



Selection of energy efficiency policy measures to be redesigned

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The Report at a Glance

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Contents

1	Abstract.....	1
2	Introduction.....	3
2.1	SMAFIN Project	3
2.2	Purpose of national energy efficiency policies review	3
3	Energy efficiency policy review	4
3.1	Bulgaria	4
3.2	Croatia	9
3.3	Greece	13
3.4	Romania.....	17

List of abbreviations and acronyms

Abbreviation	Full name
EASME	Executive Agency for Small and Medium-sized Enterprises
EC	European Commission
EED	Energy Efficiency Directive 2018/2002
EPBD	Energy Performance of Buildings Directive 2018/844/EU
EPC	Energy Performance Contracting
ESCO	Energy service company
ESI Funds	European structural and investment funds
ISGE	Energy Management Information System
LTRS	Long-Term Renovation Strategy
NECP	National Energy and Climate Plans
nZEB	Nearly Zero Energy Building
OG	Official Gazette
PPP	Public-Private Partnership
RES	Renewable energy sources
SEIF	Sustainable Energy Investment Forum
SME	Small and medium enterprises





1 ABSTRACT

Energy efficiency is one of the cornerstones of the EU Energy and Climate policy, as well as one of the five dimensions of the Energy Union¹ and as it is mentioned in the Energy Union document, improved energy efficiency will reduce dependence on energy imports, lower emissions, and drive jobs and growth. To further emphasise the importance of energy efficiency in achieving EU's goals and ambitions, the Energy Efficiency Directive (EED) was adopted back in 2012 and since then underwent review in 2018. The EED is strongly interlinked with other key instruments of the EU energy efficiency policy framework, such as the Energy Performance of Buildings Directive 2018/844/EU (EPBD).

The amended EED entered into force in 2018 and Member States should have transposed it into national law by June 2020 with exceptions for metering and billing provisions. The European Commission submitted a report on the assessment of the progress made by Member States towards the implementation of the EED. Concentrating to the four countries of the SMAFIN consortium: Bulgaria, Croatia, Greece, and Romania, it is spotted that all four countries are unlikely to achieve set targets for energy savings by way of an energy efficiency obligation scheme.

In this document SMAFIN consortium partners reviewed the existing measures and programmes related to energy renovations and proposed suggestions for increasing the likelihood of reaching set targets. Partners will use this initial overview to prepare roundtable discussion topics, as well as to further work on the suggestions with the support of the members of the Working Groups that have been established in each country participating in the project.

The table below summarises the suggested activities in each country which can boost the possibility to fulfil national obligations to achieve energy savings.

 BULGARIA	 CROATIA
<ol style="list-style-type: none"> 1. Re-design of operational programmes 2. Analysis and awareness raising on non-financial benefits of energy efficiency 3. Re-design of the national programme for energy efficiency of the multifamily residential buildings 4. ESCO market development 5. Establishing energy management systems at municipal level 6. Policies for mitigation of energy poverty 	<ol style="list-style-type: none"> 1. Introduction of the obligation of nZEB or green deal standard in reconstruction 2. Initialisation of national one-stop-shop for public buildings, multi-apartment buildings, family houses and industry 3. Standardised documentation 4. Energy management in the public sector 5. EU Taxonomy implementation
 GREECE	 ROMANIA

¹ European Commission, DG Energy, Energy Union. Available at: https://ec.europa.eu/energy/topics/energy-strategy/energy-union_en

<ol style="list-style-type: none"> 1. Financing the renovation of public buildings 2. Smart financing for the residential buildings programmes 3. Financial mechanisms for buildings of the tertiary sector (energy efficiency auctions and obligation schemes) 4. Energy audits in the industrial sector 5. Smart financing and EU taxonomy 	<ol style="list-style-type: none"> 1. A new architecture of the Operational Programmes 2021-2027 prioritising energy efficiency for sustainable development 2. Improvement of the national programme for energy efficiency of the multifamily residential buildings 3. Supporting raising awareness among stakeholders on non-financial benefits of energy efficiency 4. ESCO market development 5. Opportunity of establishing a National EE Fund 6. Establishing energy management systems at municipal level 7. Policies for mitigation of energy poverty
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TABLE 1 SUMMARY OF PROPOSED ACTIVITIES ON NATIONAL LEVEL

2 INTRODUCTION

2.1 SMAFIN Project

The concept of SMAFIN project relies on the creation of permanent discussion forums on energy efficiency investment topics in order to advance cross-fertilisation between government, local and regional authorities, energy service companies (ESCOs), stakeholders from financial, construction, industry, and small and medium enterprises (SMEs) sectors. The formation of the forums will contribute to setting up the prosperous ground for constructive dialogue, upscaling existing best practices at national and European levels and further developing energy policy frameworks and measures with a focus on the creation of new market initiatives.

SMAFIN project objective is to create a complete roundtable methodology and implement it in the four participating countries - Bulgaria, Croatia, Greece, and Romania - for enabling smart financing of energy efficiency renovations, mainly in buildings, involving stakeholders of political, financing, public, enterprise and academic sectors. Foundation for roundtables and roundtable methodology are the findings collected by project partners in policy analysis and market assessment in their countries. Project partners will record the necessary framework information in each country and explore relevant initiatives to build on them. Researching regulatory and legislative framework will allow the identification of policies with potential to leverage bigger amounts of private funding and those with potential to initiate large scale EE interventions. Such activities will include assessing the barriers and the challenges that hinder the effective implementation of energy efficient policies and the realisation of large-scale investments, gathering EU and national investment frames and regulations, financial models, initiatives such sustainable energy investment forums and their results.

2.2 Purpose of national energy efficiency policies review

Policy making is a repetitive process and as unlocking private financing for energy efficiency investments is still a challenge that many countries face, the continuation of the dialogue is essential for new policy and financial instruments to be holistically designed. Therefore, SMAFIN will support the concept of the permanent establishment of Sustainable Energy Investment Forums that result in concrete outputs and effectively connect the energy, policy, and financial sector in the target countries. This concept will contribute to connecting stakeholders in order to meet the EU's climate and energy goals for 2030 by making energy efficiency attractive for investors and boosting large-scale sustainable energy investments and financing.

