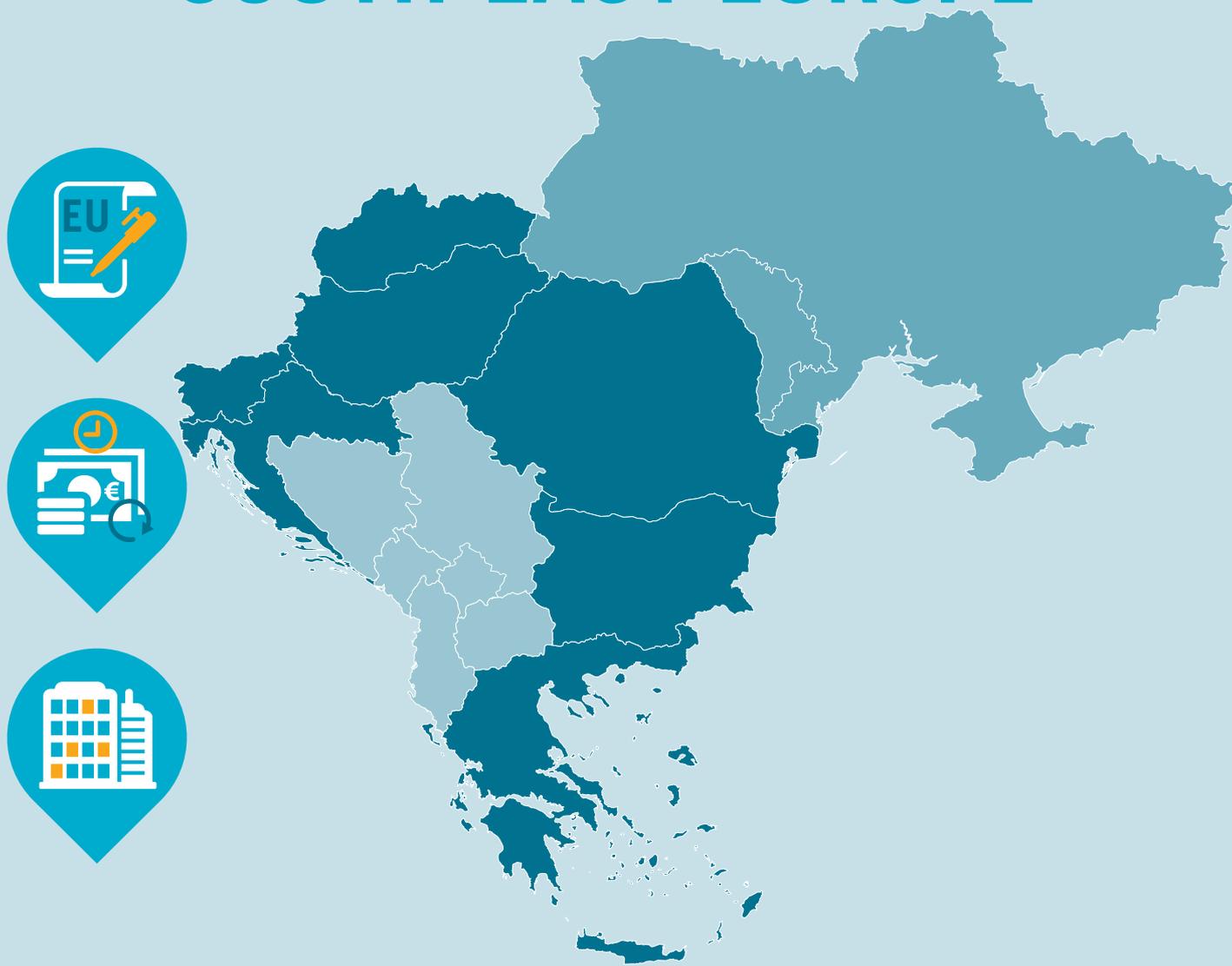


FINANCING THE FUTURE OF BUILDINGS IN CENTRAL, EASTERN AND SOUTH-EAST EUROPE



A REALITY CHECK OF CURRENT PUBLIC FUNDING ALLOCATION

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GLOSSARY

Acquis communautaire: The accumulated legislation, legal acts, and court decisions that constitute the body of European Union law. The acquis is the body of common rights and obligations that is binding for all EU Member States. Candidate countries must accept the acquis before they can join the EU and integrate its laws into their own national legislation.

Blending: The complementary use of grants and non-grant financing from private and/or public sources to provide financing under terms that would make projects financially viable.

Central and South Eastern Europe Gas Connectivity (CESEC): Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia (FYROM), Greece, Hungary, Italy, Kosovo, Moldova, Montenegro, Romania, Serbia, Slovenia, Slovakia, Ukraine.

Cohesion Fund (CF): The Cohesion Fund aims to strengthen the economic, social and territorial cohesion of the Union in the interest of promoting sustainable development. The CF focuses on investments in environment and transport, including areas related to sustainable development and energy that present environmental benefits.

Cohesion Policy Funds: The Cohesion Policy Funds refer to three (CF, ERDF and ESF) out of the five European Structural and Investment Funds (ESIF). The aim of these funds is to support development in a comprehensive way by investing, for instance, in businesses, research and development, infrastructure, employment and training.

Efficiency First: Efficiency First is a principle applied to policymaking, planning, and investment in the energy sector. It prioritises investments in customer-side efficiency resources (including end-use energy efficiency and demand response) whenever they would cost less, or deliver more value, than investing in energy infrastructure, fuels, and supply alone. The aim of the Efficiency First principle is to systematically identify decision points where efficiency shall be taken into account and integrated. The principle was formally endorsed by the European Commission within the framework of the Energy Union in February 2015.

Enlargement countries: Potential candidates for EU membership, divided into candidate countries (Albania, FYROM, Montenegro, Turkey and Serbia) and potential candidate countries (Bosnia and Herzegovina and Kosovo).

EU Emissions Trading System (EU ETS): The ETS system works by putting a limit on overall emissions from covered installations, which is reduced each year. Within this limit, companies can buy and sell emission allowances as needed. This 'cap-and-trade' approach gives companies the flexibility they need to cut their emissions in the most cost-effective way.

European Fund for Strategic Investments (EFSI): The European Fund for Strategic Investments (EFSI) is an initiative launched jointly by the European Investment Bank (EIB Group) and the European Commission to help overcome the current financing gap in the EU by mobilising private financing for strategic investments.

European Regional Development Fund (ERDF): The European Regional Development Fund aims to reinforce economic and social cohesion within the European Union by redressing the main regional imbalances. This is achieved through financial support for the creation of infrastructure and productive job-creating investment, mainly for businesses.

European Social Fund (ESF): The aim of the European Social Fund is to strengthen economic and social cohesion within the European Union mainly through training measures, encouraging a higher level of employment and the creation of more and better jobs.

Financial instruments: Financial instruments provide support for investments by way of loans, guarantees, equity and other risk-bearing mechanisms.

Global Energy Efficiency and Renewable Energy Fund (GEEREF): A Fund-of-Funds catalysing private sector capital into clean energy projects in developing countries and economies in transition.

Gross Fixed Capital Formation (GFCF): A component of the expenditure approach to calculate Gross Domestic Product. It refers to the net increase in physical assets (investment minus disposals) within the measurement period. It does not account for the consumption (depreciation) of fixed capital, and does not include land purchases.

International financial institutions: Include public banks, such as the World Bank, KfW, and regional development banks. They provide loans, grants, and technical assistance to governments, as well as loans to private businesses investing in developing countries.

Multiannual Financial Framework (MFF): Is the European Union's seven-year framework regulating its annual budget. The financial framework sets the maximum amount of spending in the EU budget each year for broad policy areas and fixes an overall annual ceiling on payment and commitment appropriations.

Neighbouring countries: In this report refers, to Moldova and Ukraine.

Operational Programmes (OP): Are detailed plans in which the Member States set out how money from the ESI-Funds will be spent during the programming period. They can be drawn up for a specific region or a country-wide thematic goal (e.g. energy). Member States submit their operational programmes on the basis of their Partnership Agreements.

Partnership Agreement: Agreements between the European Commission and individual EU countries. They set out the national authorities' plans on how to use funding from the EFSI during the MFF period.

Public buildings: Are buildings used by public services, including schools, hospitals and administrative offices.

Residential buildings: Are characterised as multifamily apartment houses or individual houses which are primarily used for housing. They can be owner-occupied, privately rented or social housing.

South-East Europe (SEE): Countries included: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYROM, Greece, Hungary, Kosovo, Moldova, Montenegro, Romania, Serbia, Slovenia, Slovakia and a small part of Ukraine. Fragments of Austria and Italy are often considered to be part of the SEE-region.

Smart Finance for Smart Buildings initiative (SFSB): Proposed as a part of the "Clean Energy for All Europeans" package, aiming to (i) make better use of public finance, (ii) support with assistance and aggregation of project development and (iii) 'de-risk' energy efficiency investments through better information and data gathering.



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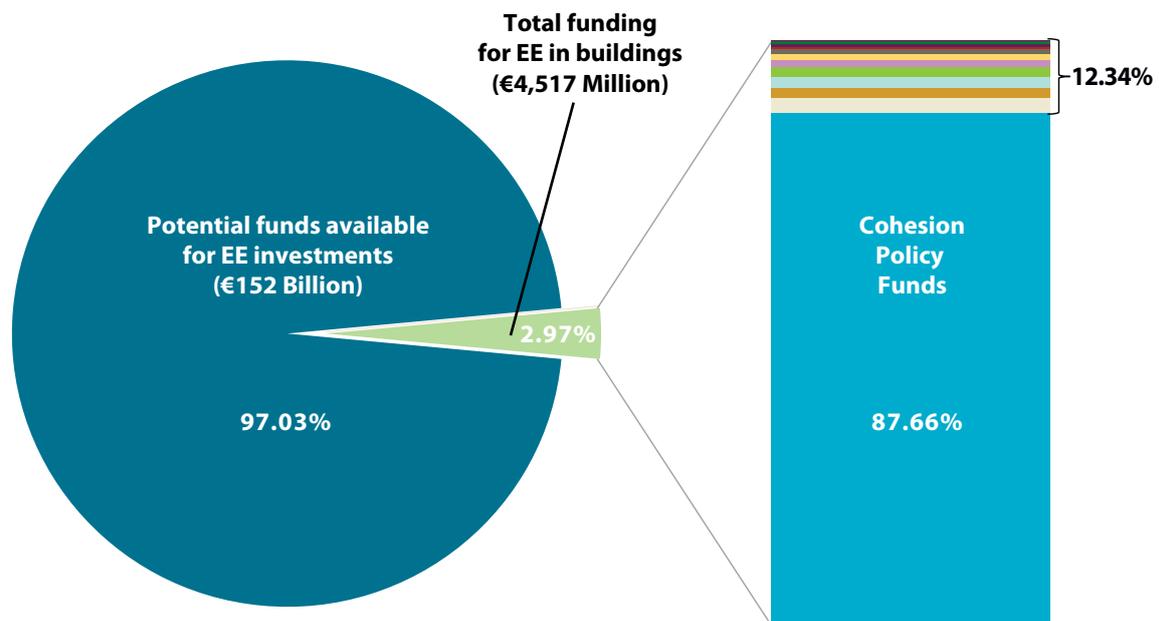
EXECUTIVE SUMMARY

An analysis of the funding streams directed to energy efficiency in buildings currently available in Central, Eastern and South-East Europe reveals that less than 3% of the funds that could be used to support energy-efficiency investments in the region is dedicated to upgrading buildings.

The study shows which EU and international funds available in the region are allocated to upgrading the building stock and proposes ways to better use these funds to secure investments for energy renovation. Despite their critical role in reducing energy dependency, especially in countries most vulnerable to gas disruptions, increasing savings on the energy bill and improving health and comfort levels, **buildings are not perceived as a critical infrastructure**. The funding streams currently available in the region do not target building efficiency upgrades at a large scale and the opportunities for investments in demand-side infrastructure are not fully exploited:

- EU funding streams: only 4.35% of the region’s Cohesion Policy Funds is allocated to demand-side infrastructure, amounting to €3.96 Billion. The European Fund for Strategic Investments (EFSI) is not being exploited and only two projects (including a gas project) are active in the region;
- International financial institutions: only 1.7% of the total committed amount of their investments is allocated to demand-side infrastructure.

