strategies should be implemented for financing seismic and sustainable renovations? What aspects are currently lacking? What about sustainable renovations in general?

Session B: Financing energy efficiency in the commerce and industry

- What is the current state of financing and the related supportive environment concerning the promotion of energy efficiency investments in the economy?
- Are we adequately acquainted with the specific market needs for financing to ensure a successful green transition?
- Do existing and anticipated financing tenders sufficiently address green transition and energy efficiency criteria in an appropriate manner?
- How can we combine various support goals into a single financing program and establish appropriate indicators to evaluate the effectiveness of program implementation without creating implementation barriers?
- How can we establish and implement innovative mechanisms to increase the volume of financing for energy efficiency (such as combined financial instruments and grants, forfaiting, guarantee funds, etc.)?

2.5.3. *Executive summaries of SEIF roundtables with sector findings*

The overarching outcomes from the discussions in thematic sessions of two SEIF national Roundtables on financing EE are summarized below.

1ST NATIONAL ROUNDTABLE ON FINANCING ENERGY EFFICIENCY OUTCOMES

I. Financing energy efficiency in the public and residential sector

- The use of existing combinations of FI and grants for financing targeted comprehensive renovations in the public sector should be further prioritized, scaled up, simplified, standardized, and fully implemented in the residential sector as well.
- Additional grant funding should be allocated to national EE and related EU financing mechanisms to address specific obstacles to comprehensive and wider renovations and funded within the framework of the FI and grant combination model. This should include an increase in EE financing using revenues from the Emissions Trading System (ETS) to accelerate renovation rates. Financing for actions targeting the mitigation of energy poverty should be given top priority. Conducting a solid and timely ex-ante financing gap assessment is necessary, extending beyond existing programming practices.
- Identified bottlenecks in EE financing within the Housing Act should be addressed and removed.
- The establishment of a loan guarantee fund for de-risking loans should be assessed.
- Funding for technical assistance (TA) and project development assistance should be increased, including the introduction of one-stop-shops in the residential

sector. TA should complement and mobilize two national residential sector-specific EE financial instruments with grant components, namely the Slovenian Environmental Public Fund (Eco Fund) low-cost loans and ESCOs on-bill financing.

- Since the entire Slovenian territory is earthquake-prone, the most strategic renovations should integrate seismic safety measures with EE measures.
- Effective coordination with other supportive schemes, such as renewable energy incentives, seismic resilience programs, and plans for strengthening the stock of public rental housing, should be established to enhance the impact of EE financial instruments.

II. Financing energy efficiency in the commerce and industry

- The Ministry of Economic Development and Technology, in cooperation with the Chamber of Commerce and Industry, should reassess the EE financing gap in the industry sector, prioritize identified EE projects and technologies, and increase the allocation of EU funds, ensuring their effective utilization.
- A clear and robust EE policy signal should be sent to financial institutions to structure finance (e.g., forfeiting loans, guarantees, and equity) around energy savings in the industry and commerce sectors. Therefore, the following measures should be implemented: (i) thorough standardization of EE projects and technologies, (ii) public disclosure requirements based on sector benchmarking programs, (iii) establishment of key performance indicators (KPIs) for EE projects, (iv) implementation of highly EE-profiled tenders for grants and subsidies, (v) systematic monitoring of incentive results, and (vi) allocation of dedicated funds for EE financing.
- Financial institutions should provide internal (in-house development unit) or external (one-stop-shop support to clients) TA as part of dedicated EE financial instruments to identify feasible EE projects and evaluate their benefits in risk assessments. This will enable scaled-up deal flow from concept to implement bankable projects and a higher volume of EE project financing for existing and new clients.
- The METS should establish energy savings grant criteria that go beyond incremental technology changes and provide TA to beneficiaries, fostering the development of new EE projects and ensuring their quality.
- A dedicated combination of FI and performance-based grants should be prepared for financing green transition projects in energy-intensive industries. Key stakeholders should assess the investment needs for identified transformative projects with high EE impact based on a generic rating system and define the type of combination of FI to be implemented to attract private financing.
- The free-rider problem should be addressed by considering the costs of incentivized technologies and energy prices.

III. Financial instruments

- De-risking tools, such as guarantees, are needed to mitigate loan risks associated with financing EE for households in multi-apartment buildings. These tools should also extend loan maturity to address the long payback time for investments in comprehensive, deep, and wider renovations.

- It is proposed to explore the possibility of providing highly needed TA and project development assistance subsidies in combination with FI, or to establish "national" European Local Energy Assistance (ELENA) one-stop-shops for the 2021-2027 programming period. In this context, Slovenia should seek the expertise of the European Investment Bank (EIB) and the European Commission in managing shared management funds and operating ELENA.
- Financial institutions should reassess the increasing financing needs of the EE market and develop and provide more specialized financing in the long term for energy efficiency service (EES) providers, such as Energy Service Companies (ESCOs), special purpose vehicles (SPVs), and utilities. This includes offering loan risk and refinancing guarantees.
- A national public or private refinancing facility (factoring fund) needs to be developed, or forfeiting loans provided. The Energy Performance Contracting (EnPC) implementing framework should be upgraded with standard contract provisions enabling the sale of accounts receivables (forfeiting) and enhanced by specific guarantee schemes.
- It is recommended that the development of large-scale combinations of FI and grants under shared management funds be assessed in the 2021-2027 programming period. This should address identified EE market failures, stimulate investment demand, and attract private financing. Additionally, exploring optimal integration of cultural heritage buildings and seismic-safety renovations into EE FI is advised.
- The quality of EnPC projects should be further enhanced by integrating quality criteria into existing standardized EnPC project implementation and financing processes. This includes related model documentation, especially in terms of energy management and measurements and verification of energy savings.