Aim of this deliverable is to review existing energy efficiency policies and reports on the level of implementation of Energy Efficiency Directive 2018/2002 (EED) and Energy Performance of Buildings Directive 2018/844/EU (EPBD) at national levels, as well as to review the measures integrated in National Energy and Climate Plans. Based on these reviews and the expected likelihood of achieving energy savings, existing measures and programmes related to energy renovations in each of the four consortium countries will be evaluated and modification suggestions will be proposed. Measures will be classified based on the potential for deeper energy efficiency interventions on larger scale and leverage of bigger amounts of private funding. The initial overview and the selection of policy measures will be further elaborated by SMAFIN working groups and refined during the round tables discussions.

3 ENERGY EFFICIENCY POLICY REVIEW

3.1 Bulgaria

Summary of progress report towards the implementation of the EED and EPBD

According to the requirements laid down in the Bulgarian Energy Efficiency Act and the provisions of EED and EPBD the following strategic documents have been developed and are currently being implemented:

- National Energy Efficiency Action Plan 2014–2020,
- National Plan for nearly zero-energy buildings 2015–2020,
- National plan for improving the energy performance of heated and/or cooled State-owned buildings occupied by the public administration,
- National long-term programme to promote investments in the implementation of measures improving the energy performance of buildings of the public and private national residential and commercial building stock,
- Long-term strategy for support of the renovation of the national residential and non-residential building stock until 2050,
- National Climate and Energy Plan 2021 - 2030.

In addition to the above, the National Recovery and Resilience Plan is under development now and is another document that will shape the Bulgarian energy efficiency policies in the near future. Although the National Recovery and Resilience Plan was supposed to be submitted by the end of the April, due to the political circumstances in the country, the deadline for submission was extended and the plan is still under development.

The assessment conducted by the European Commission on the progress made by Member States towards the implementation of the EED and the EPBD, pointed out that Bulgaria is unlikely to achieve the required amount of energy savings by 31 December 2020 unless additional actions are not undertaken.

The objective of the Bulgarian National Climate and Energy Plan (NECP) regarding the Energy Efficiency Directive is to achieve a reduction of 27,89% for primary energy and 31,67% for final energy consumption by 2030. In line with Article 7 of EED, the plan has a focus on alternative policy measures to promote energy efficiency. Such measures include financial incentives for implementing energy efficiency projects, the promotion of energy performance contracting, and the renovation of the existing building stock with a view to increasing the number of nearly zero-energy buildings.

In the building sector, the plan lists the existing measures that will continue after 2021:

- Central and local government energy efficiency improvement programmes and energy efficiency management in public buildings,
- National Programme for Energy Efficiency of Multifamily Residential Buildings,
- Support gasification of the Bulgarian households - DESSIREE GAS Project,
- Residential Energy Efficiency Credit Line Programme (REECL).

Although the NECP envisages that these measures will continue beyond 2021, it is still unclear whether this is possible and how they will be adapted to reduce the percentage of grant financing and attract alternative funding. Furthermore, there are no indications from EBRD that resources will be provided for the continuation of REECL facility.

According to the NECP, significant resources will be provided for financing energy efficiency. Two policy measures are taken into consideration:

- The Operational Programmes co-financed by the European Union through the European Regional Development Fund and Bulgaria’s national budget. The estimated budget is BGN 1.398 million (EUR 714.786) and the grant assistance intensity is between 50% and 100%.
- National mechanism for financing energy efficiency that envisages financing through different mechanisms and financial instruments, including credit lines, guarantees or combinations of the two, etc. The mechanism also foresees technical assistance for the implementation of energy efficiency projects. The necessary financing will be provided from different sources, including the European Structural and Investment Funds, the European Investment Bank, the European Bank for Reconstruction and Development, the Just Transition Fund, Invest EU, etc. The estimated budget is BGN 7.800 million (EUR 3.988 million).

At this stage, it is not clear how this mechanism will cooperate with the Decarbonisation Fund mentioned on later stage in the Long-Term Renovation Strategy (LTRS).

Quite general information about the promotion of energy performance contracting is included in the plan without a clear identification of the measures to be applied in the planning period.

The LTRS also envisages measures for implementation of nZEB, improving the energy performance of existing buildings, and promoting the introduction of smart technologies in the building sector. Bulgaria intends to go beyond the 3% annual renovation target enshrined in EU legislation and take measures to improve the energy performance of at least 5% of the total gross floor area of all heated and cooled state-owned buildings used by the public administration. However, until now the renovation of these buildings is far from what is expected by the Commission and stated in the NECP: “public authorities at national, regional and local level should lead by example in the area of energy efficiency”, as most of the renovated buildings reach energy class C and rarely energy class B, that demonstrates focus on quantity but not quality.

Activities which could be implemented to improve energy efficiency financing are given below.

RE-DESIGN OF OPERATIONAL PROGRAMMES

The Operational Programmes are the main driving force of the renovation process of the Bulgarian public building stock. The grant intensity is between 50% and 100% without considering the financial parameters of the projects. The most economically feasible projects are prioritised.

Suggestion

The Operational Programmes should target the utilisation of the leverage potential of the public resources. Grants should be provided only to those who really require additional support, and this should be taken into consideration by the fund managing authorities for the forthcoming EU funding period. Involvement of the financial sector, NGOs, and other stakeholders in the development of the Operational Programmes for the next funding period 2021-2027 is a must. Sectors that need grant support, those that can use a mix of grants and financial instruments, and sectors that can be funded entirely by private finance, should be identified in order to demonstrate that in most cases financing energy

efficiency is possible with market-based schemes.

ANALYSIS AND AWARENESS RAISING ON NON-FINANCIAL BENEFITS OF ENERGY EFFICIENCY

There is a lack of understanding of the non-financial benefits (comfort, social implications, health, etc.) in all stakeholders, and this is considered as a barrier for the large-scale renovation of the building stock.