Overview of the share of funding streams dedicated to energy efficiency in buildings in the CESEC region

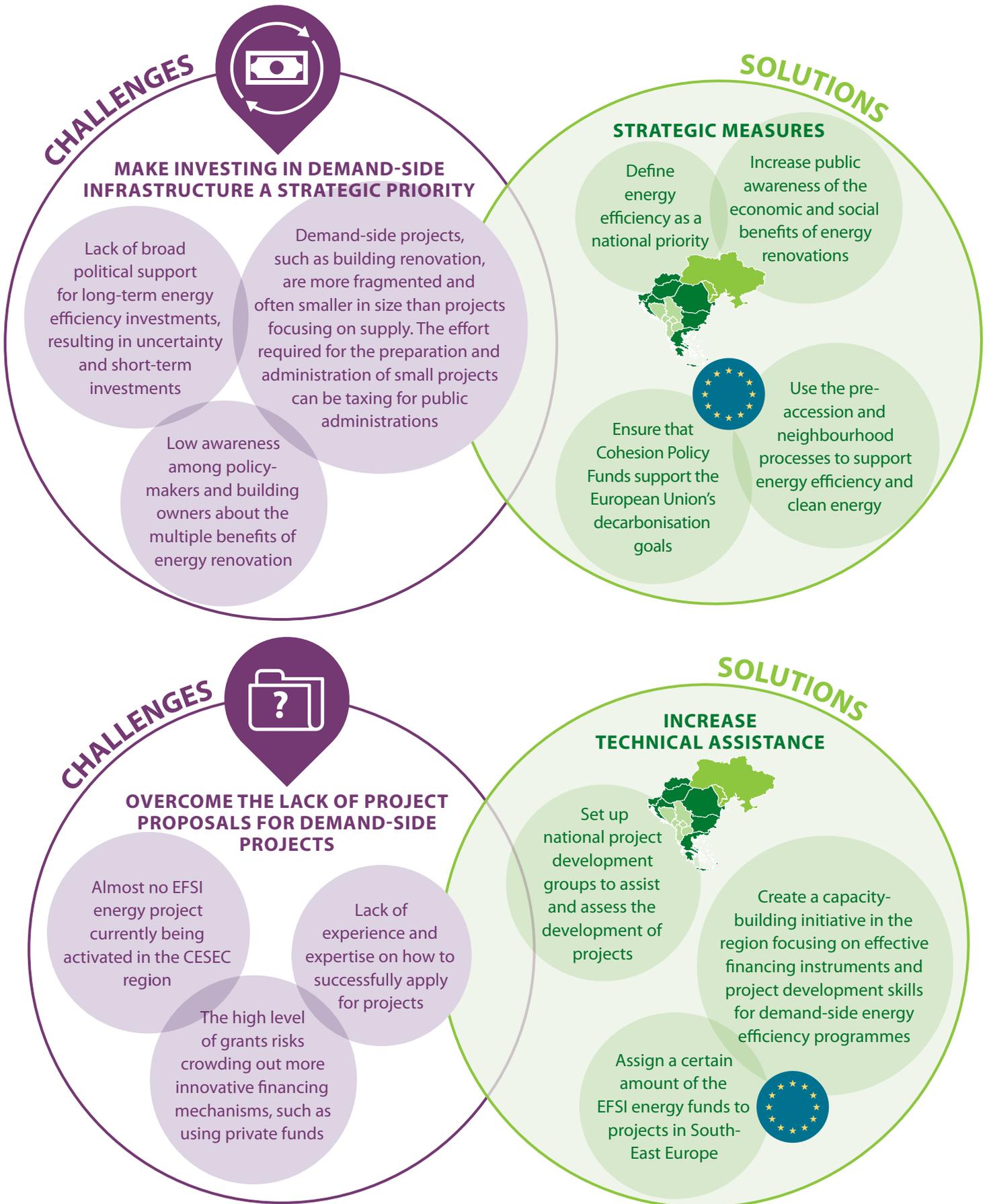


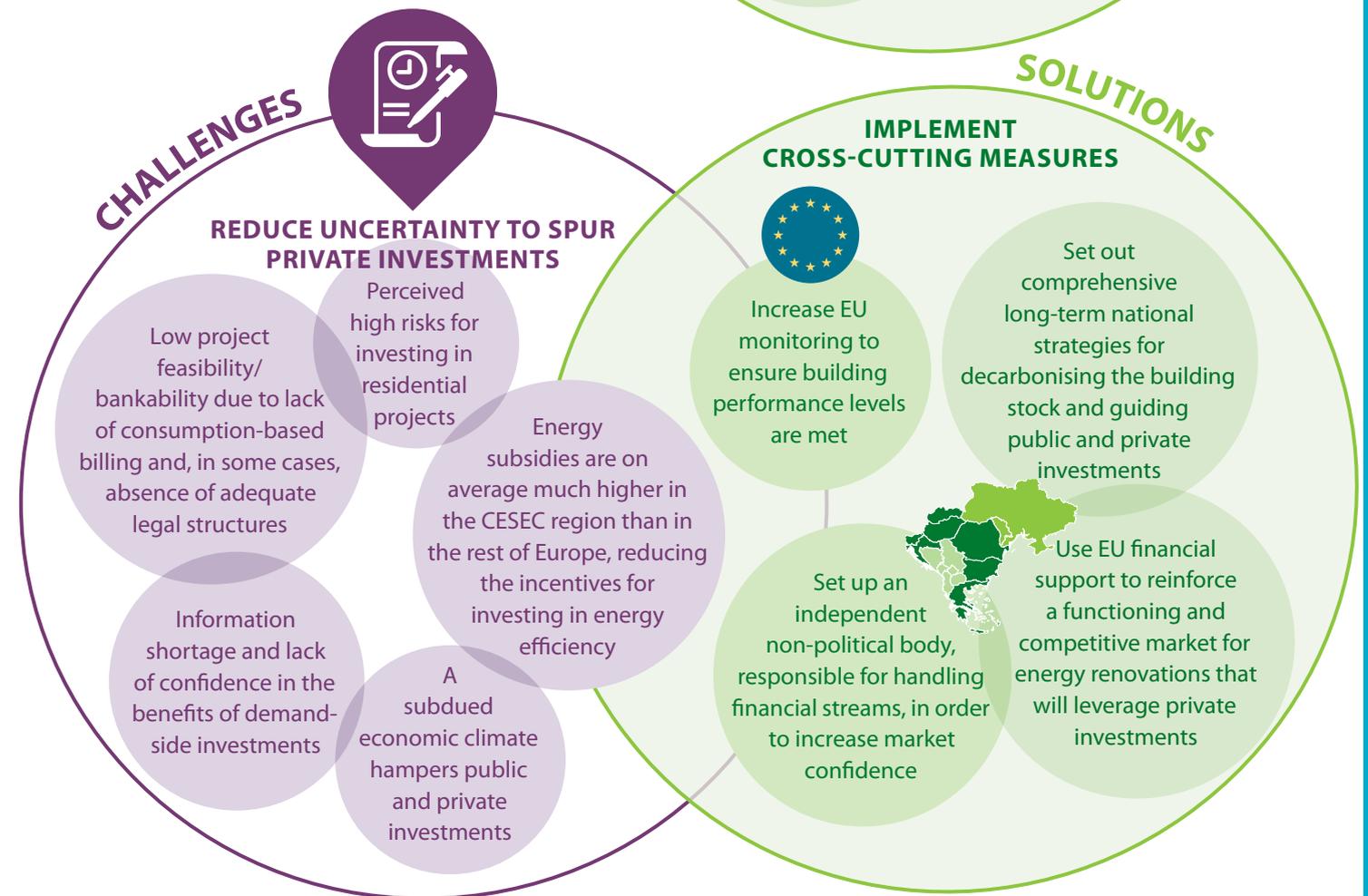
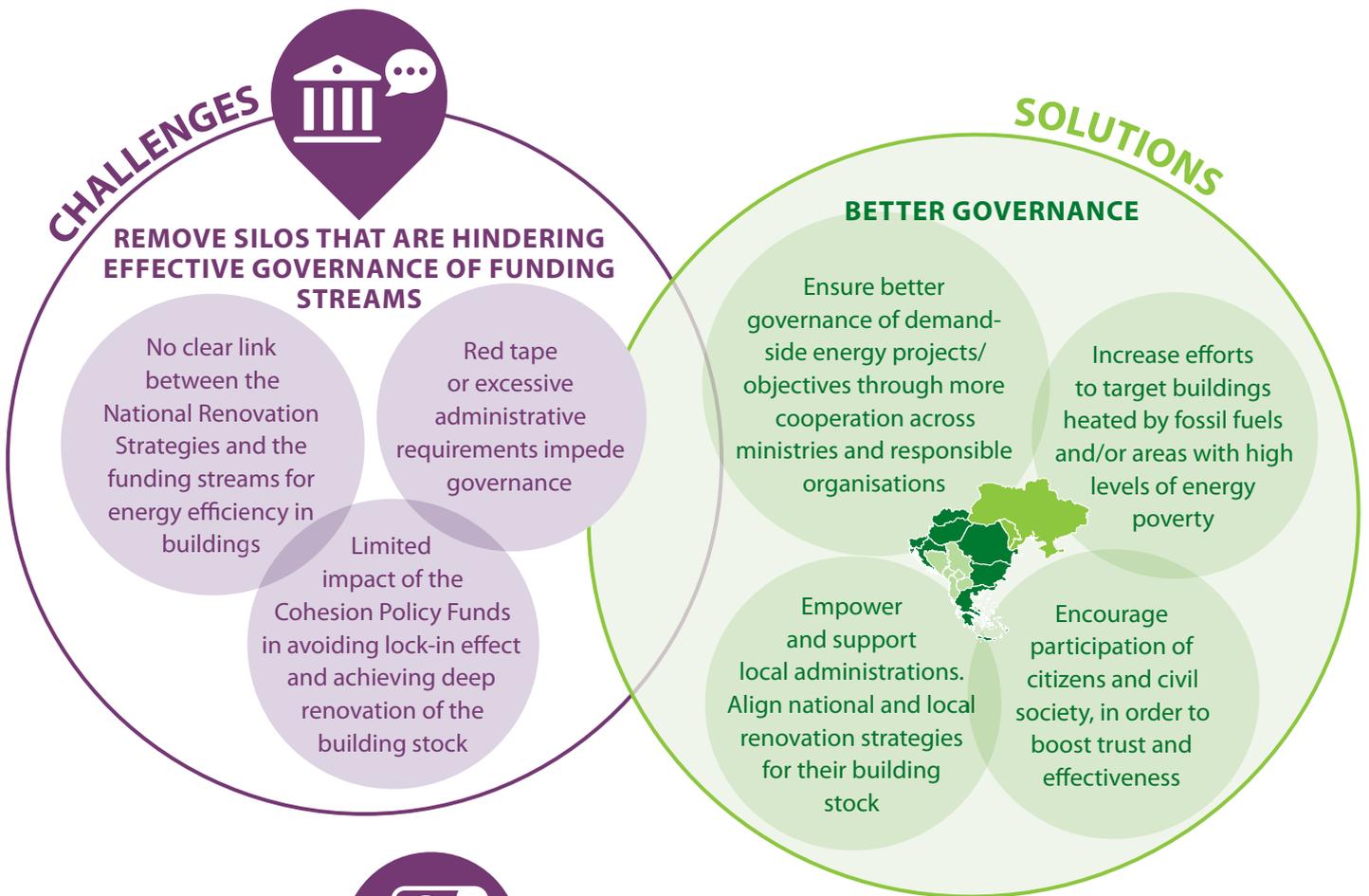
Funding streams for energy efficiency in buildings - € Million

■ Cohesion Policy Fund - 3,959	■ EIB - 0	■ REEP - 15
■ EBRD - 0	■ EEEF - 25	■ KfW - 38
■ ESP - 23	■ WBIF - 55	■ WB - 79
■ NIF - 42	■ ETS - 85	■ GGF - 116
■ IPA - 80	■ EFSI - 0	

To increase the investments favouring building upgrades in the region, several challenges should be overcome. Building technical capacity in the region is of utmost importance. It could be achieved by creating a regional capacity building initiative, to promote effective financing instruments and project development skills for demand-side energy efficiency.

Challenges and potential measures to overcome the lack of investments in demand-side infrastructure





INTRODUCTION

Ensuring the security of energy supply for countries within the Central East South Europe Gas Connectivity (CESEC) region¹ is a severe challenge, amplified by a highly inefficient building stock. South-East Europe, with its building stock that consumes 38% of gas imports, is the only region in Europe with a significant gas security issue in the event of an interruption of supply [1]. A recent BPIE report [2] revealed that investing primarily on supply-side infrastructure to guarantee energy security could lead to stranded assets, should an increase in gas demand not materialise. A dedicated renovation programme targeting gas-consuming buildings could reduce the current building stock's gas consumption by 70% within 20 years [2].