2ND NATIONAL ROUNDTABLE ON FINANCING ENERGY EFFICIENCY OUTCOMES

I. Financing energy efficiency in the residential sector

- Abolish the requirement for 100 % consent from co-owners in multi-apartment buildings to facilitate more renovation projects.
- Reform the subsidy allocation system to address "free-riding" and ensure fair and equitable incentive distribution.
- Secure financing from diverse sources, such as the European Regional Development Fund (ERDF), local banks, and pension funds, to effectively fund renovation initiatives.
- Tackle challenges in achieving zero-energy buildings in older structures by addressing high costs and lengthy payback periods.
- Encourage greater energy service companies (ESCOs) involvement by establishing shorter payback mechanisms.
- Address the obstacle of 15-25 % higher construction costs to encourage broader adoption of renovations.

- Expect more favourable financing offers from commercial banks, considering environmental challenges.
- Create a clear and well-defined roadmap for the renovations of fossil fuel phase-out and heating system in multi-apartment buildings. Develop accessible financing mechanisms tailored to the needs of apartment owners.

II. Financing energy efficiency in the commerce and industry

- Increase awareness and alignment among stakeholders to address insufficient awareness among companies regarding the green transition.
- Enhance the knowledge and competence of companies and financial institutions in low-carbon economy investments.
- Establish a website highlighting EE/"green" projects ready for financing, differentiating between project ideas and fully prepared projects eligible for funding.
- Ensure steady funding to avoid missing incentives when preparing projects for the low-carbon transition. Consider providing incentives for project preparation.
- Create a comprehensive website offering information on accessible and future funds for EE/low-carbon investments and a long-term plan for Cohesion Fund calls by the METS.
- Establish well-defined criteria for fund allocation and measuring environmental and EE impacts in calls financing low-carbon transition investments, with proactive involvement from participating ministries.
- Consider uniform criteria for different financial sources or tightening criteria for non-repayable incentives and directing companies towards acquiring loans for EE/"green" investments.
- Encourage cooperation among stakeholders, including various financial institutions, to secure additional funding for implementing EE, energy and climate policies in the NECP.

2.5.4. KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN SLOVENIA

Based on previous initiatives and Roundtable discussions, the following actions are highlighted according to key topics, specific country issues, action categories, and beneficiary or building sectors.

TABLE 5: KEY ACTIONS FOR ENHANCING ENERGY EFFICIENCY FINANCING IN SLOVENIA

Sector/ Buildings	Key Topics/Issues	Actions	Category
Public Private	Blended finance models	Scale-up blended finance models, diverse financing sources, new models and incentives	Financing models
Public Private	Emissions Trading System (ETS) revenues	Allocate additional funding to address specific obstacles and increase EE financing	Financing models
Private	Housing Act	Amendments and simplification	Policy
Private	Technical	Increase funding for TA and	Technical

Public **SME**	Assistance and One-Stop-Shops	establish one-stop-shops	Assistance
Private **Public** **SME**	Seismic Safety and Resilience programme	Include seismic safety measures in strategic renovations	Policy
Private **Public** **SME**	Initiative alignment with financial measures and Supportive Schemes	Enhance coordination with renewable energy and seismic resilience programs	Initiative
Commercial	EE Financing in Industry	Reassess and prioritize EE financing, increase EU funds allocation	Financing Models
Commercial	Performance monitoring	Performance-based grants, national grant criteria, national rating criteria	Financing Models
Private **Public** **SME**	Alignment of EE goals with the finance sector EU Taxonomy	Send robust policy signals and align related EE measures with financing schemes	Policy
Private **Public** **SME**	One-Stop-Shop	TA and project know-how for new EE projects development	Technical Assistance
Public	Capacity building	ELENA support for managing national projects	Technical Assistance
Commercial **SME** **Tertiary**	Green Transition in Energy-Intensive Industries	Prepare a dedicated FI and grant combination for financing	Financing Models
Private **Public**	Risk Management	De-risking instruments for financing EE like guarantees to mitigate loan risks in multi-apartment buildings	Financing Models Policy
Private **Public** **SME**	ESCO, Energy performance contracting (EnPC), public-private partnerships (PPP)	Develop and provide specialized financing and risk guarantees, support SPV (special purpose vehicle)	Financing Models Initiatives
Private **Public** **SME**	ESCO, Energy performance contracting (EnPC)	Enhance EnPC framework with standard provisions and guarantee schemes	Policy
Private	Regulation	Abolish the 100% consent requirement for renovations in multi-apartment buildings	Policy
Private	Incentives	Fair and equitable incentives distribution	Initiative Policy
Commercial **SME**	Capacity building Literacy on EE	Advancing literacy and the importance on EE	
Commercial **SME**	EE Visibility Digital Platform	Increase projects visibility with national platform, projects eligible for funding	Initiative