Suggestion

Non-financial benefits should be analysed and promoted to all stakeholders, especially to the households, which are among the significant driving forces behind the improvement of buildings energy efficiency. Unfortunately, the measures applied by private individuals are rather unambitious, leading to a reduction in energy consumption, but without achieving optimal levels of energy efficiency comfort.

RE-DESIGN OF THE NATIONAL PROGRAMME FOR ENERGY EFFICIENCY OF THE MULTIFAMILY RESIDENTIAL BUILDINGS

The building renovation process in Bulgaria steps on a grant-based market. Public authorities and homeowners are used to receiving funding for the improvement of buildings elements. The 1st phase of the National Programme for Energy Efficiency of the Multifamily Residential Buildings was based on two main principles - 100% grant financing for the households, and renovation to energy class C. Based on that, it was with a limited effect over the residential building stock, and definitely not sustainable. 1 billion euro of public financing spent for the renovation of about 2.000 private buildings is exactly the opposite of what EPBD is targeting.

Suggestion

The development of integrated strategies that can attract funding is crucial for changing the status quo. Financial resources and capacity building are needed to elaborate analysis and for the development of policies to attract private funding. Reducing the grant component and more ambitious requirements for energy efficiency levels are required. However, changing only the conditions of the Programme may lead to unsuccessful second phase as the beneficiaries may lose interest in participating. This risk can be mitigated through supporting communication and behaviour change campaign to engage the private building owners in the building renovation process.

ESCO MARKET DEVELOPMENT

The findings of the SEIF events in Bulgaria were not promising for the ESCO market development. In fact, the ESCO market has been declining over the last ten years.

Suggestion

Both changes in legislation and promotion of ESCO are required. The benefits of the EPC should be clearly demonstrated to all stakeholders. The project developers, the financial institutions and the building owners need a common language in communication. ESCO contracts templates should be elaborated to support the private sector, raise confidence

in the stakeholders, and lower the cost for project development.

ESTABLISHING ENERGY MANAGEMENT SYSTEMS AT MUNICIPAL LEVEL

Although it is required by the Bulgarian Energy Efficiency Act, municipal energy planning needs improvement. In most cases, municipal energy plans are general documents without measurable targets. One of the main reasons for this is the lack of statistical data about the actual energy consumption within the municipalities and the condition of the building stock.

Suggestion

Energy management on municipal level should be stimulated either through financing implementation of instruments for energy planning (i.e., ISO 50001, European Energy Awards, etc.) or through provision of funding only for municipalities that have implemented energy management systems.

POLICIES FOR MITIGATION OF ENERGY POVERTY

Currently, energy subsidies are provided for low-income households. These subsidies cover part of the households' energy demand but cannot be defined as a sustainable measures.

Suggestion

National definition for energy poverty is needed in order to shape the future policies mitigating the energy poverty not through provision of energy subsidies but through supporting implementation of energy measures to reduce the energy needs and improve the comfort and healthy environment of the households

Suggestions made by the Working Group members

The 1st Working Group Meeting of the SMAFIN project in Bulgaria took place online on April 16th, 2021 and was attended by 17 attendees, representing 10 key stakeholder institutions. The main recommendations made during the meeting were the following:

- The development of the Operational Programmes for the next funding period, as well as the fine tuning of the NPRR, should include clear steps and impact indicators to maintain and increase public support for their successful implementation. Moreover, the WG members all strongly unite behind the thesis that it is necessary that public funds attract private financing in order to increase the scope of the renovation. Therefore, the development of accessible financing schemes as well as low -interest loans for EE renovation projects is something that the WG will advocate for.
- To ensure the full optimisation of policy measures for EE renovation projects, there should be support for initiatives for capacity building and professional qualification in the construction sector. Furthermore, renovated residential buildings should be managed by certified professionals, and there should be sound systems for management, monitoring, and quality assessment of EE renovation projects at all stages at place. This has led to the inclusion of the topic of quality energy audits, as another important component to guarantee project results and improve the trust in financial institutions and investors.

- As in Bulgaria municipalities are the main beneficiaries and operational managers of renovation projects - there should be a focused and well-planned energy efficiency long-term strategy and action plan to optimise the available resources and EU public funds. This requires that local authorities and municipal administration shall be well-informed about the already available and newly emerging instruments and national and international financing mechanisms in support of the development and the successful implementation of the actual projects, while Green Public Procurement (GPP) approaches are aiming at their quality and the short- and long-term municipal goals.

The WG members further agreed on the proposed agenda, topics for the parallel sessions, guiding discussion questions in the plenary sessions, as well as speakers, rapporteurs, and contributions for the first roundtable. Regarding the concluding plenary session, there was a consensus about its chair and the proposed discussions points to strengthen the key messages of the event: 1) Impressions from the conclusions presented by the facilitators of the parallel sessions and key topics to be addressed in the following roundtables. 2) Key issues that need to enter from the professional discussions into the political and media discourse to initiate the necessary reforms in energy efficiency policies. 3) Important stakeholders who are not yet actively involved in the debate on energy efficiency policies and programmes and further steps in the dissemination of the roundtable's outcomes. All WG members agreed that each can contribute to the development of a well-planned communication campaign of EE renovation projects multiple benefits, and towards the dissemination efforts of the RT results for optimal impact of the event.

3.2 Croatia

Summary of progress report towards the implementation of the EED and EPBD

The assessment conducted by the European Commission on the progress made by the Member States towards the implementation of the EED and the EPBD pointed out that Croatia will very likely not achieve the required amount of energy savings by 31 December 2020, if additional actions are not undertaken. Cumulative projected savings compared to savings target for Croatia amounted to 31% for 2020 thus indicating that the likelihood to achieve set targets is very unlikely.

This forecast was based on the annual national report 2017 to the EC, as the annual national report 2018 was not available at the time. Following the increase of climate ambition announced in the 2020 Climate Target Plan, both Croatia and the other Member States will have to step up their ambition in order to go beyond the current level of targets set for 2030.

Targets announced in the 2020 Climate Target Plan include EU-wide, economy-wide greenhouse gas emissions reduction target by 2030 compared to 1990 of at least 55% including emissions and removals.