Lessening gas dependency by strategically promoting demand-side measures will require a significant shift in investment. Public and private investors will all need to play a role in developing the appropriate conditions to ensure sustainable energy consumption in the region. Reducing energy consumption by securing investments for demand-side measures, specifically through targeted energy renovations, would improve the quality of the building stock, tackle energy poverty, mitigate air pollution, generate local jobs and provide a comfortable and healthy living environment for citizens.

This report provides an overview of the funding streams directed to energy efficiency in buildings currently available in the region and covers two types of sources: the funding streams coming directly from the EU and those provided by international financial institutions and regional investment programmes². The findings of this report should feed into the ongoing debates around how to optimise the use of public finance in the forthcoming EU Multiannual Financial Framework (MFF) and how to make the proposed Smart Finance for Smart Buildings (SFSB) successful.

The MFF sets out the maximum annual amounts ('ceilings') the EU may spend on different political fields ('headings') over a period of at least five years. Preparations for the next MFF (2021-2027) are currently underway and the European Commission's proposal is expected to be published by the end of 2017. The SFSB initiative was launched by the European Commission as part of the "Clean Energy for All Europeans" package in November 2016, with the aim to unlock private financing for energy efficiency and renewable energy in buildings through innovative funding tools, aggregation and assistance for project development [3]. In view of these debates, a better understanding of the availability of funding in the CESEC region is needed.

Figure 1 shows the funding streams that have been analysed for this report. Most of the funds covered are allocated under the MFF for the period 2014-2020 (excluding EU ETS, which is not part of the MFF). For non-EU funding streams, projects that are active or been activated since 2013 were considered. Some funding streams that were analysed are not presented in the study because either they do not focus on demand-side infrastructure, but rather on capacity building, reliable data is missing, and/or the amount going to the CESEC region is negligible.

The quantitative analysis in this study builds on publicly available data published by responsible institutions (e.g. European Commission, European Investment Bank, the World Bank and the Western Balkans Investment Framework) on how the funds are being allocated or spent. In order to gain a deeper understanding of these figures, the analysis was complemented by qualitative interviews with nine local experts³.

¹ The Central East South Europe Gas Connectivity (CESEC) group aims to coordinate efforts to facilitate cross-border and trans-European projects that diversify gas supplies to the region, as well as to implement harmonised rules. It includes Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, FYROM, Greece, Hungary, Italy, Kosovo, Moldova, Montenegro, Romania, Serbia, Slovenia, Slovakia and Ukraine

² The EU is involved in several of these funding streams as well, but as a donor and not as a manager

³ Names and affiliation of interviewees can be found on the second page of this report

Figure 1 - Scope: funding streams analysed

EU FUNDING STREAMS 2014-2020	Cohesion Policy Funds (Structural Funds, Cohesion Fund, European Social Fund)
	European Fund for Strategic Investments (EFSI)
	Energy projects to aid economic recovery (EERP)
	The EU Emissions Trading System (EU ETS)
	Instrument for Pre-accession Assistance (IPA)
	Neighbourhood Investment Facility (NIF)
EXCLUDED FUNDING STREAMS	Connecting Europe Facility (CEF) <i>Reason for exclusion: No investments for demand-side infrastructure</i>
	Private Finance for Energy Efficiency (PF4EE) <i>Reason for exclusion: No programme in CESEC region</i>
	INterstate Oil and GAs Transportation to Europe (INOGATE) <i>Reason for exclusion: Primarily focused on technical assistance. Only relevant for Moldova and Ukraine</i>
NON-EU FUNDING STREAMS 2014-2020	Western Balkans Investment Framework (WBIF)
	Regional Energy Efficiency Programme for the Western Balkans (REEP)
	The World Bank
	Kreditanstalt für Wiederaufbau Entwicklungsbank (KfW)
	The Green for Growth Fund Southeast Europe (GGF)
	The European Investment Bank (EIB)
EXCLUDED FUNDING STREAMS	Eastern Europe Energy Efficiency and Environmental Partnership (E5P)
	United States Agency for International Development (USAID) <i>Reason for exclusion: Few energy efficiency projects in the region and limited information available</i>
	United Nations Development Programme (UNDP) <i>Reason for exclusion: Primarily focused on capacity building</i>
	Gesellschaft für internationale Zusammenarbeit (GIZ) <i>Reason for exclusion: Primarily focused on technical assistance</i>

In this report, the CESEC region has been divided into three groups:

- Member States of the EU (Bulgaria, Croatia, Greece, Hungary, Romania, Slovenia, Slovakia);
- Western Balkans (Albania, Bosnia and Herzegovina, FYROM, Kosovo, Montenegro, Serbia);
- Eastern Europe (Moldova and Ukraine).

Italy and Austria have been excluded due to their geographical position and the nature of their energy markets.

Figure 2 - CESEC countries covered in this report

EUROPEAN UNION

**Bulgaria
Croatia
Greece
Hungary
Romania
Slovenia
Slovakia**

WESTERN BALKANS

**Albania
Bosnia and Herzegovina
FYROM
Kosovo
Montenegro
Serbia**

EASTERN EUROPE

**Moldova
Ukraine**

The funding streams are presented in two separate chapters, the first focuses on funding streams coming directly from the EU, and the second on funding from third parties⁴ (e.g. international financial institutions and regional investment programmes).

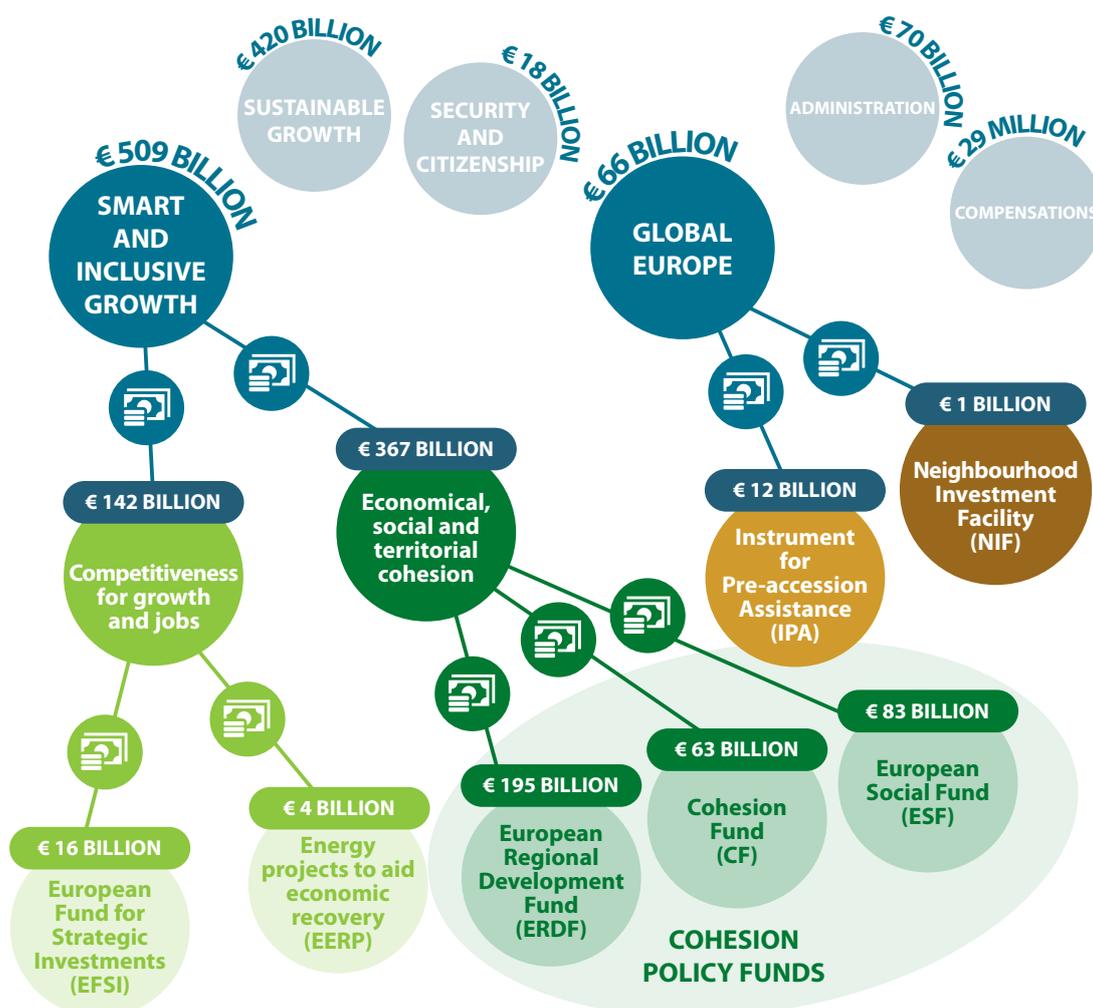
⁴ The EU is involved in several of these funding streams as well, but as a donor and not as a manager

EU FUNDING STREAMS IN SOUTH-EAST EUROPE

The EU has established several funding streams partially, or exclusively, focusing on energy and demand-side infrastructure. The size, purpose and scope of these funds differ substantially.

The current prioritisation of the funds was set out in the last MFF, covering 2014 to 2020. The total budget for this period is almost €1082 Billion⁵, of which €509 Billion is committed under the category ‘Smart and Inclusive Growth’ and €66 Billion under ‘Global Europe’ [4]. Except for the financial support for non-Member States - which is allocated funding under ‘Global Europe’ - all the funding streams described below are categorised under ‘Smart and Inclusive Growth’ (Figure 3). In Figure 3 the list of programmes presented under the ‘Smart and Inclusive Growth’ and the ‘Global Europe’ headings only includes the budget breakdown for the programmes relevant to this analysis. Therefore, programmes like Horizon2020 and Connecting Europe Facility (CEF) are not included.

Figure 3 – Breakdown of MFF by heading 2014-2020 (2013 prices [4], figures for the funds are based on programme allocations [5], [6], [7], [8], [9])



⁵ In 2013 prices

A short description of each fund under the MFF, including its total amount, main purpose, energy focus and the type of financial instruments it offers (e.g. grants, loans, guarantees), is presented in Figure 4 and 6, while Figure 5 describes financial support for EU Member States that originates outside the MFF budget.

Figure 4 - EU funding streams for Member States



Figure 5 - Other EU funding streams for Member States (not included in the MFF)