Private	Fossil Fuel Phase-Out Roadmap	Develop a roadmap for the fossil fuel phase-out and heating system renovations in multi-apartment building, support with accessible financing mechanisms	Policy Finance models
Commercial SME	Sustainable industry, Green Transition	Increase awareness and competence in investments for a low-carbon economy	Initiative
Commercial SME	Criteria for Fund Allocation	Establish well-defined criteria for environmental and EE impacts in funding calls	Policies
Commercial SME	Stakeholder Cooperation	Encourage cooperation among financial institutions, national authorities and industry	Initiative

2.5.5. Country initiatives and projects supporting EE

I. LIFE IP CARE4CLIMATE

The LIFE IP CARE4CLIMATE PROJECT, spanning from 2019 to 2026, led by the MECE, is developing 2 (two) financial instruments to stimulate investment in comprehensive energy renovations of multi-apartment buildings:

- Financing comprehensive energy renovations of older multi-apartment buildings through a combination of an Eco Fund soft loan debited to a building reserve fund and a non-repayable financial incentive (FI 1).
- Financing comprehensive energy renovations of older multi-apartment buildings through a combination of co-financing by energy service companies and non-repayable financial incentives (FI 2).

Both FI includes investment grants, the amount of which depends on the scale of the comprehensive sustainable renovation. The FI 1 and FI 2 are currently being tested in practice. The Eco Fund has already published a public tender for the two pilot projects, and the groundwork for it has been prepared under the LIFE IP CARE4CLIMATE project.

The LTSERB 2050 and the National Energy and Climate Plan foresee a third FI to promote energy renovation of multi-apartment buildings, providing better access to finance. Within the framework of the LIFE IP CARE4CLIMATE project, a new guarantee scheme (FI 3) will be designed to provide guarantees to financial intermediaries.

II. RENOINVEST

The SMAFIN Expanded twin project **Roundtables enhancing smart investments in sustainable renovation of buildings** (RENOINVEST) aims to address cross-border challenges and opportunities for sustainable building renovation in Austria, Hungary, and Slovenia. It focuses on developing action plans for smart investments in sustainable building renovation for 2025-2030 through national Roundtables, building upon SEIF activities. RENOINVEST facilitates open dialogue among key financial, private, and public experts to identify barriers to scaling up long-term FI and propose improvements for large-scale investment programs in existing buildings. It will deliver three national policy briefs and a cross-border recommendation package.

Assessing the implementation of long-term building renovation strategies, reviewing existing financial solutions, and analysing market conditions for financing energy efficiency improvements are crucial project components. Additionally, RENOINVEST will organize three international exchange events and site visits to share knowledge, showcasing over 50 good practices and six case studies to promote smart financing options. The consortium includes key actors from legislative advisory organizations, research institutes, engineering companies, SMEs, and financial experts across the three Central European countries, enhancing sustainable investments. The project is coordinated by ÉMI Nonprofit Kft, with Slovenian partners, including the Slovenian National Building and Civil Engineering Institute (Zavod za gradbeništvo Slovenije - ZAG) and the Chamber of Commerce and Industry of Slovenia (Gospodarska zbornica Slovenije – GZS).

3. EU LEVEL INITIATIVES AND PROJECTS

The **assessment of relevant EU projects and initiatives** sets the foundation for analysing the experiences of countries involved in the **SMAFIN Expanded project.** It provides research on each country's experience in subjects and topics related to SMAFIN Expanded project goals. This evaluation highlights the key topics tackled, the stakeholders engaged, and how each project contributes to the overarching objectives of enhancing energy efficiency and promoting sustainable financing across the EU. The contributions of each country demonstrate their dedication to improving energy efficiency, involving critical stakeholders, and pioneering innovative financing solutions. The **table below** provides a concise overview of each country's participation in these projects, detailing their focus areas and the stakeholders they impact, thereby offering a clear view of each nation's strides toward sustainable energy solutions within the European context.

Bulgaria (BG) actively participates in several EU-funded projects that are pivotal in enhancing energy efficiency. EU Projects and initiatives such as **REVERTER, En-Track, BeSMART**, **OUR-CEE, SHEERenov+, EPBD.wise, RENOCALLY** and **nZEB Ready** have positioned Bulgaria at the forefront of addressing critical energy challenges. The country has strategically emphasized alleviating **energy poverty**, implementing **One-Stop-Shop (OSS)** pilot initiatives, enhancing **risk management** through innovative tools, and improving energy systems through **statistical data** analysis and **benchmarking**. Engagement with national stakeholders has highlighted the imperative for strengthened **collaboration** between energy agencies, public authorities, and financial institutions. This collaborative approach is essential for integrating sustainable practices across various sectors and aligning with broader EU sustainability goals.

Croatia (HR) is actively engaged in numerous EU-funded projects, highlighting its dedication to alleviating energy poverty and involving citizens and retail investors in innovative financing schemes such as crowdfunding and community-based financing. Projects like **CEESEN-BENDER, OUR-CEE, ENPOR, nZEB projects and CitizEE** demonstrated Croatia's efforts to develop a robust investment climate and engage the broader community in sustainable financial practices. Recognizing the potential of the forthcoming EU Taxonomy and trends towards sustainable and smart financing, Croatia has participated in projects like **MESTRI-CE and ESI 2.0.** These projects focus on developing **solutions and tools** that enhance financing and encourage investors through **risk management tools, data management, technical and economic assessment, forecasting, and reporting**. **ManagEnergy and SEIF forums** also highlighted the importance of stakeholder engagement and close collaboration of public authorities, SMEs, and financial institutions. Financial sector authorities and institutions such as the Croatian National Bank and the Ministry of Finance, already aligned national and sector strategies and initiatives with EU climate goals.