Croatia is behind its set targets for energy renovation of residential buildings by 2020, as the renovation rate of residential buildings amounted to 0,7% annually instead of the intended 3%.

Therefore, the new Long-term Strategy for mobilising investment in the renovation of the national building stock up to 2050 (hereinafter: Long-term Strategy) sets a target of increasing the renovation rate to 3% by 2030. Although the new Long-term strategy sets challenging targets, below are activities that could be enhanced to initiate large scale investments and more efficient financing of such investments.

INTRODUCTION OF THE OBLIGATION OF NZEB OR GREEN DEAL STANDARD IN RECONSTRUCTION

The number of nZEB buildings is used as a direct indicator of progress in implementing measures to increase the energy efficiency of the building stock. Data on achieving nZEB requirements will be available through the energy certification information system database for all new and reconstructed buildings.

Suggestion

nZEB requirements are defined in the Technical Regulation on the Rational Use of Energy and Thermal Protection in Buildings (OG No. 128/15) and they are based on cost-optimal analysis of reference buildings. The nZEB requirements should be revised and updated both for new buildings and energy renovation of existing buildings, otherwise, 2050 targets will not be achieved.

INITIALISATION OF NATIONAL ONE-STOP-SHOP FOR PUBLIC BUILDINGS, MULTI-APARTMENT BUILDINGS, FAMILY HOUSES AND INDUSTRY

The Long-term Strategy recognises the importance of establishing one-stop-shops (OSS), which would provide easy access to information on energy renovation and funding opportunities, as well as the promotion of energy efficiency for all target groups. The OSS would support energy renovation in public buildings, multi-apartment buildings, family houses and industry. However, the Long-term Strategy finds it optimal to organise them through regional and local energy agencies, which can provide this form of customer

service within their activities.

Suggestion

Besides setting up OSS at a local and regional level, national level OSS should also be considered. National OSS could coordinate the process of establishing regional and local OSS, as well as contribute to developing necessary content to support and assist the energy renovation based on the EPC++ model.

STANDARDISED DOCUMENTATION

In order for financial institutions to be able to work together with energy service providers, it is necessary to develop financial instruments in accordance with the rules for the use of ESI funds, aimed specifically at energy service providers. The development of financial instruments in the context of this Long-Term Strategy should create conditions for the development of the energy services market, including the public-private partnership (PPP) model. In the case of financial instruments, it is possible to offer products that will primarily facilitate access to finance for all entities implementing projects under the energy service model, and then encourage market development by removing specific barriers arising from the energy service model itself and reducing undercapitalisation problems.

Suggestion

Besides developing financial instruments, it is necessary to define and develop standardised documentation for investments in energy renovation and energy efficiency measures in buildings. Well prepared standardised EPC and PPP documentation would support the so-called Maastricht neutral treatment of these contracts and enable more efficient use of financial instruments.

ENERGY MANAGEMENT IN THE PUBLIC SECTOR

The public sector in Croatia is obliged to systematically manage energy, which is specifically prescribed by the Energy Efficiency Act or the Ordinance on Systematic Energy Management (OG 18/15, 06/16). Energy data collection and management is performed by using the Energy Management Information System (ISGE). The strategic objective of the Long-term Strategy is to include and regularly monitor all public sector buildings and public lighting systems by the end of 2030 using ISGE, as well as expand ISGE's features, such as: integrate ISGE with other databases, use ISGE as a system for verification of actual savings incurred after the renovation of the building, expand the use of ISGE to private and industry sectors etc.

Suggestion

In addition to the features mentioned in the Long-term Strategy, it would be beneficial to integrate ISGE with Energy Performance Certificates for monitoring and verifying energy savings in the building stock. The integration would support both investors and energy service providers to adequately verify the achieved energy savings against calculated ones, as well as assessing the quality of performed works.

EU TAXONOMY IMPLEMENTATION

Following the adoption of the EU Taxonomy and its Delegated Acts, which set technical criteria to support companies when planning their climate and environmental transition and raising finance for this transition, it is necessary to consider the impact on energy efficiency investments. The Taxonomy Delegated Acts establish and maintain clear criteria for activities to define what it means to make a substantial contribution and what it means to do no significant harm. Annexes to the Act also list economic activities in the sector of construction and renovation of buildings which can have a substantial contribution to climate change mitigation and adaptation.

Suggestion

Analyse the impact of the Act on sustainable financing and the extent to which it can help scale-up investment in green projects that are necessary to implement the European Green Deal objectives in Croatia.

Suggestions made by the working group members

The 1st Working Group Meeting of the SMAFIN project in Croatia was held online on March 29th, 2021 and was joined by seven stakeholders coming from various target groups. The highlights of the recommendations are as follows:

- The new Act on Management and Maintenance of Buildings is currently under preparation, however, it is unknown when the first public draft will be available. The Act is considered important as up until now renovation and maintenance of multi-apartment buildings were regulated by two different Acts, Civil Obligations Act and Construction Act. Working Group member suggested consulting the Working Group for drafting the Act on Management and Maintenance of Buildings, which operates within the Croatian Chamber of Commerce and is working on the drafting of this new Act. In that case, the SMAFIN Working Group could contribute to the preparation of the Act and elements of it could be discussed during the roundtable.
- Risk rating of building management companies - energy renovation of multiapartment buildings is executed through the contracted building management company. As the energy renovation is a financially large undertaking, it is financed by combining the own resources of the building (regular monthly payments of the tenants which accumulated over the years decreased by operational costs of the building) and the bank loan issued to the building management company. Before issuing a loan, a financial institution assesses and estimates the credit risk of the company (not the multi-apartment building!) and determines the interest rate and the collateral. Building management companies that are privately owned, tend to score higher risk scores than public companies resulting in higher interest rates. The issue outlined here and suggestion made is to analyse how are risks calculated and whether the financial institutions will be eligible (due to internal risk policies) to support a larger volume of energy renovation in the private sector, which is expected in the upcoming years.
- Low creditworthiness of the tenants - although the building management company is assessed for the credit risk, tenants (building owners) are responsible for paying back the loan. The energy renovation cannot start unless more than 50% of owners have agreed with the decision. Energy renovation increases the monthly payments to the building account by tenants almost twofold, which presents a large financial obstacle for many tenants. A suggestion related to this finding is to explore and analyse the

possibility of increasing the maturity of such loans to allow for longer repayment time.