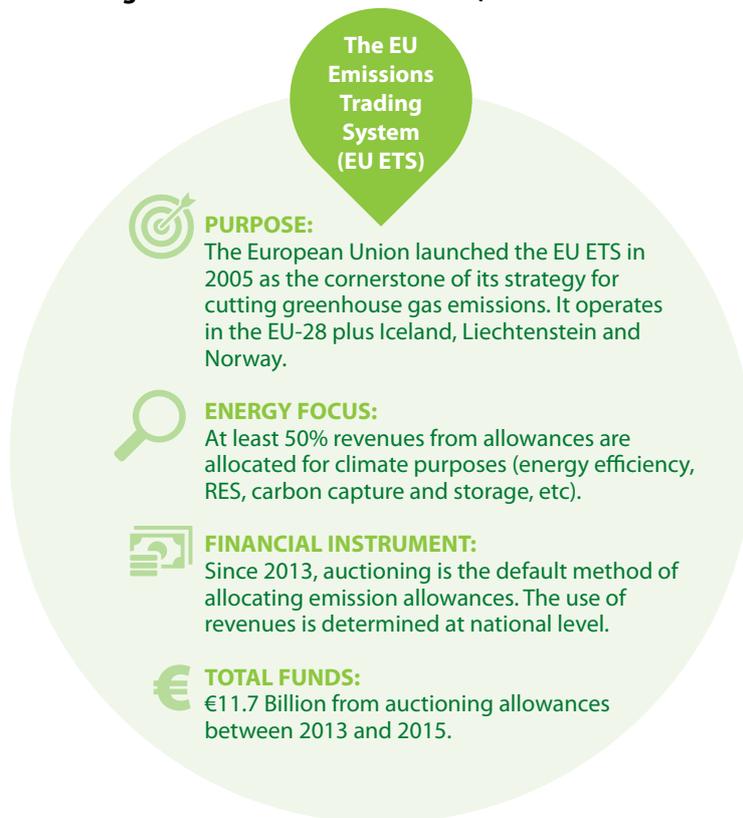
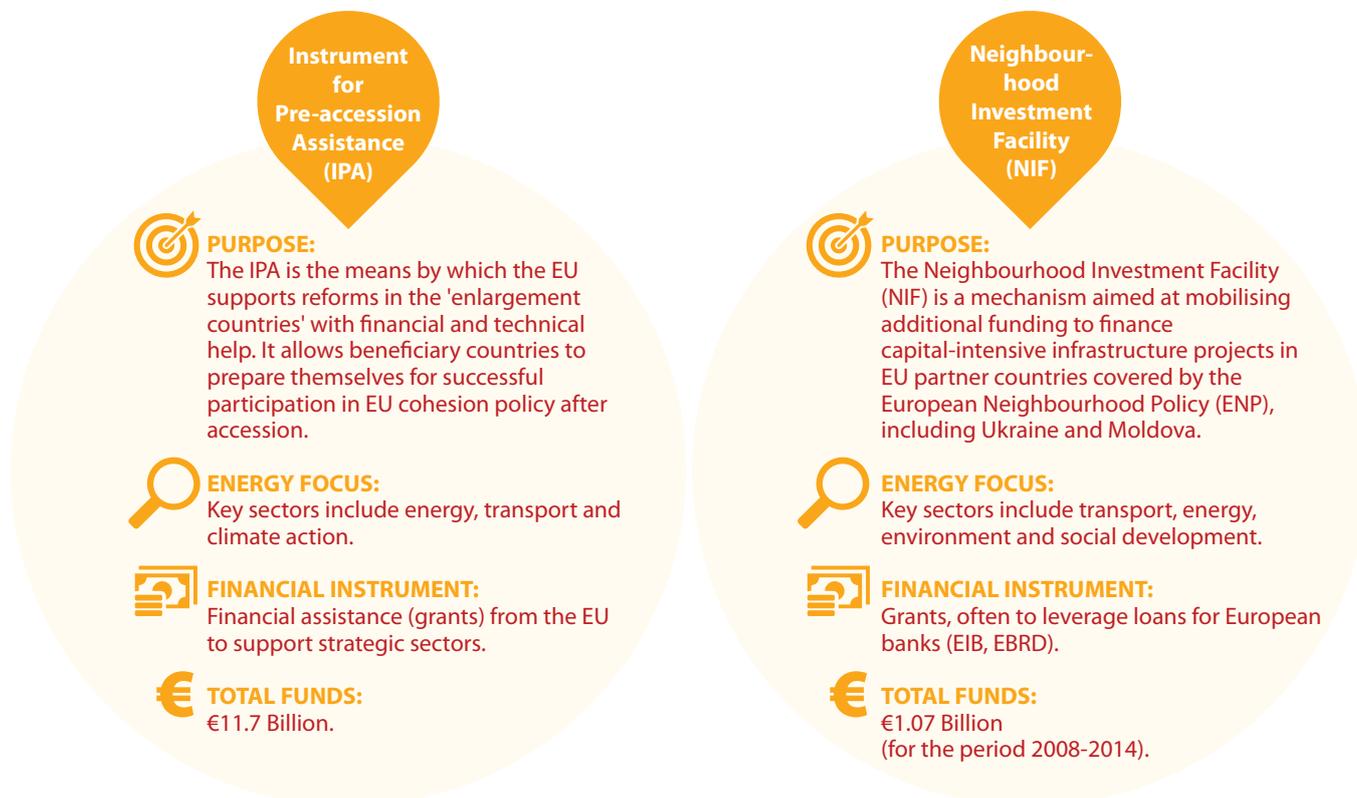


Figure 6 - EU funding streams for non-EU countries



THE COHESION POLICY FUNDS

The Cohesion Policy Funds comprise the EU's Regional Development Fund (ERDF), the Cohesion Fund (CF) and the European Social Fund (ESF). The common thread is the focus on reducing regional disparities in income, wealth and opportunities. The ERDF allocates investments to all EU countries and promotes balanced development in the different regions of the EU. The CF is only available to countries where the Gross National Income (GNI) per inhabitant is less than 90% of the EU average, which is the case in all Member States in the CESEC region. In these countries, the CF primarily funds transport and environmental projects. The ESF supports employment-related projects throughout Europe and invests in Europe's human capital.

The Cohesion Policy Funds cover more than one-third of the whole EU budget [4]. It totals €342 Billion, of which the ERDF is more than €195 Billion, the CF more than €63 Billion and the ESF more than €83 Billion (Table 1). In order to tackle climate change, the EU agreed that at least 20% of its budget for 2014-2020 should be spent on climate action, including building energy renovation. According to an assessment by the European Commission, only 16.5% of Cohesion Policy Funds have been allocated to climate action. The ESF provides a minor share (1.33%) to climate change action and nothing to energy infrastructure. The CF allocates the biggest share (27.83%) to climate change, while the ERDF assigns the biggest amount (€37.68 Billion).

Large energy infrastructure projects are being funded through other funding streams (such as the Connecting Europe Facility and the European Energy Programme for Recovery). Under the Cohesion Policy Funds, 6.8% of the total investments are allocated to energy infrastructure, which includes investments in energy efficiency in buildings, investments directed to renewables (wind, solar, biomass and others), natural gas, as well as, smart and efficient distribution and heating systems.

The Cohesion Policy Funds are the main funding streams for energy efficiency in buildings: 3.9% (€13.33 Billion) of the total Cohesion Policy Fund investments are being directed to energy efficiency in buildings (public and residential), which amounts to more than half of the total Cohesion Policy Funds spent on energy infrastructure.

Table 1 - Share and amount of Cohesion Policy Funds allocated to climate, energy infrastructure⁶ and energy efficiency in buildings across the EU-28

FUND	TOTAL UNION SUPPORT (€ M)	CLIMATE CHANGE RATE	CLIMATE CHANGE AMOUNT (€ M)	ENERGY INFRASTRUCTURE RATE	ENERGY INFRASTRUCTURE AMOUNT (€ M)	ENERGY EFFICIENCY IN BUILDINGS RATE	ENERGY EFFICIENCY IN BUILDINGS AMOUNT (€ M)
Cohesion Fund	63,397	27.83%	17,643	7.18%	4,550	3.76%	2,382
European Regional Development Fund	195,396	19.28%	37,678	9.57%	18,693	5.60%	10,948
European Social Fund	83,136	1.33%	1,103	0.00%	0	0.00%	0
Total – Cohesion Policy Funds	341,928	16.50%	56,424	6.80%	23,243	3.90%	13,330

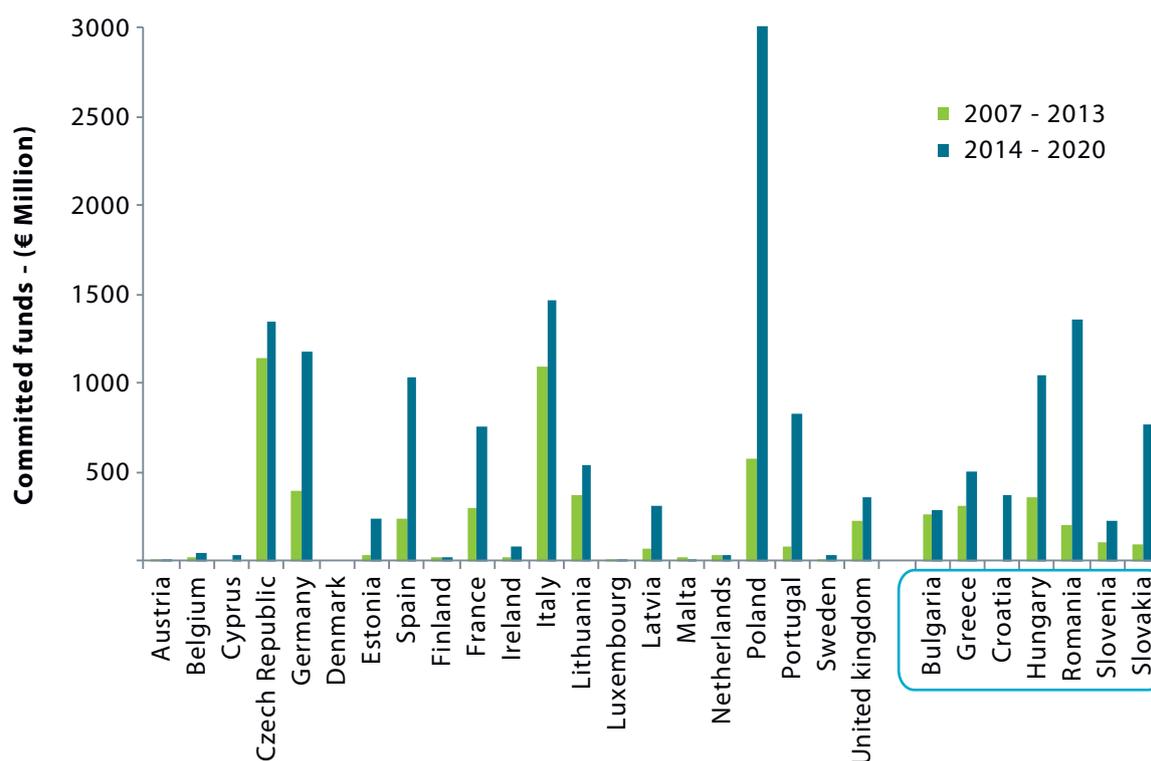
⁶ The allocated spending is for the seven-year period (2014 -2020). The climate change allocated amount is based on European Commission calculation [8]. Energy infrastructure and energy efficiency in buildings are based on BPIE calculations coming from European Commission data [7]

The focus of Cohesion Policy Funds on energy efficiency⁷ increased between the 2007-2013 MFF period and the 2014-2020 period (Figure 7) from €5.94 Billion to €15.78 Billion. The increase in the South-East European countries was even more prominent where it grew from €1.31 Billion to €4.44 Billion⁸.

This increase can be explained by three main reasons:

- The shift towards addressing climate change and achieving a low-carbon economy: the EU agreed that at least 20% of its budget for the 2014-2020 period should be spent on climate action [10] including energy efficiency investments.
- The economic and financial crises that lingered over Europe when the priorities for the current period were set. Investments in the construction sector were seen as a good way to boost the economy and create local jobs.
- Successful past energy efficiency investments. Several managing authorities deemed investments in energy efficiency successful and therefore decided to allocate additional funds. Over the course of the 2007-2013 period, Member States' total allocations for energy efficiency increased by 45% compared to their initial intentions [11].

Figure 7 – Allocation of Cohesion Policy Funds for energy efficiency. Based on data gathered for 2007-2013 [12] and 2014-2020 [5] [12]



⁷ Energy efficiency comprises energy efficiency renovation of (i) public infrastructure and (ii) residential households, as well as (iii) intelligent energy distribution systems (smart grids and ICT) and (iv) high efficiency co-generation and district heating. In the 2014-2020 period these four topics are divided into separate intervention fields, while the topics comprised one intervention field in the previous period.

⁸ Croatia was not a Member State until 2013. Excluding Croatia, the committed amount grew from €1.3 Billion to €4.2 Billion

The total amount of Cohesion Policy Funds committed to the EU CESEC countries is around €91 Billion. Within this, €16 Billion (18.08%) is allocated to climate actions. Only €3.96 Billion (4.35%, see Table 2) is allocated to energy efficiency in buildings (public and residential) over the seven-year period. This is comparable to the EU average (EU-28: 3.90%, see Table 1) for energy efficiency in buildings. Among the CESEC countries, Romania allocated €1.25 Billion (5.60%) of its Cohesion Policy Funds to energy efficiency in buildings. This is the highest amount allocated by an EU CESEC country in relation to the size of the national building stock (see Figure 8).

Table 2 - Share and amount of the Cohesion Policy Funds allocated to climate, energy infrastructure and energy efficiency in buildings (CESEC countries)*

MEMBER STATE	TOTAL COHESION POLICY FUNDS (€ M)	CLIMATE CHANGE RATE	CLIMATE CHANGE AMOUNT (€ M)	ENERGY INFRASTRUCTURE RATE	ENERGY INFRASTRUCTURE AMOUNT (€ M)	ENERGY EFFICIENCY IN BUILDINGS RATE	ENERGY EFFICIENCY IN BUILDINGS AMOUNT (€ M)
Bulgaria	7,312	17.65%	1,291	4.46%	326	3.94%	288
Croatia	8,331	14.83%	1,235	10.54%	878	3.26%	272
Greece	14,932	13.91%	2,077	3.13%	467	2.83%	422
Hungary	21,445	19.18%	4,112	8.93%	1,915	4.44%	953
Romania	22,329	20.09%	4,485	6.79%	1,517	5.60%	1,251
Slovenia	2,993	20.12%	602	7.77%	233	6.24%	187
Slovakia	13,574	19.43%	2,637	6.93%	940	4.32%	586
Total	90,917	18.08%	16,440	6.90%	6,275	4.35%	3,959

*The climate change amount is based on [13]. Energy infrastructure and energy efficiency in buildings are based on BPIE calculations and [5]

Comparing the amounts allocated to energy efficiency in buildings and the size of the building stock provides an indication of the investments dedicated to renovation. Figure 8 illustrates each country's investment plan for energy efficiency in public and residential buildings in relation to the size of the building stock. Romania intends to spend more than €3 per square metre. Greece and Bulgaria intend to spend far less, with less than €0.50 per square metre.