Greece (GR) has actively participated in various energy efficiency projects and initiatives across Europe. It has engaged in the **ESI 2.0** project, which focuses **on risk management** and tools, processes, and **de-risking mechanism** related to energy efficiency investments. Through projects like **ENPOR, REVERTER, SAVE 2023** Greece has shown a dedicated effort to address energy poverty in the private sector, and in addition, provided training and advisory for tenants and landlords and established on-site and digital **One-Stop-Shop (OSS). ELECTRA** supported ESCOs in public buildings, and **Save-Renovate, Exoikonomo-Epicheiro** encouraged incentives and policy recommendations from citizens to construction sector. **PROPEL** project aimed to provide "one-size-fits-all" solution for EE beneficiaries' sale, contracting, financing and project development from. Greece's participation in the **SEIF forum** underscores a commitment to energy efficiency discussions and collaborative efforts at the European level.

Romania (RO) engagement in EU initiatives and projects underscores its commitment to improving energy efficiency and financing building renovations. Notably, its participation in the **OUR-CEE, RENOCALLY, EPBD.wise**, and **nZEB Ready** projects highlights its focus on deep renovation, financing schemes, and promoting nearly zero-energy buildings. National digital register of buildings, and national initiatives for **One-Stop-Shop (OSS),** encouraged new tools in favour of buildings renovation**.** Additionally, through the **CEESEN-BENDER** project, Romania addresses energy poverty and enhances energy efficiency in multi-apartment buildings, aligning with its national strategy to support vulnerable homeowners and renters. This involvement is crucial for fostering capacity building and ensuring the effective implementation of energy efficiency measures nationwide.

Slovenia (SI) did not participate in SMAFIN but acts as a project partner in **MESTRI-CE** and **RENOINVEST** projects, emphasizing deep energy renovation, **sustainable investments**, **data management, technical and economic assessment, forecasting, reporting** and the development of **building standards and tools.** The active participation in the **SEIF forum** underscores its commitment to national energy efficiency discussions and European-level collaboration. Furthermore, Slovenia's efforts in formulating strategic action plans and organizing national roundtables are key in enhancing smart investments within the building sector and encouraging stakeholders and cross-border collaboration.

4. ANNEX 1: INVENTORY OF EU AND NATIONAL ENERGY EFFICIENCY AND SUSTAINABLE FINANCE PROJECTS AND INITIATIVES

The detailed analysis of SMAFIN Expanded relevant EU and national projects and initiatives, presented, and summarized in Chapter 3, has been recorded in the tables below. These tables include a market assessment of each project's status, key topics, consortium countries, potential relevance to SMAFIN Expanded, and influence on energy efficiency (EE) goals.

Table 6: MARKET ASSESSMENT ON EE PROJECTS AND INITIATIVES

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
MESTRI-CE	**Yes**	REGEA, Croatia	**EU**	Interreg Central Europe	HR, SI, AT, IT, DE, PL	deep energy renovation, construction buildings, building standards, socioeconomic assessments, citizens, sustainable investments, green financing	Energy agencies, Public authorities, SMEs, Financial institutions, Citizens	MESTRI-CE is developing a methodology to support the transposition of new EU requirements for each element in the buildings (re)construction investment process: building standards and tools, data management, technical and economic assessment, underwriting processes, forecasting savings potential, measurement, verification, and reporting.	Green-Sustainable financing	MESTRI-CE
ORFEE	**Yes**	Energies Demain	**EU**	Horizon 2020	FR, ES	One-Stop-Shop, financing schemes, platform, homeowners, business models	SMEs, Citizens, Financial institutions	ORFEE is designed as a shared resource platform for third-party financing companies acting as One-Stop-Shops. ORFEE has three primary objectives: 1) Support households in implementing energy-efficient renovations, 2) Accelerate the financing process for these renovations, and 3) Provide a robust third-party financing solution to facilitate these improvements.	One-Stop-Shop	ORFEE
RENOINVEST	**Yes**	EMI Epitesugyi Minosegellenorzo Innovacios Nonprofit Kft	**EU**	Life 2022	AT, HU, SI	cross-border cooperation, action plan, Roundtables, building renovation, sustainable investments, financing schemes	Energy agencies, Public authorities, SMEs, Financial institutions, Citizens	RENOINVEST aims to tackle sustainable building renovation challenges, develop action plans, facilitate dialogue and collaboration and leverage investments in three Central European countries with shared historical, economic, and construction industry traits.	Cross-border cooperation, Roundtables	RENO INVEST
CEESEN-BENDER	**Yes**	DOOR – Croatia	**EU**	Life 2022	HR, EE, RO, DE, PL	energy poverty, multiapartment buildings, private buildings, capacity building, public administrators, CEE, SECAPs	Citizens, Energy Sector, Building Sector	Empower and support vulnerable homeowners and renters living in Soviet-era multiapartment buildings in 5 CEE countries. 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.	Energy poverty, Homeowners, Multiapartment buildings	CEESEN-BENDER
EEFIG - Energy Efficiency Financial Institutions Group	**Yes**	Managed by unit B2 in DG Energy.	**Global**	N/A	All EU	DEEP – energy efficiency platform, EEEFC, sustainable investments, financing schemes, ESG, EU Taxonomy,	Financial institutions	EEFIG serves as a joint platform for cooperation and dialogue with financial institutions on energy efficiency and provides the Commission with concrete studies and recommendations on the way forward for energy efficiency financing.	EE initiative for the financial sector	EEFIG
EEEFC - European Energy Efficiency Financing Coalition	**Yes**	Managed by unit B2 in DG Energy.	**EU**	N/A	All EU	European Commission, public authorities, and stakeholders in the energy efficiency financing sector, SEIF	high-level representatives from all Coalition members, expert groups, national hubs	The Coalition builds on the Energy Efficiency Financial Institutions Group (EEFIG), initiated in 2013 by the Commission and UNEP FI, which provided key insights on energy efficiency financing. With UNEP FI as a continuing partner, the Coalition aims to strengthen collaboration among the European Commission, public authorities, and stakeholders to enhance the market for energy efficiency investments. This effort supports the mobilization of private	EU initiative for financial sector and national authorities	EEEFC