3.3 Greece

Summary of progress report towards the implementation of the EED and EPBD

The objective of the Greek National Energy and Climate Plan regarding the Energy Efficiency Directive is to improve energy efficiency in final energy consumption by at least 38% concerning the foreseen evolution of final energy consumption by 2030.

The definition of policy measures for energy efficiency improvement in the period 2021-2030 aims to cover twelve different policy priorities. Those that concern the SMAFIN project are:

- Improving energy efficiency levels of public buildings and promoting the exemplary role of the public sector;
- Strategy for the renovation of the building stock in the residential and tertiary sectors;
- Promoting energy efficiency contracts by energy service companies (ESCOs);
- Promoting market mechanisms;
- Promoting innovative financial instruments to ensure private capital leverage and financial sector involvement;
- Improving the energy efficiency levels and competitiveness of the industrial sector.

The need to renovate Greece's existing building stock is indisputable. The annual objective is to have an average of 60.000 residential buildings or residential building units upgraded in terms of energy efficiency. This particular objective will contribute significantly to the major upgrading of the ageing national building stock, while at the same time it will give a substantial boost to the construction industry through high added-value technologies, essentially ensuring increased financial and operating benefits for households in Greece.

For the public sector, energy efficiency of buildings will be done by supporting partially funding through investment loans, while for the industry and business sectors the Market Based Instruments (MBIs) are and will be available using schemes such as the Energy Efficiency Obligation Schemes (EEOS) and Energy Efficiency Auctions.

The implementation of all the necessary investments to improve energy efficiency requires that more effective financing mechanisms need to be planned to increase and maximise the current levels of private capital leverage. The active involvement of the financial sector and the promotion of innovative financing mechanisms and market mechanisms, including energy performance contracts, are critical parameters for attaining this objective.

Concerning the existing funding mechanisms, key challenges include the selection of cost-effective applications, the simplification of existing procedures, the absence of incentives to implement efficient measures and technologies and the difficulty in financing projects through energy performance contracts.

Moreover, concerning the energy upgrading of public and private buildings, ensuring economic efficiency and technical and operational feasibility for different uses and categories of buildings requires relevant changes to the legislative framework.

To mobilise the required investments, a specific package of policy measures is envisaged to improve the energy efficiency of public and private buildings, through the Long-Term Renovation Strategy (LTRS).-

In particular, the financing programmes for the renovation of both residential and tertiary sector buildings in the context of the new programming period will be implemented by adjusting and improving the existing financing model, with a view in increasing the existing leverage levels by beneficiaries. These programmes aim to:

- increase the number of potential beneficiaries,

- simplify the certification of interventions, using unit cost data,
- ensure more active involvement of domestic financial institutions in the financing of necessary interventions, and
- promote innovation in the domestic construction and manufacturing industry.

The new minimum requirements will be incorporated in the revised Regulation on Energy Efficiency of Buildings and emphasis will be placed on increasing the number of nZEBs following the requirements of Directive 2010/31/EU.

The adoption of new regulatory measures (also in the context of Directive 2010/31/EU, as amended by Directive (EU) 2018/844) aim at elaborating an appropriate framework and creating incentives for maximising the number of buildings that would exceed the minimum energy efficiency requirements.

Successful and efficient policy measures, such as the mandatory installation of solar thermal systems in new buildings and those undergoing a major renovation, will be continued, and improved as appropriate. Finally, the new regulatory framework, coupled with tax, financial and town planning incentives, is expected to increase the pace of energy upgrading of private buildings.

Below suggested activities that could support the wider implementation of energy efficiency measures outlined in the EED are presented.

FINANCING THE RENOVATION OF PUBLIC BUILDINGS

Improving the energy efficiency of public buildings through energy performance contracts and generally through PPPs will be one of the key policy measures in the following period. Moreover, the further development of energy services should contribute towards putting in place sustainable solutions for the improvement of energy efficiency in public buildings.

Suggestion

The related ELECTRA programme, consisting of financing energy efficiency interventions in general government buildings, including participation in the implementation of interventions by Energy Service Companies (ESCOs) through energy performance contracts can be redrafted. The regulatory framework can be completed and improved taking into account the experience gained to date, whereas the necessary framework for easier access to funding under favourable terms for the parties involved will be developed.

SMART FINANCING FOR THE RESIDENTIAL BUILDINGS PROGRAMMES

In the new programming period, successful financing programmes for improving the energy efficiency of residential buildings will continue, and their operating framework will be duly modified by streamlining the incentives for maximising energy benefits, while at the same time supporting households, which are vulnerable in terms of finances and energy. Through the new national funding scheme Saving-Autonomy, the renovation of 12-15% of residential buildings and/or residential building units is aimed to be renovated within the period 2021-2030.

Suggestion

The goal of the Ministry of Environment and Energy is to make investments of more than EUR 3 billion in the energy upgrade of buildings in the next 5 years, with funding from the NSRF and the Recovery Fund. Discussion should focus on issues such as how will the largest

equity leverage by households be ensured or how can the economic efficiency of the selected interventions be improved. The possibility of the establishment of a one-stop service (OSS) that would lead to a more cost-effective upgrade of the building stock would be examined. In addition, Building Renovation Passports should be examined as staged deep renovation could potentially support the national energy efficiency targets. The vulnerability levels of the households should be also put under the microscope when designing the financing programmes for the residential sector that could lead to energy poverty mitigation. .

FINANCIAL MECHANISMS FOR BUILDINGS OF THE TERTIARY SECTOR (AUCTIONS AND OBLIGATION SCHEMES)

The planning and implementation of competitive energy efficiency improvement processes were provided by the NECP. The measure will provide financial support for energy saving interventions in areas with high potential, such as industrial and tertiary sector. The competitive process is planned to be conducted based on their economic efficiency of the renovation actions in accordance with clear instructions for the calculation and verification of the energy savings.