Cohesion Policy Funds are more commonly used to support the renovation of public buildings than residential buildings. 57% of the investments are directed towards the renovation of public buildings across the region (see Figure 9). However, Romania and Hungary committed almost equally to both residential and public buildings. Slovakia prioritised commitments to public buildings, while Greece and Bulgaria prioritised residential buildings.

The reasons behind this focus could be:

- The significant investment required has a short-term negative impact on the debt and deficit of public authorities. Due to accounting rules and debt ceilings, many local governments are not able to acquire the necessary funding, even if there is a positive net present value of the investment. Directing investments from the Cohesion Policy Funds to public buildings reduces this pressure on public budgets.
- The requirement to renovate 3% of the floor area occupied by the central government each year (Article 5 of the Energy Efficiency Directive) [14].
- Separately financed programmes for the residential sector may exist at the national level.

While renovation of public buildings is crucial, and the public sector leading by example should be encouraged, the imbalance between the funding allocated to public and residential buildings is problematic. The stock of public buildings is much smaller than private residential buildings so a bigger focus must be put on the residential sector.

Figure 8 - Cohesion Policy Funds commitments for the 2014-2020 period and building stock size for 2014. Calculation based on data from the European Commission [5] and the EU Building Stock Observatory [39]

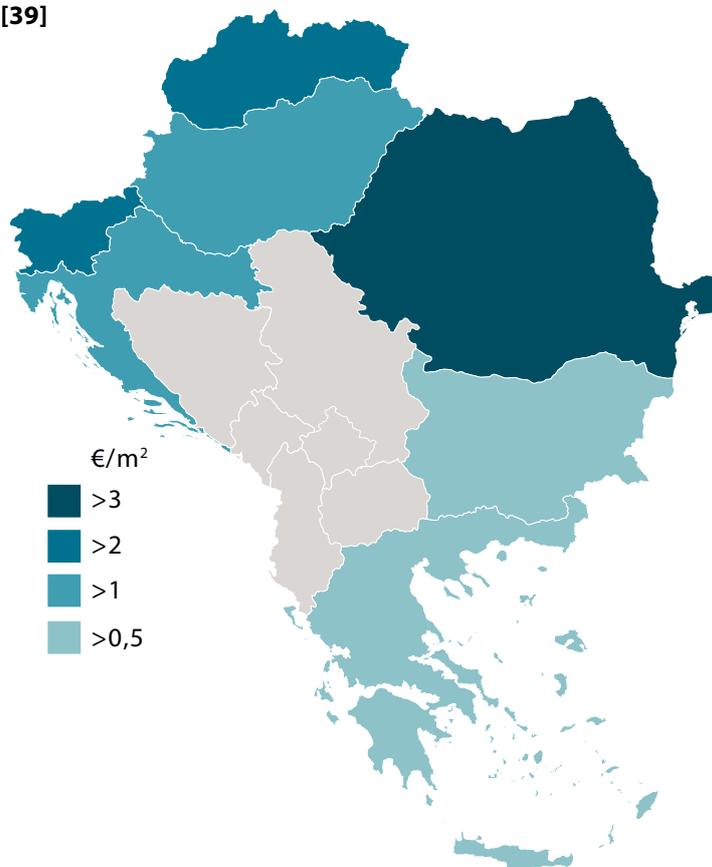
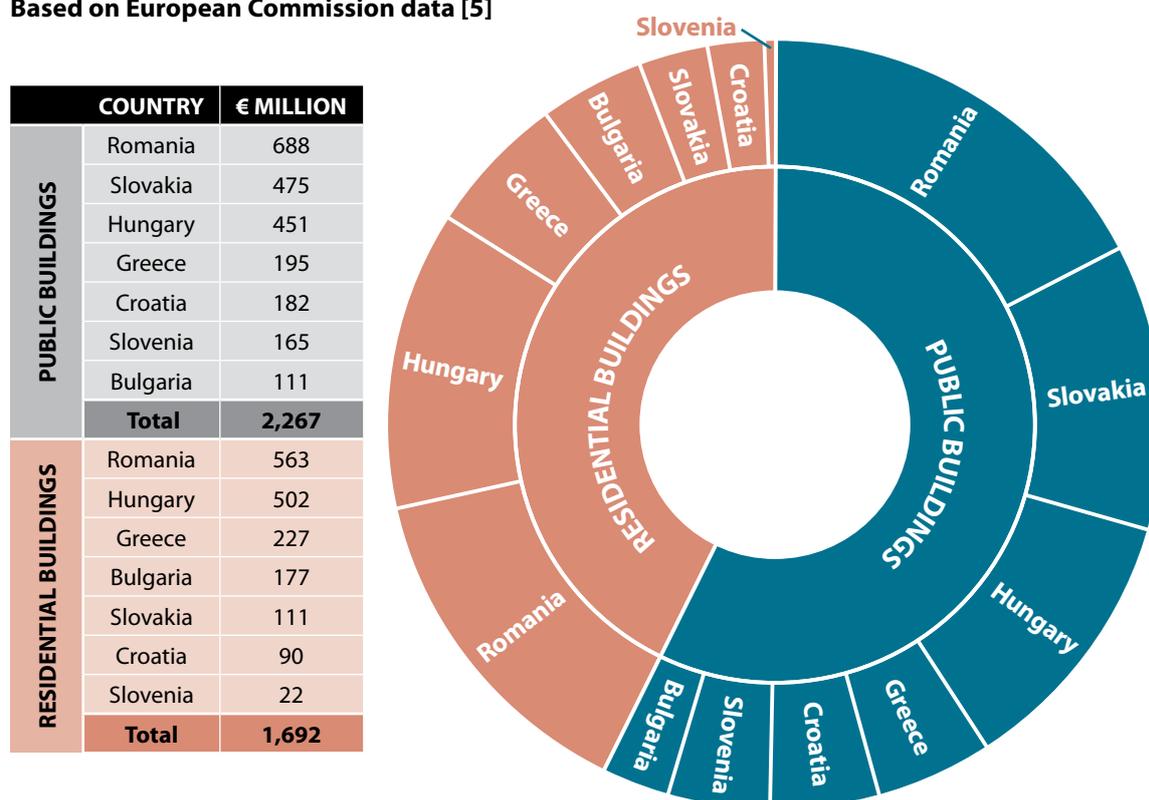
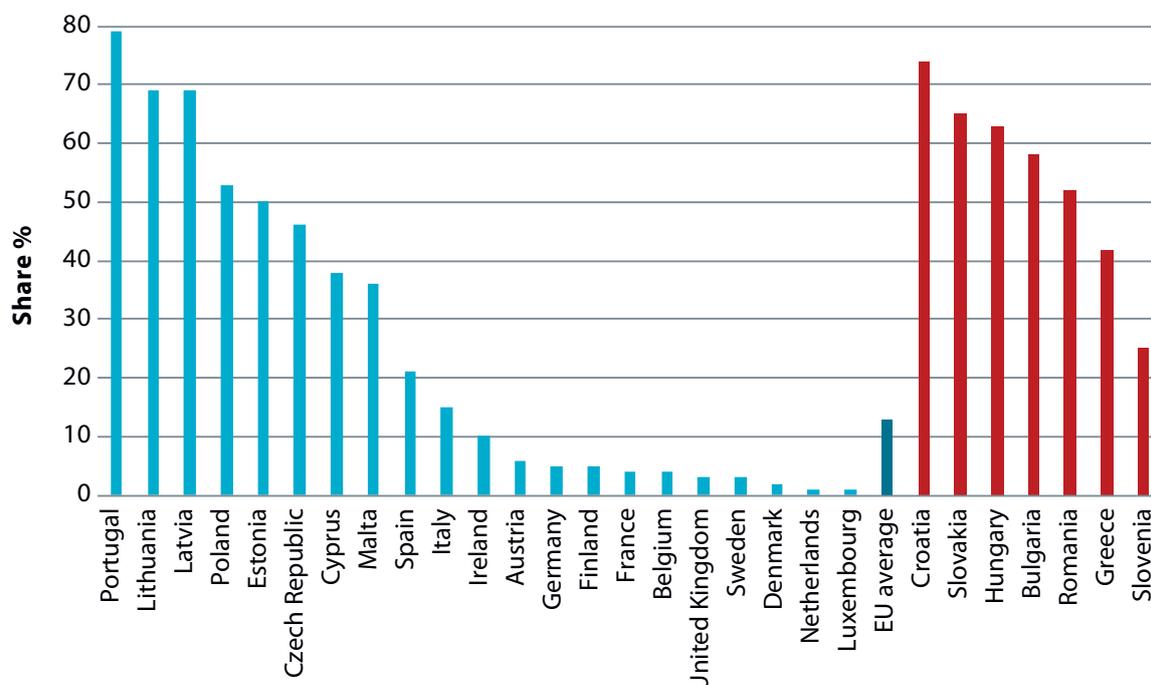


Figure 9 - Allocation of Cohesion Policy Funds to public and residential buildings, 2014-2020. Based on European Commission data [5]



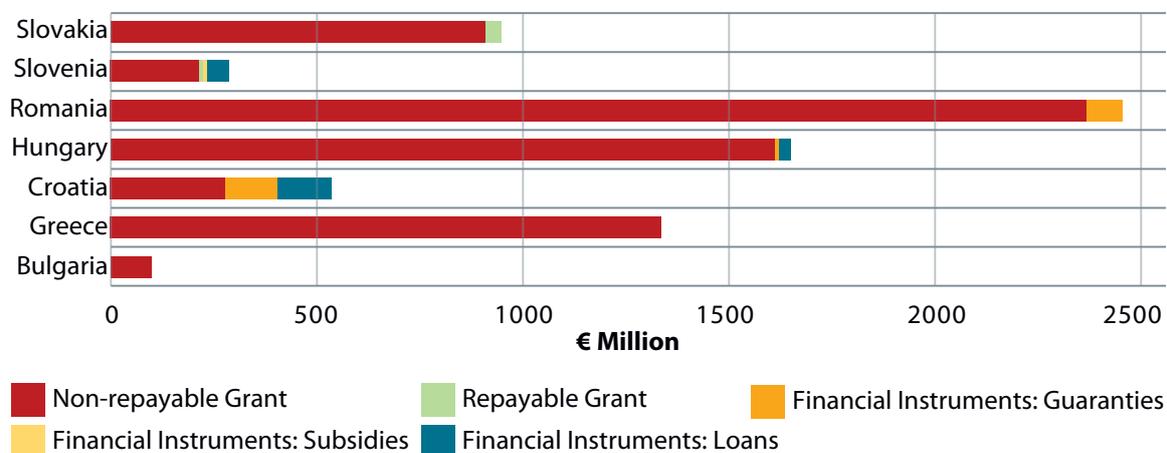
For the EU CESEC countries, the share of the Cohesion Policy Funds in public investments⁹ ranges from 25% (Slovenia) to 74% (Croatia). The share of the Cohesion Policy Funds in public investments is more than 50% in Croatia, Slovakia, Hungary, Bulgaria and Romania, and in all cases much higher than the EU average (13%) (Figure 10). This implies that the way these funds are invested in energy efficiency, have a great impact on the region's trajectory to energy security and its path to a decarbonised building stock.

Figure 10 - Proportion of the Cohesion Policy Funds in public investments [15]



The Cohesion Policy Funds are primarily used for non-repayable grants across Europe [8]. The European Commission has recommended increased use of financial instruments, such as loans, guarantees and Energy Service Company (ESCO) services, across all sectors of the Cohesion Policy Funds for the 2014-2020 programming period. The main objective is to move from grant mechanisms towards instruments that would leverage private sector resources. Despite this, Figure 11 illustrates that most EU CESEC countries use non-repayable grants as a main form of finance (the use of other financial instruments ranges from 0% to 3%).

Figure 11 - Intended form of finance. Based on European Commission data [5]



⁹ Based on a calculation by the European Commission, where public investment covers gross fixed capital formation (GFCF) of the public sector plus public expenditure in agriculture and fisheries following the classification of functions of government

The use of non-repayable grants can be explained by several reasons:

- Grants are easier to manage and dispense as they require less administrative preparation and continuous maintenance.
- There is a lack of experience and expertise on how to set up more elaborated financial schemes.
- Financial instruments, such as guarantees and ESCOs, are considered risky due to economic and political instabilities.
- There is a lack of a long-term trust in the political and financial system, which hampers establishment of longstanding financial schemes.