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
								funding to meet the EU's 2030 and 2050 energy and climate targets.		
Working Group for Sustainable Financing	Yes	MINFIN	**National**	N/A	HR	ESG, EU Taxonomy, climate-related risks, supervision of FI, sustainable and green investments, carbon footprint, employees education, citizens engagement	Financial institutions, Policy Makers and Public Authorities, SME's, Energy Sector	The Working Group for Sustainable Financing Support, launched on October 24, 2023, by Croatia's Ministry of Finance, focuses on integrating sustainable business practices into the national financial sector. The group gathers members from government, academia, the financial sector, and regulatory bodies and aims to steer Croatia's financial landscape towards greater sustainability. The goal is to create the Sustainable Finance Forum, a centralized platform for coordination and support in sustainable financing across the country.	National initiative for financial sector and national authorities	MINFIN
Climate Strategy of the Croatian National Bank	Yes	HNB	**National**	N/A	HR	ESG, EU Taxonomy, climate-related risks, financial sector supervision, sustainable investments, carbon footprint, employees education, citizens	Financial institutions	The Croatian National Bank (HNB) has launched a climate strategy to integrate climate considerations into its operations and policies. This reflects its commitment to combating climate change and aligning with sustainability principles. The strategy focuses on integrating climate factors into monetary policy, risk management, and operations, while also addressing the financial sector's role in managing climate risks.	National initiative for financial sector and national authorities	HNB
SCALE-UP fi-compass initiative	Yes	DG REGIO and EIB Advisory	**EU**	N/A	EU	Managing authorities, national promotional banks and institutions (NPBIs), financial sector, European Commission, EIB Group	Financial institutions, Public authorities	The Scale-Up initiative, part of Fi-compass, aims to tackle barriers in financial instrument implementation by gathering key stakeholders. Starting in April 2024, experts over 18 months will propose solutions, regulatory recommendations, and operational solutions grounded in EU best practices, with ongoing updates to the fi-compass community. Key goals include addressing challenges in energy efficiency financing, aligning with green investment criteria, and navigating state aid rules. The initiative also seeks to boost awareness and utilization of financial instruments through enhanced marketing and incentives.	EU initiative for financial sector and national authorities	SCALE UP FI-COMPASS
EIB Group Climate Bank Roadmap 2021-2025, EIB Climate Strategy	Yes	EIB Group	**EU**	N/A	EU	Sustainable investments. financing schemes, EU Taxonomy, ESG principles	Financial institutions, SMEs, Large Caps	EIB Group is already one of the largest financiers of climate action projects in the world, supporting additional green investments. Strategy targets: building greater resilience to climate change, making homes energy-efficient (loans or guarantees via partner financial institutions), technical assistance and advisory services.	Green deal financing strategy	EIB CLIMATE STRATEGY
National Energy Efficiency Portal-ENU	Yes	MINGOR, Croatia	**National**	N/A	HR	Platform for energy efficiency	Energy agencies, Public authorities, SMEs, Financial institutions, Citizens	The competent ministries and the National Coordinating Body (NKT) are obligated to establish and run an energy efficiency platform - National Energy Efficiency Portal: https://www.enu.hr/.	EE digital solutions	ENU
ENPOR	No	Institute for European Energy and Climate Policy (IEENCP)	**EU**	Horizon 2020	NL, DE, UK, GR, HR, IT, EE, AT, BE	Households, energy poverty	Citizens	Policy fiche for alleviating energy poverty in the private rented sector, address energy poverty in the private rented sector	Energy poverty, homeowners, multiapartment buildings	https://enpor.eu/