Suggestion

The goal of the above policy measure is to attain the energy upgrade in combination with the economical upgrade of the applied technologies. The funding of the involved companies by the financial sector, the risk reduction through project aggregation and how this can be achieved, should be discussed.

INDUSTRY/INFRASTRUCTURE AND ENERGY AUDITS

Incentives will be established for implementing the energy saving measures proposed through energy audits to SMEs in order to add to the 2030 national targets. Moreover, new measures will be developed to support the implementation of energy management systems in SMEs in order to keep improving their energy efficiency.

In the industrial sector, the existing programmes for the provision of financial incentives to improve the energy efficiency of industries and manufacturing enterprises will continue in the new programming period. Special financing mechanisms will be designed to strengthen the implementation of energy efficiency improvement measures through energy performance contracts, such as subsidising borrowing costs and facilitating access of energy services companies to financing.

Suggestion

Additional measures towards the energy upgrade of industries and manufacturing enterprises could be considered, such as the utilisation of heat waste from central facilities through district-heating networks or the extensive use of smart meters and smart networks in the general context of smart cities and the advanced information technologies.

Furthermore, the upgraded role of EPCs towards the individual Energy Renovation Roadmaps, as well as a new framework for the certification of technicians in order to maximise the effects of energy efficiency interventions and technological solutions, should be investigated.

SMART FINANCING AND EU TAXONOMY

Greece will have to comply with EU Taxonomy Climate Delegated Act. Smart financing will be combined with the implementation of a legal framework for the issuance of green bonds and shares, through a design and establishment of criteria according to European standards (EU Green Bond Framework & EU Taxonomy Regulation) and with independent assurance on the issuance of compliance with these criteria.

Suggestion

Investigation to which extent green financing and taxonomy are promoted in the banking system and how the taxonomy can help scale-up investment in green projects.

Suggestions made by the working group members

The 1st Working Group Meeting of the SMAFIN project in Greece was held online, on Friday, March 19th, 2021 and was joined by 10 stakeholders coming from various target groups. The highlights of the recommendations are as follows:

- The programme “Saving-Autonomy” for the residential buildings could be connected with the Energy Communities as a better way of “getting autonomous” to succeed in self-production and consumption in residential buildings. Smart financing should also consider building owners that rent their houses as this would reduce the rent in renovated houses.
- Regarding the public buildings and the “Electra” programme, the major difficulties- that have been also addressed in the past- are that there are some interventions with short-term amortisation and some of which are extremely long-term. Short-term interventions are those that can be amortised economically and technically in the context of an ESCO.
- Regarding the old public building stock, the energy upgrade and the deep renovation could be combined. The possibility of upgrading buildings with a combination of public funding (80%) and ESCO (20%), so that more buildings can be upgraded should be discussed. This would be important to mobilise a wide range of ESCOs, whereas, for the results to be measurable and reliable, there must be a participation of a company which will be paid based on the results and savings they achieve. Also the improvement of the cost-effectiveness ratio, leads to more interventions, creating incentives for grouping projects.
- There are generally legal and ownership issues on public buildings, the resolution of which should be an immediate priority of the state in order to make a detailed cost budget and proceed with their energy upgrade. The development of an “Energy upgrade of public buildings Action Plan” would provide a holistic approach that considers the lack of municipal staff technical expertise. A very important issue also for the Municipalities is that the rapid change of technology and the immediate technological devaluation complicate the energy efficiency upgrade. Therefore the financial tool should fund the whole intervention and not part of it.
- The energy needs of the residential buildings as well as of the tertiary sector have changed due to the pandemic. The effect of COVID-19 in real estate should be a parameter to be considered in the current challenges.
- Regarding the bidding procedures, the initial problems identified were issues of state

aid and the distinction between RES and energy-saving projects with the hope that in the revision of the State Aid Directive, they will manage it in the same way.

- The cost-effectiveness of interventions can be improved in all categories of programmes by adopting tools that allow the user to navigate the basic features of the building and the individual properties. In this way they will help the stakeholders as well as the other stakeholders (engineers, renovation companies, energy inspectors, public, etc.) to gradually "build" the steps that will be followed in order to upgrade the energy class of each property.
- There should be a mobilisation of the domestic financial sector, to get informed of the long-term benefits of the energy upgrades.
- The EU taxonomy issue was raised as well as the extent to which green financing is promoted in the banking system but perhaps it would be better to be included as a topic in the next roundtable so that the conditions will be more appropriate.

3.4 Romania

Summary of progress report towards the implementation of the EED and EPBD

According to the requirements laid down in the Romanian legal framework regarding the energy performance of buildings and energy efficiency and the provisions of EED and EPBD the following strategic documents have been developed and are currently under formal approval or being implemented:

- National Energy Strategy 2019-2030, with the perspective of 2050,
- National Long-Term Renovation Strategy to support the renovation of the national building stock of residential and non-residential buildings, both public and private, and its gradual transformation into a building stock with a high level of energy efficiency and decarbonised by 2050 (LTRS),
- Integrated National Plan for Energy and Climate Change 2021-2030.

In addition to the above, the National Recovery and Resilience Plan that targets a balanced approach between investments for rapid and smart economic recovery, infrastructure development and structural reforms in key sectors was submitted to the EC. Out of the total allocation of EUR 29,2 billion, EUR 2,275 billion is earmarked for the investments in energy efficiency and renewable energy.

The assessment conducted by the European Commission on the progress made by Member States towards the implementation of the EED and the EPBD, pointed out Romania among the seven countries that are unlikely to achieve the required amount of energy savings by 31 December 2020 if they do not take additional actions.

The objective of the Romanian National Climate and Energy Plan (NECP) regarding the Energy efficiency Directive is to achieve a reduction of 45,1% for primary energy and 40,4% for final energy consumption by 2030 (reported to PRIMES 2007 projection). In line with Article 7 of EED, the plan has a focus on alternative policy measures to promote energy efficiency including energy audit and energy management in the industrial sector as well as measures aimed at alleviating energy poverty.