Besides the widespread use of non-repayable grants, establishing a clear intervention strategy is very difficult for most countries. The European Commission ex-post evaluation of Cohesion Policy programmes, in the previous MFF period 2007-2013, concluded that “in addition to a general weakness in defining an explicit rationale for energy efficiency investments in public and residential buildings, operational programmes also found it difficult to establish a clear strategy for their interventions in this area.” [6]

Interviews held with local experts and programme representatives reaffirmed that this difficulty persists, even though the preparation for the current period (2014-2020) was much better. Instead of targeting a specific typology (e.g. buildings with the worst energy performance), buildings with a specific heating source (e.g. buildings using gas) or neighbourhoods with high levels of energy poverty, projects are chosen based on the readiness of the recipient (municipalities, banks, etc.) and the simplicity of the project. Interviewed experts also raised concerns about the impact of unambitious aims for the depth of renovation, since setting insufficient energy performance targets may create a lock-in effect for future renovations.

A related problem is the poor connection between the use of the Cohesion Policy Funds and the countries’ National Renovation Strategies. According to the European Commission Joint Research Centre’s evaluation of the National Renovation Strategies from 2014 [12], only 3 CESEC countries (Greece, Slovakia and Slovenia) provide a sufficient level of detail on existing sources of funding for building energy renovation. Several interviewees reaffirmed that the link was inadequate. Renovation strategies should, among other things, encompass policies and measures to stimulate cost-effective deep renovations and a forward-looking perspective to guide investment decisions [12]. If developed properly, the National Renovation Strategies should guide investments, by promoting financial tools and targeting suitable beneficiaries and buildings.

Considering the Efficiency First principle and the recognition of energy efficiency in buildings as a key instrument to reach EU climate and decarbonisation goals, a steep increase of investments in this area is required. According to a recent BPIE study [2], a renovation programme targeting gas-using buildings would require an investment of €81 Billion over 20 years to reduce the gas consumption by 70% in the CESEC region. This would imply an increase in investments by a factor of 6 in all CESEC Member States compared to current funds.

Overall, the Cohesion Policy Funds are a valuable and, in many cases, the main financial instrument that supports energy efficiency investments in the building sector. However, even though the focus on energy efficiency in buildings has improved, the sector remains undervalued. The interviews with local experts highlighted two main reasons for this:

1. The current fund allocations to energy efficiency in buildings are not enough to trigger the renovation rate and depth needed to meet the targets set in the National Renovation Strategies.
2. The common practice of allocating Cohesion Policy Funds through grants does not trigger private investment that would boost the energy renovation market.

The rationale behind investment decisions also hampers the long-term cost-optimal path towards deep renovation, as the most effective renovations are not always prioritised or shallow renovations are preferred.

EUROPEAN FUND FOR STRATEGIC INVESTMENTS (EFSI)

The European Fund for Strategic Investments (EFSI) came as a response to the ‘investment deficit’ following the 2008 crisis and intends to mobilise private financing for investments in ‘strategic infrastructure’¹⁰ in various sectors of the economy, including energy, transport and the digital field. The EFSI builds on an EU guarantee of €16 Billion and a €5 Billion allocation of the European Investment Bank (EIB)’s own capital. This €21 Billion is expected to unlock additional investments of at least €315 Billion over a three-year period.

The EFSI differs from other EU funds, as it is designed to mobilise additional investments and targets financially riskier and more innovative projects (for example, setting up an ESCO service in a new market). Projects under the EFSI are not funded based on geographic or sector quotas, but each project is evaluated on its specificities and merits.

Out of a total of more than €8 Billion¹¹ allocated to approved and confirmed energy projects under the EFSI, only €100 Million (1.25%) is allocated to South-East Europe. Only two out of 66 energy projects are from the region: a gas project in Romania and a wind-park project in Greece [17] (see Figure 13). The majority (11 out of 19) of the countries not receiving any EFSI financing for energy are located in the CESEC region. Other EU countries receive almost 18 times as much EIB financing per capita than CESEC countries (€16.44 compared to €0.91).

Local experts think the low rate of projects in the region is due to:

- The design of the investment framework favours more mature financial markets, where the technical expertise necessary to successfully apply to this type of funds is higher;
- South-East countries have limited experience in this kind of project development; and
- The broad availability of grants in the CESEC region, makes EFSI projects less attractive.

Another reason might be the risk linked to the multiplier effect¹², which is essential for the programme to reach its objective of mobilising €315 Billion of investment in Europe. In the CESEC region, where the private market is less developed, there is a perceived risk that the EFSI allocation will not produce the same multiplier effect as in other parts of Europe¹³.

The EFSI was created to address barriers that are common in the CESEC region, which has underdeveloped financial markets and deeply needs energy investment. In other EU countries (e.g. Île-de-France Region) the EFSI has successfully assisted in the creation of energy service companies (ESCOs) and it could do the same in EU CESEC countries, where an underdeveloped ESCO market hinders energy efficiency investments.

Figure 12 - EFSI financing for energy projects. Based on an evaluation of EIB data [17]



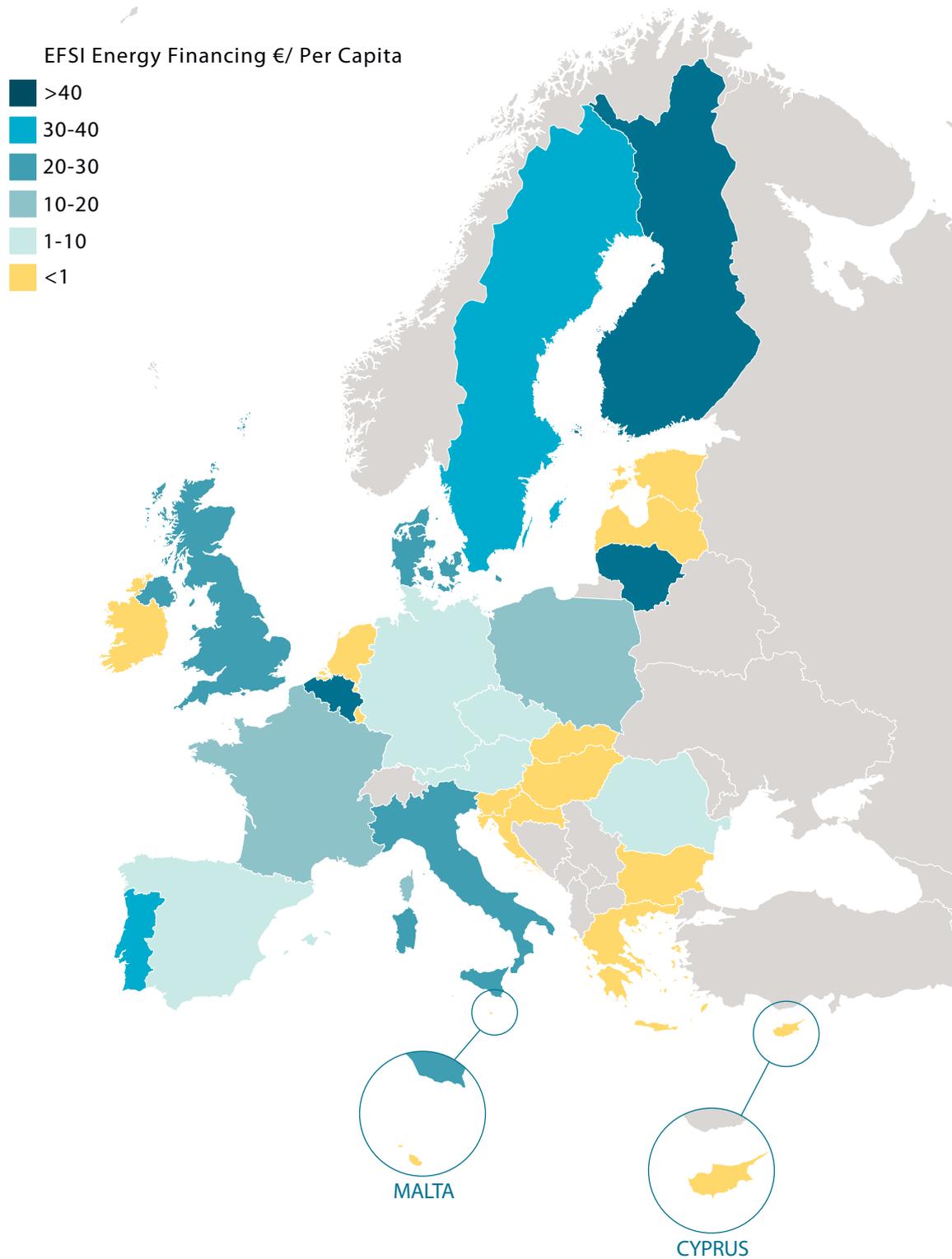
¹⁰ http://ec.europa.eu/growth/industry/innovation/funding/efsi_en

¹¹ The amounts refer to EFSI financing: tranche of an operation that benefits from the support of the EFSI

¹² Leverage factor x15: €21 Billion is expected to unlock additional investments of at least €315 Billion over a 3-year period

¹³ This perception was indirectly confirmed by EIB's vice-president, Ambroise Fayolle, who said in an EurActiv interview "In Greece we have put in place resources to identify projects. But the risk level is very high"

Figure 13 - EFSI financing for energy projects. Based on an evaluation of EIB data [17]



EUROPEAN ENERGY PROGRAMME FOR RECOVERY (EEPR)

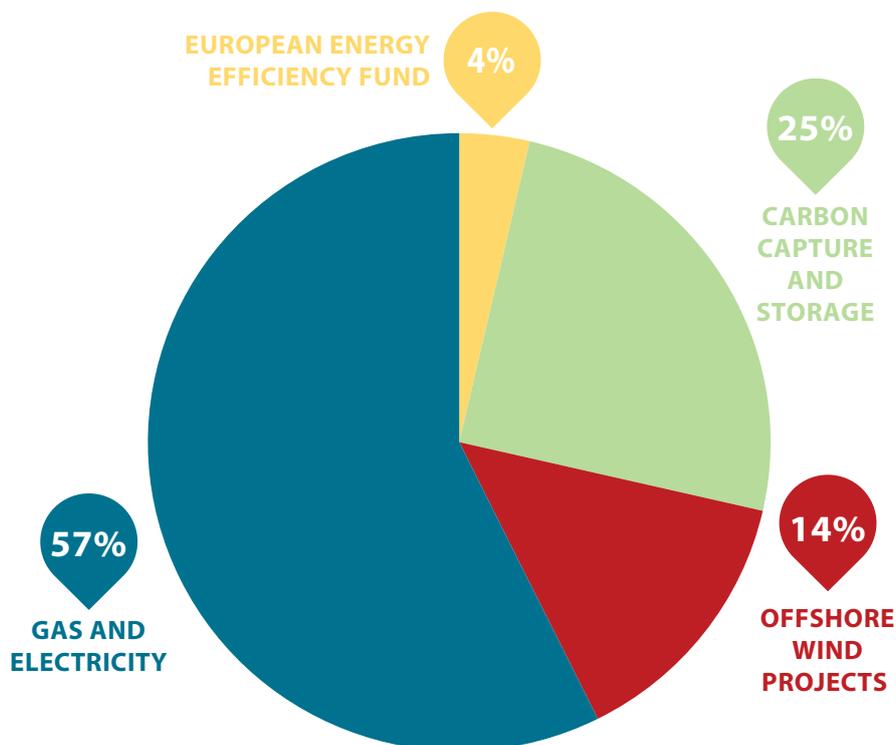
The European Energy Programme for Recovery (EEPR) grants financial assistance to the energy sector, especially for interconnection infrastructure, energy production based on renewable sources, carbon capture and storage and energy efficiency projects. The programme's budget totals €3.98 Billion, with approximately €2.3 Billion directed to gas and electricity infrastructure projects, €565 Million to offshore wind projects, €1 Billion to carbon capture and storage projects, and €146 Million to the European Energy Efficiency Fund (EEEF) [18].

The EEEF was not in the initial scope of the EEPR but was added in 2011 to utilise unused funds from the EEPR. It focuses on setting up innovative Public-Private Partnerships (PPPs) to mitigate climate change through financing energy efficiency measures and renewable energy projects. The fund intends to "support EU Member States in meeting their objective to, by 2020, reduce greenhouse gas emissions by 20%, increase renewable energy usage by 20% and lower energy consumption through a 20% improvement in energy efficiency." [19].

Figure 14 illustrates that more than half (57%) of the EEPR funds are allocated to supply-side infrastructure, while only 4% to the EEEF. While the EEPR provides funding for several gas pipelines in South-East Europe [6], so far there is only one project under the European Energy Efficiency Fund located in the CESEC region, which is in Romania.