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
REVERTER	Yes	Prof. Dimitris Damigos from the National Technical University of Athens	**EU**	LIFE	BG, GR, LT PT	Households, energy poverty	Citizens	Providing tenants or landlords with comprehensive information and realistic building renovation solutions. The consortium will perform a detailed analysis of the characteristics of energy poverty in 4 pilots to provide realistic solutions adapted to the needs and possibilities of the households. As a result, 9 roadmaps will be developed. REVERTER will implement community engagement campaigns, and trainings and will advise households on improvement of their levels of comfort or reduction of energy costs. The consortium will establish on-site and digital One-Stop-Shops in all pilots Implemented.	Energy poverty, homeowners, multiapartment buildings	REVERTERHUB
ESI 2.0	Yes	Basel Agency for Sustainable Energy, Switzerland www.energy-base.org	**EU**	Horizon 2020	CH, HR, GR, SK	SMEs, energy efficiency investments, de-risking mechanism	Enterprises with a focus on SMEs	Energy Savings Insurance is an innovative business model that de-risks investments in energy efficiency by building trust in the long-term financial benefits of high-performance appliances. By using the GoSafe with ESI solution, energy savings are guaranteed, and businesses are backed up through the Energy Savings Insurance on their expected financial returns. This solution is made possible through the combination of different elements including a standardized contract, an insurance product, a technical validation process, and access to financing through local partnering banks.	Risk management	www.esi-europe.org www.gosafe-esi.com
LEVEL EEI	No	2 Investing initiative Deutschland EV	**EU**	Horizon 2020	FR, DE, NL, BE	Sustainable investment, policy,	Energy agencies, Public authorities, SMEs, Financial institutions, Citizens	The High-Level Expert Forum for Sustainable Finance (HLEF) supervises the EU-funded LEVEL EEI project, which aims to address the finance gap in Energy Efficiency (EE) and Sustainable Energy (SE) investments. Through behavioural science experiments and surveys conducted in 8 countries, the project assesses end-users' demand for environmental products and evaluates the compliance of green marketing claims. It also develops tools and frameworks to facilitate the deployment of environmental financial solutions across Europe, integrate environmental objectives into institutional investor strategies and increase investments in EE/SE in the real economy.	EE investments	Home - LEVEL-EEI.EU
PROPEL	No	JOULE ASSETS EUROPE GROUP SRL, Italy	**EU**	Horizon 2020	IT, NL, LU, GR	Sustainable Energy Finance Association (SEFA), LAUNCH H2020 platform, financing schemes, standardized contracts, capacity building	Energy agencies, Public authorities, SMEs, Financial institutions, Citizens	PROPEL aims to streamline energy efficiency initiatives by developing an end-to-end service package for their development, sale, contracting, and financing at scale. This includes standardized materials such as loan applications and Know Your Customer (KYC) guidelines, an Environmental, Social, and Governance (ESG) module, an EEaaS contract, Risk Assessment, Sales and Marketing collateral and standardized contract signature authentication. These resources will be utilized by the entire energy efficiency market value chain through the Capacity Building Programme.	One-Stop-Shop, EE investments, EE Smart contracts	PROPEL
CITIZEE	No	Wirtschaft und Infrastruktur GMBH & CO	**EU**	Horizon 2020	DE, BE, PT, HR, LT	Energy Efficiency Investments, Standardising Citizen Financing Schemes	Energy agencies, Public authorities, SMEs, Financial institutions, Citizens	The CitizEE project aims to boost energy efficiency investments in the building sector by mobilizing private funds from citizens. It introduces national or regional Investment Platforms (IPs) backed by the European Fund for	Innovative financing schemes, homeowners, multi-apartment buildings	CitizEE

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
		Planungs, Germany						Strategic Investment, acting as facilitators for public and private financing from various investors. These IPs engage citizens, associations, and the business sector. The project has developed tools and reports, including a Map of financial solutions for Citizen Financing Schemes (CFs4EE), an Evaluation and Action Plan Report, and a Simulation tool for pilot projects. These resources assist CitizEE Pilot Regions, like Croatia, in selecting suitable Public Financing Instruments (PFIs) to support the development of CFs4EE Financing Schemes for Energy Efficient Buildings.		
EUROPACE	No	Centrum Analiz Społeczno-Ekonomicznych, Poland	**EU**	Horizon 2020	ES, PL, FI, IT, UK, BE	Tax incentives, financing schemes, technical assistance, standardized documentation	Citizens	The project aims to create a scalable financing mechanism, inspired by the successful US PACE scheme, to promote the adoption of energy-saving and generation technologies in European households. EuroPACE will tackle key challenges in energy efficiency investment by (1) Introducing a Market-Based Approach: Private capital will provide upfront financing to homeowners, reducing dependence on grants and subsidies; (2) Mitigating Investment Risks: Long-term repayment obligations will be linked to properties rather than owners, with municipalities collecting repayments via a special levy added to property tax bills.	Innovative financing schemes, homeowners, multi-apartment buildings	Europace - GNE Finance
EEnvest	No	Accademia Europea di Bolzano - EURAC, Italy	**EU**	Horizon 2020	IT, ES, BE, UK, FR	Risk management, models, tools and methodologies, Energy Efficiency Investments, mobilizing investments	Investors	To support investor decision-making, the EU-funded EENVEST project will convert buildings' energy-efficiency technical requirements into economic indicators for use in assessing financial risks related to deep renovation investment. Through a search and match investment evaluation web-based platform, the finance industry will be able to match energy efficiency investment demand and offer for Italy and Spain’s commercial office buildings. In addition to evaluation methods for linking technical and financial risk, the project will identify, quantify and mitigate technical risks connected with such investments	Innovative financing schemes, Risk management	EEnvest
En-Track	Yes	Centre Internacional de Metodes Numerics en Enginyeria, Spain	**EU**	Horizon 2020	ES, BG, UK, IT, BE, DK, NO	Energy efficiency performance, tool, digital platform, statistical data, cost savings	Investors, Financial institutions, Fund managers, Investment funds	EN-TRACK project is developing a unified platform for integrating building energy efficiency data and tools like DEEP and eQuad. This platform supports refurbishment decisions and promotes data sharing among public building owners for benchmarking. It aims to ensure compatibility with existing European databases and aligns with international standards like the US BEDES ecosystem. EN-TRACK also provides key financial and energy performance indicators for buildings, crucial for financial institutions to use in benchmarking and analysis.	One-Stop-Shop, EE database and platform, Risk management	EN-TRACK
BeSMART	No	FONDATSIYA TSENTAR ZA ENERGIYNA EFEKTIVNOST - ENEFEKT, Bulgaria	**National**	Horizon 2020	BG	Roundtables, financing schemes, capacity building, sustainable financing of EE and RES	Energy agencies, Public authorities, Construction sector, EE experts, SMEs, Financial institutions, Citizens	BeSMART project will create a discussion forum and nine Roundtables engaging public authorities, energy efficiency experts, the financial and construction sectors, energy service companies, SMEs and homeowners to support new business models and smart financing	Cross-border cooperation, Roundtables	BeSMART