In the building sector, the plan lists the existing measures that will continue after 2021:

- National Programme for Energy Efficiency of Multifamily Residential Buildings;
- Energy efficiency in government buildings and public services through partial thermal insulation of some elements of the building envelope, replacement of exterior

carpentry with energy efficient carpentry and through complex works to increase energy performance (thorough renovations);

- Energy efficiency in the Services sector, through the thermal rehabilitation of buildings (offices, commercial spaces), the acquisition of high efficiency electrical equipment and appliances;
- Programme regarding the installation of heating systems that use renewable energy, including the replacement or completion of the classic CASA VERDE heating systems for individuals and legal entities.

Additionally, The Ministry of Environment, through the Administration of Environmental Fund, is preparing for approval or is implementing several financial programmes for increasing energy efficiency in single-family homes and public buildings and for the installation of photovoltaic panel systems for single-family buildings and isolated households,

Although the NECP envisages that these measures will continue beyond 2021, it is still unclear whether this is possible and how they will be adapted to reduce the percentage of grant financing and attract alternative funding.

According to the NECP, based on the projections developed in LTRS, significant resources will be required for financing of energy efficiency: necessary investments of about EUR 12,8 billion between 2020 and 2030. This figure also does not include the estimated EUR 1 billion to finance programme administrative cost and necessary supporting activities, trainings and technical assistance to target market development, capacity enhancements, institutional support, communication/raising awareness campaigns and programme implementation. The recommendations regarding the mentioned investment sources are the following:

- EUR 3 billion to come from non-reimbursable funds from the state budget or from funds provided by the European Union;
- Between EUR 6 and 8 billion to be financed through reimbursable financial mechanisms including reimbursable grants;
- EUR 1,8 billion to be provided by the owners of the buildings that will be renovated by co-financing.

Quite general information about the promotion of energy performance contracting is included in the plan without a clear identification of the measures to be applied in the planning period.

Romania intends to go beyond the 3% annual renovation target enshrined in EU legislation (with a gradual increase of the annual renovation rate from 0,69% to 3,39% in 2030) and takes measures to improve the energy performance of at least 18% of the total floor area of all heated and cooled buildings. This would require designing and introducing new financial mechanisms, develop a consolidated national programme, assign new responsibilities to different government agencies and build market capacities. The creation of a special "Fund", with the role of mobilising funds and managing flows, can contribute to financial need projections, assist in the mobilisation of funding, develop financial mechanisms, administer them, can serve as the lender or payment agent for grant/revolving schemes, collect reflows, and carry out other tasks according to its statute. This "Fund" will be established through a normative act with the force of law, which will establish its legal status.

Activities which could be implemented to improve energy efficiency financing are given below.

A NEW ARCHITECTURE OF THE OPERATIONAL PROGRAMMES 2021-2027 PRIORITISING ENERGY EFFICIENCY FOR SUSTAINABLE DEVELOPMENT

Grants and financial instruments provided by various EU funds and made available through the Operational Programmes are considered a boost to the renovation process of public buildings, especially as they tend to provide part of the non-reimbursable funds required for the implementation of the LTRS. The grant intensity varies between programmes and targeted beneficiaries, while the financial parameters of the projects are taken into account in prioritising the most economically feasible projects.

Suggestion

Although beneficial and proven to be a driving force behind the energy renovation in Romania, grant funds should be used for leveraging the potential of allocated public resources in the upcoming multiannual financial framework. Grants should be provided in cases when the financial gap is present and a market failure is evident. The development of the Operational Programmes for the next funding period should be supported by the financial sector, NGOs and other stakeholders in order to develop complementary financing mechanisms which can support the ambitious EU targets. Ex-ante analysis could be helpful in identifying sectors that need grant support, those that can use a mix of grants and financial instruments, and sectors that can be funded entirely by private finance. The findings of the analysis could help in demonstrating in which sectors financing energy efficiency is possible with market-based schemes.

IMPROVEMENT OF THE NATIONAL PROGRAMME FOR ENERGY EFFICIENCY OF THE MULTIFAMILY RESIDENTIAL BUILDINGS

The building renovation process in Romania is supported by the grant-based market with continuous support since 2009. Public authorities and homeowners are accustomed to accepting grants for the improvement of energy efficiency in buildings. The National Programme for Improvement of Energy Performance in Multifamily Residential Buildings was based on two main principles - 80% grant financing for the households (but in most cases the contribution of building owners was taken over by local administration thus leading to 100% grant financing), and reducing the annual specific consumption for heating below 100 kWh/m²/yr. The target buildings of the programme are multi-store blocks built between 1950 and 1990.

Suggestion

The status quo and the growing habit of receiving grants can be changed by developing integrated strategies and developing coherent communication of the benefits of renovation of existing buildings to the building owners. Besides integrated strategies, it is crucial to attract private funding, promote capacity building, reduce the grant component and set more ambitious requirements for energy efficiency levels. The requirements of the Programme should be improved by setting up higher levels of performance in terms of final and primary energy use and individual envelope component performances, inclusion of other measures in the eligibility list and coordinating the grant level with the estimated performance improvement. In order to increase the interest and level of engagement of building owners in participating in the building renovation process, supporting communication and behaviour change campaign are to be seriously taken into account, while complementary financial mechanisms to support private funding should be developed.

SUPPORTING RAISING AWARENESS AMONG STAKEHOLDERS ON NON-FINANCIAL BENEFITS OF ENERGY EFFICIENCY

A lack of understanding of the non-financial benefits (comfort, social implications, health etc.) at the level of all stakeholders is considered a key barrier for the large-scale deep energy renovation of the building stock.

Suggestion

Non-financial benefits should be analysed and promoted to all stakeholders, especially to the households, considering that, amongst others, occupant's comfort and health is one of the key drivers to stimulate the improvement of buildings energy efficiency. Unfortunately, the measures applied by private individuals are rather unambitious, leading to a reduction in energy consumption, but without achieving optimal levels of energy efficiency and comfort. Additionally to the effective implementation of well-designed communication campaigns, strengthening the professional capacity of designers, experts and tradespersons in the construction sector will facilitate a wide understanding of the benefits for the realization of high energy performance of our buildings.