By utilising unused funds from other categories, the EEEF currently plays a minor role in boosting European economies and delivering on EU energy goals. A higher allocation of funds to the EEEF would recognise the strategic importance of energy efficiency projects in achieving the EU climate and energy targets. A financially stronger EEEF could trigger valuable PPPs that would contribute to the development of private energy efficiency investments in the region. To decarbonise the EU building stock, a faster and deeper renovation rate is required and the EEEF could be a crucial tool in achieving this.

Figure 14 - EEPR priorities [18]



EU EMISSION TRADING SYSTEM (ETS) REVENUES

The auctioning revenues of the EU Emission Trading System¹⁴ (ETS) are another funding source for EU Member States. This funding stream is not included in the EU budget but (re-)uses the revenues from the ETS scheme to fund strategic objectives, such as energy, transport and agriculture. Between 2013 and 2015, auctioning revenues reached €11.7 Billion, of which €1.6 comes from the seven South-East European Member States included in the scope of this study.

Since 2009, the Emission Trading Scheme Directive has included the provision that at least 50% of the revenues generated from the auctioning of allowances should be used for climate action (e.g. contribute to the Global Energy Efficiency and Renewable Energy Fund and develop renewable energies) [20]. Additionally, the Directive states that "Member States shall determine the use of revenues generated from the auctioning of allowances". So far, the countries have only reported on the use of auctioning revenues from 2013 to 2015 (Figure 15).

Figure 15 - ETS: Average spending of auctioning revenues on domestic actions (period 2013-2015) [21]

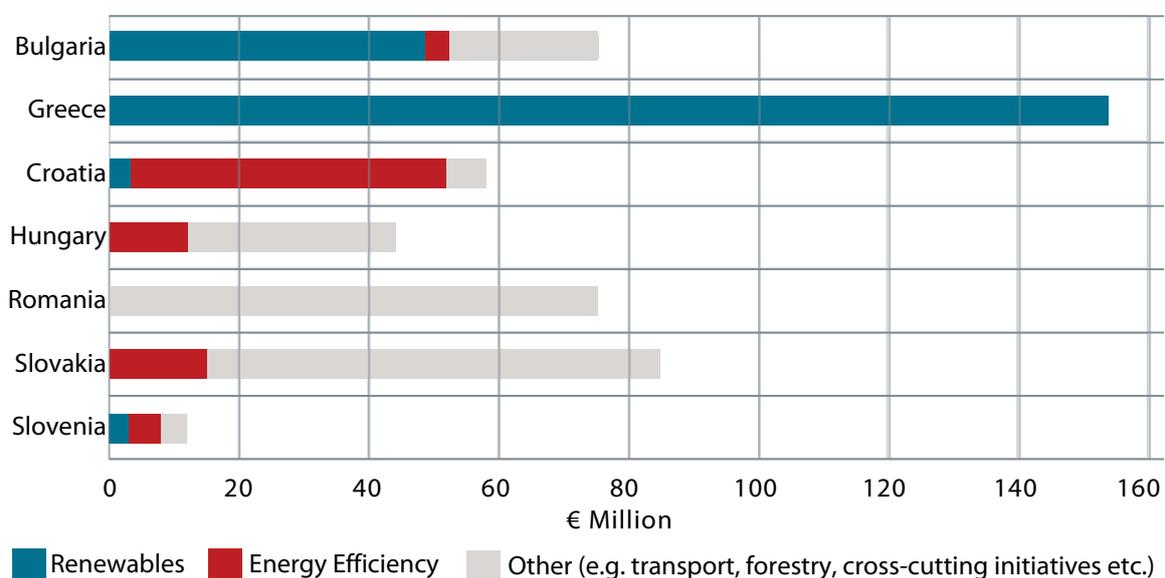


Figure 15 shows that only Croatia allocates a substantial share of its auctioning revenues to energy efficiency actions (including the renovation of private and public buildings). Romania and Greece use the revenues mainly for renewable energy projects. In the remaining four countries (Bulgaria, Hungary, Slovakia and Slovenia) only a minor share of the revenues is allocated to energy efficiency. On the contrary, France, for example, uses 100% of its auctioning revenues for energy efficiency, including funding for the "Habiter Mieux" (Live Better) programme that subsidises energy renovation measures in the residential sector.

It should be noted that up to 300 Million allowances from the New Entrant Reserve, the so-called NER300, are sold by the EIB. The revenue from these allowances is used to establish a demonstration programme comprising the best possible Carbon Capture and Storage and Renewable Energy Supply projects, involving all Member States [22].

Using ETS revenues could bring crucial funding streams to South-East Europe. Only 13.68% of the total ETS revenues are used in South-East Europe. Most revenue goes to renewables and supply-side infrastructure projects, although Croatia uses a big share of its balance for energy efficiency measures.

¹⁴ The system works by putting a limit on overall emissions from covered installations, which is reduced each year. Within this limit, companies can buy and sell emission allowances as needed. This 'cap-and-trade' approach gives companies the flexibility they need to cut their emissions in the most cost-effective way

EU FUNDING STREAMS FOR NON-EU COUNTRIES

The EU also supports energy investments in countries outside the European Union, especially in candidate countries¹⁵ and neighbouring countries like Ukraine and Moldova.

INSTRUMENT FOR PRE-ACCESSION ASSISTANCE

The Instrument for Pre-accession Assistance (IPA) is used to support reforms in the enlargement countries with financial and technical assistance. The six Western Balkan countries (Albania, Bosnia and Herzegovina, FYROM, Kosovo, Montenegro and Serbia) are all beneficiaries of this strategic instrument. The IPA for the 2014-2020 period amounts to €11.70 Billion (with the biggest share going to Turkey), from which €3.90 Billion is directed to the six Western Balkan countries. Out of this, €225 Million is allocated to the energy sector [8].

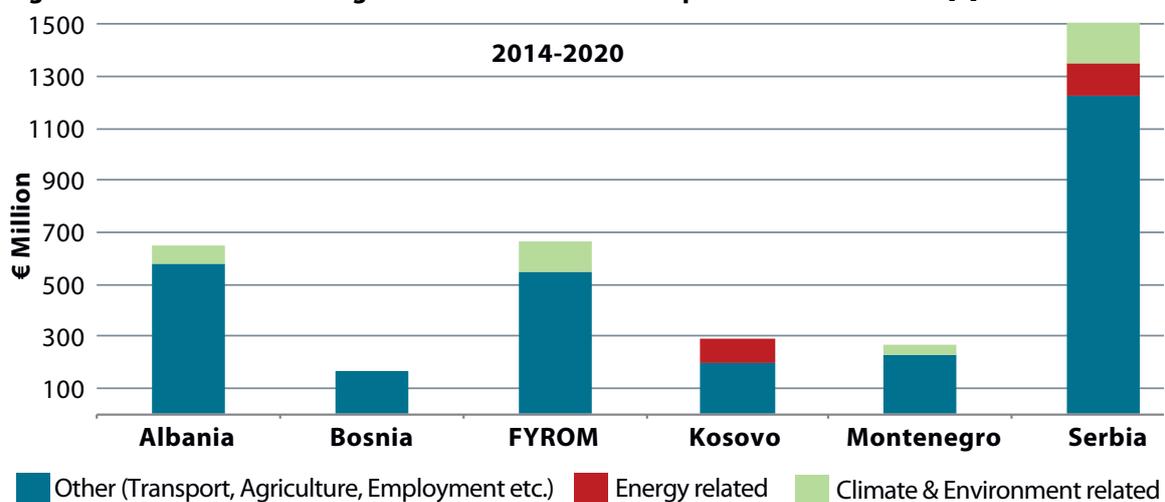
For the current period 2014-2020, the IPA changed its strategic focus and introduced the requirement to develop Country Strategy Papers, which are strategic national planning documents for the seven-year period. When a country joins the EU, they must comply with the “acquis communautaire”, including EU directives like the Energy Performance of Buildings Directive and the Energy Efficiency Directive. These strategy papers aim to prepare the enlargement country for the future accession, transforming a given sector and ensuring it meets EU standards. The revised IPA aims to provide the countries with a stronger ownership by integrating their own reform and development agendas in the pre-accession strategy¹⁶.

In 2015, the Western Balkan countries used two to five times more energy per GDP than the EU average [23]. This high-energy intensity is costly in terms of energy security, energy poverty and health, and is hampering economic growth and competition. The pre-accession process could be an excellent opportunity to support candidate country in developing their climate and energy strategies.

According to the Country Strategy Papers [8], the Western Balkan countries have indicated their intentions to invest a modest share of the IPA in climate and energy objectives (see Figure 16). Less than 11% is allocated under climate & environment, and just 6% to energy objectives, where energy efficiency plays a minor role. The pre-accession process is currently not driving energy efficiency in the Western Balkans.

The limited share of investments dedicated to climate and energy objectives shows that the IPA is not currently considered a main driver for development in this area. Better guidance on the formulation of Country Strategy Papers, highlighting the importance of the Efficiency First principle could address this and enhance energy efficiency investments.

Figure 16 - IPA - Indicative budget allocation. Based on European Commission data [8]



¹⁵ Current beneficiaries are: Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Kosovo, Montenegro, Serbia, and Turkey

¹⁶ https://ec.europa.eu/neighbourhood-enlargement/instruments/overview_en

NEIGHBOURHOOD INVESTMENT FACILITY

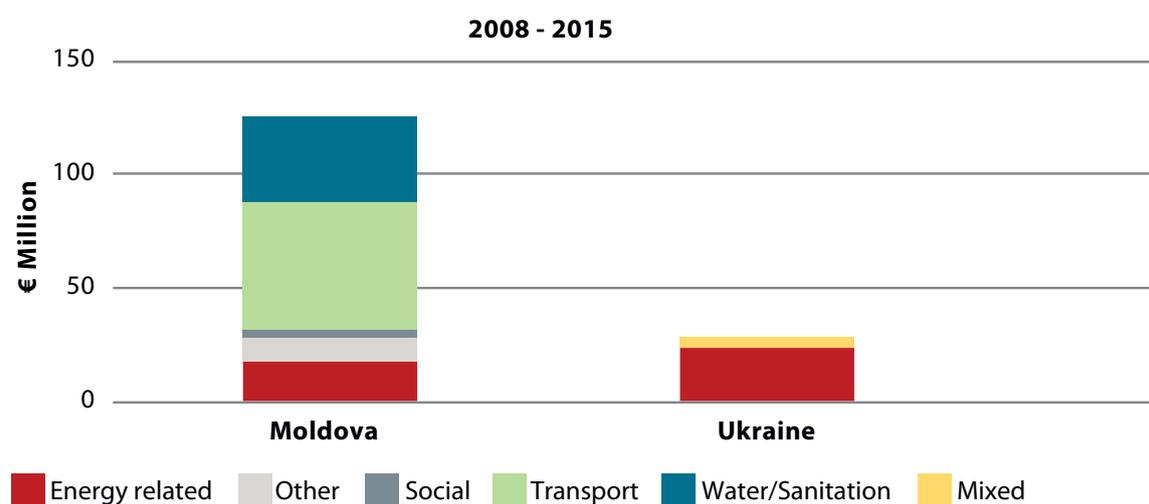
The Neighbourhood Investment Facility (NIF) is a mechanism aimed at mobilising additional funding to finance capital-intensive infrastructure projects in EU partner countries covered by the European Neighbourhood Policy (ENP) in sectors such as transport, energy, environment and social development. NIF pools grant resources from the EU budget and EU Member States, and uses them to leverage loans from European financial institutions, as well as, contributions from the ENP partner countries themselves.

Both Ukraine and Moldova are critically dependent on imported energy sources (mainly gas) and suffer from highly inefficient energy use. Between 2008 and 2015, the EU's Neighbourhood Investment Facility supported seven projects in Ukraine and 15 in Moldova. The focus on energy was greater in Ukraine where €24 Million out of €29 Million (82.76%) from NIF contributions was allocated to energy projects. Moldova allocated just €18 Million out of €129 Million (14.68%). More than half (55%, €23.3 Million) of the NIF funding for energy projects is allocated to supply-side infrastructure (gas and electricity), while 24% (€9.9 Million) was allocated to energy efficiency and 9% (€3.8 Million) to renewables energy projects in the two countries.

The energy focus of the EU's 2014 support package to Ukraine [24], including €3 Billion in aid from the EU budget, was primarily on modernising the gas transmission system, with the goal of bringing energy security to the country and the region. Demand-side infrastructure was not mentioned as a priority. In November 2016, the EU and Ukraine agreed to intensify their energy cooperation, putting a greater focus on energy efficiency and renewable energy¹⁷.

A shift to energy efficiency is urgently needed. Ukraine and Moldova are heavily dependent on gas imports from Russia. Since the building stock in Ukraine and Moldova is highly inefficient, investing in energy efficiency would increase energy independence, alleviate energy poverty and improve the health and well-being of building occupants.