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
OUR-CEE	Yes	Energy Policy Group (EPG)	EU	EUKI	HR, BG, RO, PL	Supporting deep renovation of public buildings	Policy makers, Public authorities, EE experts	OUR-CEE aims to identify the reasons behind underperforming renovations of public buildings and build capacity in relevant public institutions, both for upgrading these renovations and for avoiding these issues in the future. It will also pilot renovation roadmaps, including financing plans, for several public buildings in the project countries, and promote knowledge exchange with ongoing projects and between partner countries.	Deep renovation, Public buildings	OUR-CEE
SHEERenov+	Yes	FONDATSIYA TSENTAR ZA ENERGIYNA EFEKTIVNOST - ENEFEKT, Bulgaria	National	LIFE	BG	Establishment of One-Stop-Shops, supporting the renovation of multi-family residential buildings in Bulgaria	Policy makers, Public authorities, EE experts, Citizens, Financial institutions, Energy agencies, Construction sector	The project aims to trigger a significant upscale of the energy renovation in the Bulgarian residential sector, through developing a network of business model OSSs, positioned on municipal level and offering services through the entire value chain.	Deep renovation, Residential buildings	SHEERenov+
National Digital Register of Buildings	Yes	Ministry of Development, Public Works and Administration	**National**	Recovery and Resilience Facility (RRF)	RO	Energy performance of buildings, tool, digital platform, monitoring of energy efficiency financing programs	Central and Local Authorities, Regional development agencies, building owners, energy auditors for buildings, financial institutions, real estate agents, notaries, designers, and other experts	The National Digital Register of Buildings is part of Component 5 of the National Resilience and Recovery Plan (Renovation Wave). A pilot section will be developed by the end of 2024. This IT system will complement the INSPIRE Geoportal, georeferenced, and interoperable with local and national databases. The pilot will include data on NPRR-renovated buildings to monitor energy consumption. The building renovation passport will detail all energy-related interventions.	One-stop-shop, financing programs monitoring, EnPC database and platform, Renovation passport	N/A
ONE-STOP-SHOPS (NRRP)	Yes	Ministry of Development, Public Works and Administration	**National**	Recovery and Resilience Facility (RRF) - component 16: REPOWER EU	RO	One-stop-shops, Financing EE and RES, vouchers, energy poverty	County and local authorities, citizens, vulnerable households	The implementation of this reform involves three steps. First, a legal framework will be developed to encourage OSS at the national level and align it with renewable energy laws. Second, legal requirements will mandate cooperation with OSS to reduce approval times for authorities and entities. Finally, 42 OSSs will be established to provide energy advisory services, with training for OSS employees.	One-stop-shop, financing mechanisms	N/A
Green bond framework	Yes	Ministry of Finance	**National**	N/A	RO	Green financing framework as part of its strategy to reduce greenhouse gas emissions, focusing on environmental protection and climate change mitigation	Investors	The green financing framework prioritizes energy efficiency and green building projects. For energy efficiency, the eligible investments include infrastructure improvements to lower energy consumption below national averages, along with the development and implementation of technologies for enhanced lighting, heating, cooling, smart grids, heat recovery, and the conversion of thermal power plants.	Green finance, green buildings, energy efficiency, renewable energy, nZEB plus	Green Bonds Framework
EPBD.wise	Yes	TU WIEN	**EU**	LIFE	BG, EL, HU, PL, RO, UA	Zero-emission building standard, national building renovation plans, renovation passports, energy performance certificates, and minimum energy performance standards	Public and local authorities, Energy agencies	The project targets public authorities in six (6) European countries to ensure buildings meet climate goals. EPBD.wise will support these authorities in designing, implementing, and evaluating new measures from the EPBD revision, such as zero-emission building standards, renovation plans, renovation passports, energy performance certificates, and minimum energy performance standards. It will also create a replicable model for Europe-wide implementation and	Design of new policies and instruments, measure effectiveness, roundtables	EPBD.wise