SUPPORT THE ESCO MARKET DEVELOPMENT

Romania does not yet have a dedicated regulatory framework for ESCOs. The National Energy Regulatory Authority (ANRE) was coordinating a Working Group to develop this framework, but the output of the work was not significant while the WG needs restart after the shift of responsibilities from ANRE to the Department of Energy Efficiency (Ministry of Energy). Energy performance contracts are seldom used in Romania and not applicable for energy renovation of existing buildings, while the findings of the SEIF events in Romania were not promising for the ESCO market development.

Suggestion

The development of a well-functioning ESCO market is crucial for the implementation of the LTRS. In this respect, both changes in legislation and promotion of ESCO are required. Apart from solving the legal barriers to ESCOs, efforts are needed to develop and implement simplified ESCO contracts on a pilot basis using public financing mechanisms may create a basis from which policy and legislative changes can be more meaningfully discussed. The project developers, the financial institutions and the building owners need a common language in communication, while the benefits of the EPC should be clearly demonstrated to all stakeholders. In order to create a critical mass of ESCOs in the market, and a better understanding how ESCOs work (including the various benefits and risks) at the government and clients' level, energy performance contracting mechanisms can be institutionalised through changes in legislation—based on the experience gained and proper accounting of lessons learned.

OPPORTUNITY OF ESTABLISHING A NATIONAL EE FUND

There is a need for a new funding scheme able to revive, trigger and scale up the energy savings for the industrial sector and for the small and medium enterprises, as more ambitious energy and climate targets are proposed at national level.

Suggestion

Ministry of Energy, responsible for EE projects for industry and SMEs, should investigate the opportunity to set-up and the design of a National Energy Efficiency Fund, aiming to the promotion of innovative financing schemes, the development of the ESCO and energy savings performance contracts, the support for training, pilot and dissemination programmes. Part of the funding sources may come from compatible EU Funds and will support the implementation of LTRS by including a "renovation wave" fund to adequately finance integrated renovation of the existing building stock.

ESTABLISHING ENERGY MANAGEMENT SYSTEMS AT MUNICIPAL LEVEL

Although the Romanian Energy Efficiency Law obliges municipalities to conduct energy planning, such measures need further improvement on a municipal level. Most municipal energy plans tend to be general documents without measurable targets and the reason behind it is the lack of statistical data about the actual energy consumption within the municipalities and the condition of the building stock.

Suggestion

Energy management on municipal level should be stimulated either through financing implementation of instruments for energy planning (i.e. Covenant of mayors, European Energy Awards etc.) or through provision of funding only for municipalities that have implemented energy management systems.

POLICIES FOR MITIGATION OF ENERGY POVERTY

Low-income households are provided with energy subsidies, which cover part of the households' energy demand. However, these subsidies cannot be considered a sustainable measure which can support low income households in the long-term.

Suggestion

Energy poverty and vulnerable consumer definitions on national level are needed in order to create the future policies that will mitigate the energy poverty. Such mitigation should not be addressed through provision of energy or fuel subsidies but through supporting implementation of energy measures to reduce the energy demand and improve the comfort and healthy environment of the households.

Suggestions made by the working groups

The 1st Working Group Meeting of the SMAFIN project was held online, on Thursday, March 18th, 2021 and was joined by 23 stakeholders representing different target groups mainly relevant for the theme of the SMAFIN first roundtable. The highlights of the recommendations are as follows:

- The role of banks in providing financial mechanisms dedicated to energy efficient homes is very important in the context of the implementation of the long-term renovation strategy and the „Smarter Finance for Families”, a Horizon 2020 project coordinated by RoGBC, is a best practice scheme in which the Green Homes for Green Mortgages programme (developed in Romania and adopted by two partner banks Apha Bank and Raiffeisen Bank) will be implemented in 11 European countries.

- The approach and objectives of the SMAFIN project is appreciated as an opportunity for the inter-ministerial committee recently set-up by Prime Minister Decision and coordinated by the Department for Sustainable Development, for the implementation of Long-Term Renovation Strategy, to support the committee for drawing up the action plan that will operationalise the strategy.
- Pilot projects demonstrating the achievement of ambitious performance levels in the renovation of existing buildings and the nZEB levels for new buildings are needed, especially from public local authorities in order to demonstrate the leading by example in the area of energy efficiency. In this respect, the experience of the 6th district of Bucharest from accessing the ELENA instrument and from the ongoing projects for nZEB construction and rehabilitation of kindergarten and school buildings at nZEB levels should be widely communicated, in particular regarding the lessons learned and the financial and non-financial benefits (comfort, social implications, health etc.) of nZEB buildings.
- A stronger focus on the client is recommended considering its significant influence in the implementation of the Long-Term Renovation Strategy. The approach in this respect is different at European level, in Romania attention must be given to the specific situation of individual owners and their high market share considering their lack of involvement has previously led to the failure of many measures designed in this area. It is considered that the client's involvement and the way of communicating the actions will influence the achievement of the goals.
- Periodic surveys to evaluate public opinion together with professional communication campaigns are keys to efficient mapping of requirements and existing supply on the market. Previous relevant initiatives should be resumed and profiled on building rehabilitation. For example, the results of surveys carried out within the Sustainable Romania project on the 17 objectives of sustainable development (including also specific questions relevant for energy efficiency in buildings) should be shared and specific aspects of interest can be included in futures surveys as they will repeat periodically.
- Several recommendations made by Working Group members supported the validation and confirmation of the proposed speakers, rapporteurs and contributions for the first Roundtable as well as for improving the management of the event in order to increase its impact. The list of relevant stakeholders for future roundtables could be enlarged to include the real estate developers as relevant for new buildings. The WG within SMAFIN should be used as a platform for discussions and knowledge sharing towards active identification of best financial mechanisms adjusted to market specifics. By keeping the momentum and enhancing the dialogue during the first roundtable, the SMAFIN Working Group should also keep the continuity of the dialogue and connect with other initiatives at governmental and financial sector levels aggregating valuable input for next steps for achieving Romania's targets in the energy efficiency sector.