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
								develop guidelines for policy design, effectiveness measurement, and adjustment to EU and national objectives.		
RENOCALLY	Yes	Buildings Performance Institute Europe ASBL (BPIE)	**EU**	European Climate Initiative (EUKI)	BG, RO, SK	Buildings, Climate Strategies and Plans, Energy Poverty, Energy Transition and Climate-Neutral Buildings, financing schemes, buildings deep renovation, revised EPBD implementation	Municipalities	The project helps partners countries to decarbonize buildings cost-efficiently and align with EU policy. It trains local authorities on financing and developing Building Renovation Plans (BRPs), aiming for 20 BRPs and 15 finance strategies. In Romania and Bulgaria, meetings discuss training outcomes with municipal staff. In Slovakia, results are reviewed in a roundtable with public authorities. Good practices are shared in a cross-country roundtable and a Western Balkans webinar. Results will be presented at EU policy and research conferences.	Building Renovation passports, Technical Assistance, financing, policy implementation, capacity building	Renocally
The NZEB ROADSHOW	No	ENEFEKT, Bulgaria	**EU**	Horizon 2020	BG, EL, HR, IT, RO	At the nZEB Roadshow, you will learn everything you need to know about nearly zero energy buildings	Construction sector and suppliers, Professional chambers, Public authorities, Citizens, Education institutions, Real estate, Financial institutions	The nZEB Roadshow project, building on European initiatives like the Building Knowledge Hub, focuses on a marketing campaign that engages stakeholders through on-ground "nZEB Days," featuring various events and activities. Initially, the project involved designing and constructing mobile demonstration units, such as the Croatian-developed mobile nZEB house. These events, held in public spaces, include exhibitions, practical demonstrations, training sessions, and job fairs, primarily supporting local SMEs.	One-stop-shop, nZEB days, roundtables	The nZEB Roadshow
nZEB Ready	Yes	INCD URBAN-INCERC	**EU**	Horizon 2020	BG, HR, PL, PT, RO	Building market readiness for nearly zero-energy buildings targets	Construction sector and suppliers, Professional chambers, Public authorities, Citizens, Education institutions, Real estate, Financial institutions	The EU's Energy Performance of Buildings Directive requires all new buildings to be nearly zero-energy buildings (nZEB). However, large-scale adoption is challenging due to high costs and skills gaps. The EU-funded nZEB Ready project aims to increase market readiness for nZEB in Bulgaria, Croatia, Portugal, Poland, and Romania. It addresses barriers, enhances skills through a mutual recognition training and certification scheme, and raises awareness about the benefits of nZEB.	One-stop-shop, renovation at nZEB levels, roundtables, Public procurement	About Us – nZEB Ready
Save 2023	No	Ministry for Environment and Energy	**National**	N/A	GR	Energy upgrade, energy poverty, investments, households	Energy Agencies, Construction sector, EE experts, Financial institutions, Citizens	Incentives for energy-saving interventions in the domestic building sector to reduce energy needs and consumption of conventional fuels. It includes special incentives for energy-poor and vulnerable households.	incentives, policy recommendations, financing	Save2023
Save-Renovate	No	Ministry for Environment and Energy	**National**	N/A	GR	Energy upgrade, young, investments, households	Energy Agencies, Construction sector, EE experts, Financial institutions, Citizens	It offers incentives for energy-saving interventions and complementary aesthetic and functional renovations for young people aged 18-39. The "SAVING" branch is financed by TAA (€200M), while the "Renovate" branch is funded by the National PDE and DYPA resources (€100M).	incentives, policy recommendations, financing	SaveRenovate
ELECTRA	No	Ministry for Environment and Energy	**National**	N/A	GR	Energy upgrade, Public, investments,	Public authorities, ESCOs, Financial institutions.	The "ELECTRA" program finances energy upgrades in public sector buildings, with participation from Energy Service Companies (ESCOs).	incentives, policy recommendations, financing	hlektra.gov.gr
Exoikonomo-Epicheiro	No	Ministry for Environment and Energy	**National**	N/A	GR	Energy upgrade, SME, investments, tourism	Construction sector, EE experts, SMEs, Financial institutions	Integrated energy efficiency interventions in the tertiary sector and tourism	incentives, policy recommendations, financing, tertiary sector	exoikonomo epixeiro

Name of the project	On-going	Coordinator	EU/ National project	EU programme	Involved countries	Key topics	Key beneficiaries	Short summary (English)	Relevance to SMAFIN Expanded	Link
Change equipment for businesses	No	Ministry for Environment and Energy	**National**	N/A	GR	Energy upgrade, SME, investments, tourism	Construction sector, EE experts, SMEs, Financial institutions	Installation of energy-efficient equipment	incentives, policy recommendations, financing, tertiary sector	exoikonomo epixeiro2023
LIFE CARE FOR CLIMATE	Yes	Ministry for Environment, Climate and Energy	**National**	LIFE	SI	Renovations financial plan, financial instruments	Apartment owners (clients), financial institutions, energy efficiency services providers	The project, spanning from 2019 to 2026 is developing and testing three pilot financial instruments to stimulate investments in comprehensive and sustainable energy renovations of multi-apartment buildings.	smart energy efficiency investments financing	LIFE IP CARE4CLIMATE