Figure 17 - NIF project allocation, Moldova - Ukraine. Based on European Commission data [9]



¹⁷ <https://ec.europa.eu/energy/en/news/eu-ukraine-summit-eu-and-ukraine-intensify-energy-partnership>

MAIN FINDINGS: EU FUNDING STREAMS

The Cohesion Policy Funds are the biggest funding streams for demand-side infrastructure and building renovation in the CESEC region. The seven CESEC EU Member States have allocated around €3.96 Billion for energy efficiency in buildings for the seven-year period. The EFSI and the EEPR programmes were created to support economic and energy developments in the European Union, yet only a few energy projects have been launched in the CESEC region so far and these have primarily focused on gas infrastructure. Furthermore, only a minor share of EU's support programmes, IPA and NIF, is directed to demand-side infrastructure for the Western Balkans and East Europe.

A similar trend is true of ETS revenue allocations. Except for Croatia, which allocates a substantial part of its ETS revenues to energy efficiency (including renovation of residential and public buildings) no country prioritises energy efficiency. This is despite the provision that at least 50% of the revenues generated from the auctioning of allowances should be used for climate action purposes, which includes energy efficiency in buildings.

The modest share of the EU funding streams directed to demand-side infrastructure does not support the Efficiency First principle. Regardless of the big improvement since the last MFF period, demand-side infrastructure continues to be a low priority and is dwarfed by conventional energy investments.

Table 3 - Summary: EU funding streams in CESEC, (period 2014-2020). Data based on [5], [17], [6], [8], [9]. NIF for the period 2008-2015

(In € Million)	Cohesion Policy Funds	EFSI	EEPR	IPA	NIF
Total Investment	91 924	2 040	25	3 553	155
Investments in Energy	6 275	100	25	225	42
Investments in Demand-Side Infrastructure	3 959	0	25	<225	<42

For the CESEC countries, grants are still the preferred method of channelling financial support (Figure 11). According to interviews conducted by BPIE on the progress of EU countries on their renovation strategies [25], a high level of grants risks subduing financial markets and making private investors less eager to invest. Grants for renovation activities can cover up to 100% of the costs and reduce the incentives to develop and adopt innovative financial instruments. The high share of grants also implies that the multiplying/revolving effect of the funding streams is very low.

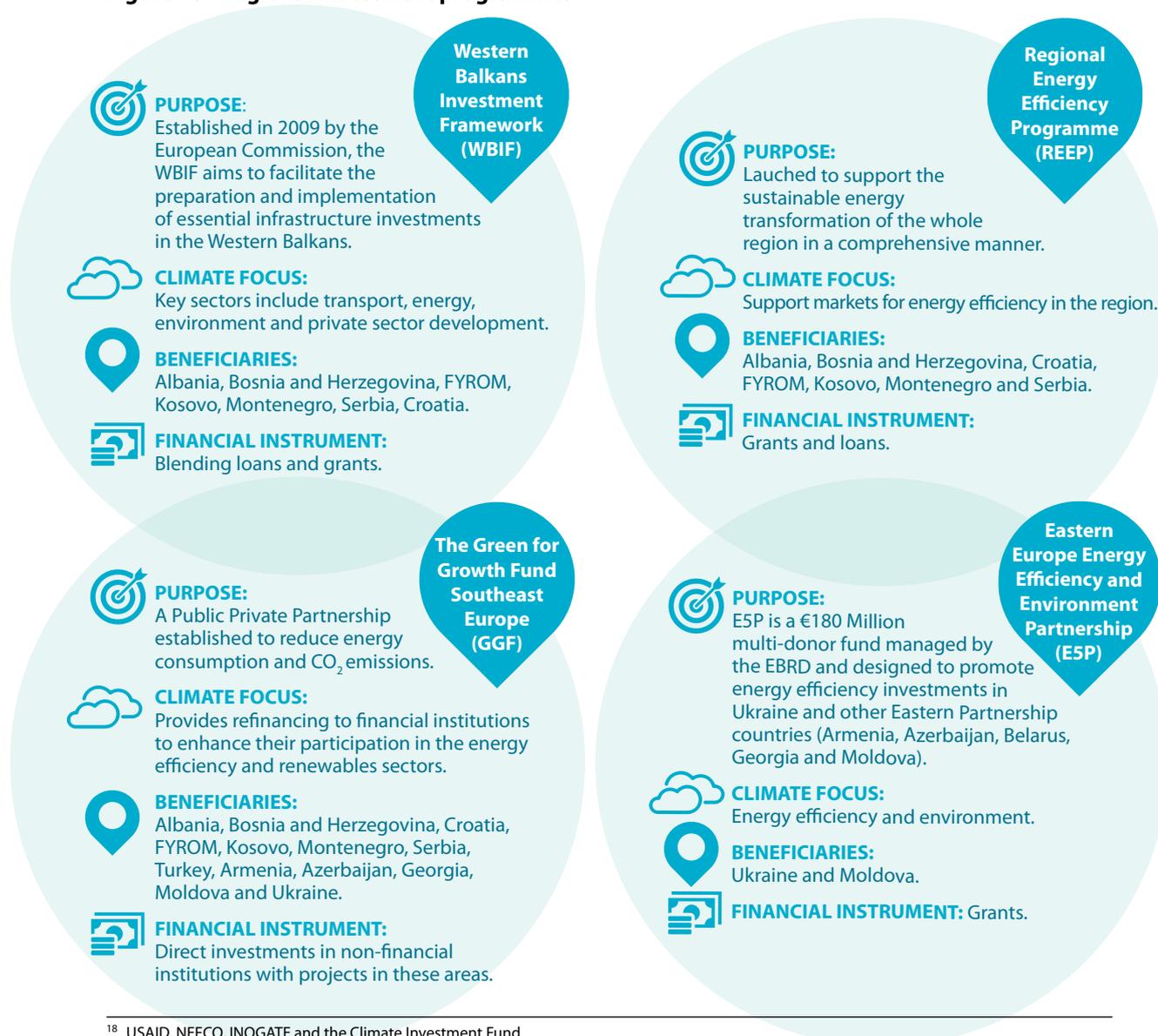
The creation of innovative financial instruments and more dedicated and effective use of EU funding streams is essential to renovate the building stock in the CESEC region to energy performance levels that would reduce gas dependency and climate impacts. A more effective use of financial instruments requires considerable rethinking the role of public budgets and a detailed assessment of the market and legislative framework. There is a risk that investment opportunities are lost due to poor programme design and inefficient use of financial instruments.

The Smart Finance for Smart Buildings Initiative (SFSB), aiming to make better use of public finance, should consider that ongoing programmes designed to unlock private investments (such as the EFSI) have not been successful in bringing projects to the CESEC region. EFSI 2.0 (the continuation of EFSI) should address the barriers preventing the use of the fund in the CESEC region and ensure targeted investments in clean energy where they are most needed. It is clear that more comprehensive strategies, tackling multiple barriers at once, are needed to channel private funds to building renovations.

NON-EU FUNDING STREAMS FOR SOUTH-EAST EUROPE

There are several funding streams for demand-side infrastructure in the region not coming from the EU. Regional programmes and investment and development banks play a key role in facilitating the creation of the right conditions for growth and sustainable development, and in directing investment to strategic projects. This section analyses selected regional programmes and international financial institutions, including: the Western Balkans Investment Framework (WBIF), Regional Energy Efficiency Programme (REEP), the Green for Growth Fund Southeast Europe (GGF), the Eastern Europe Energy Efficiency and Environment Partnership (E5P), the European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), the World Bank (WB) and the KfW Entwicklungsbank (KfW). These programmes are considered, and confirmed by local experts, as the most relevant for demand-side investments. Additional funding streams¹⁸ have been analysed, but excluded due to their size and scope. A short description of each funding stream including its main purpose, beneficiaries, energy focus and the type of financial instruments it offers (e.g. grants, loans, guarantees) is presented in Figure 18 and Figure 19.

Figure 18 - Regional investment programmes



¹⁸ USAID, NEFCO, INOGATE and the Climate Investment Fund

Figure 19 - International financial institutions



REGIONAL INVESTMENT PROGRAMMES

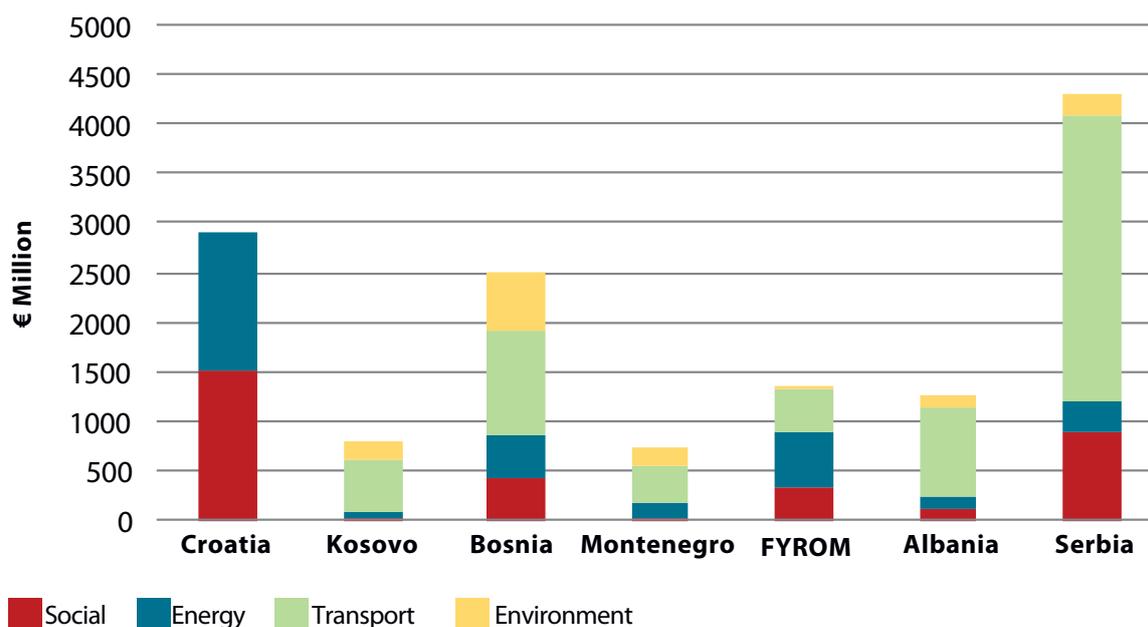
The Western Balkans Investment Framework (WBIF), the Regional Energy Efficiency Programme (REEP) and the Green for Growth Fund (GGF) all support demand-side infrastructure in the Western Balkans. The EU is the biggest contributor to these funds, but not the only one¹⁹. The Eastern Europe Energy Efficiency and Environment Partnership (E5P) also grants financing for energy efficiency and environmental projects in Eastern Europe.

The WBIF has two main objectives: (i) pooling grants, loans and expertise to prepare financing for priority investment projects; and (ii) strengthening coherence and synergies among donors to increase the positive impact and visibility of investments in the Western Balkans²⁰. To date, the WBIF has participated in the funding of 144 projects amounting to an investment of €15.2 Billion. Only six of them are in the energy efficiency sector and have received €49 Million funding from the WBIF. Out of these six projects only three relate to energy efficiency in buildings, with a total investment of €54.5 Million and WBIF funding of €22.6 Million.

In 2012, the EBRD, with the support of the European Union and in partnership with the Energy Community Secretariat, set up the REEP. The programme integrates finance, technical assistance and policy dialogue and it is the main funding instrument in the Western Balkans region supporting energy efficiency investments. Its total budget was €169.35 Million, with €23.35 Million being grants from the WBIF. REEP plus (the continuation of existing activities under REEP for 2017-2020), extends the programme to the residential sector (at least 20,000 households). REEP plus has a total budget of €197.5 Million, of which €30 Million is from EU grants.

One of the main tools of the REEP is the Western Balkans Sustainable Energy Financing Facility II (WeBSEFF II), which aims to unlock the significant potential of the region to reduce energy intensity and promote diverse sources of green energy. WeBSEFF II has a budget of €106.5 Million, where €3.3 Million is used for technical cooperation [26]. The facility is used to encourage private and municipal borrowers to pursue sustainable energy projects that are often challenging to develop, finance and implement [27]. 15% of the WeBSEFF II goes to increasing energy efficiency in buildings [28].

Figure 20 - Western Balkans Investment Framework [35]



¹⁹ <https://wbif.eu/content/stream//Sites/website/library/EE-Brochure.pdf>

²⁰ https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/western-balkans-conference/wbif-a4-def_en.pdf

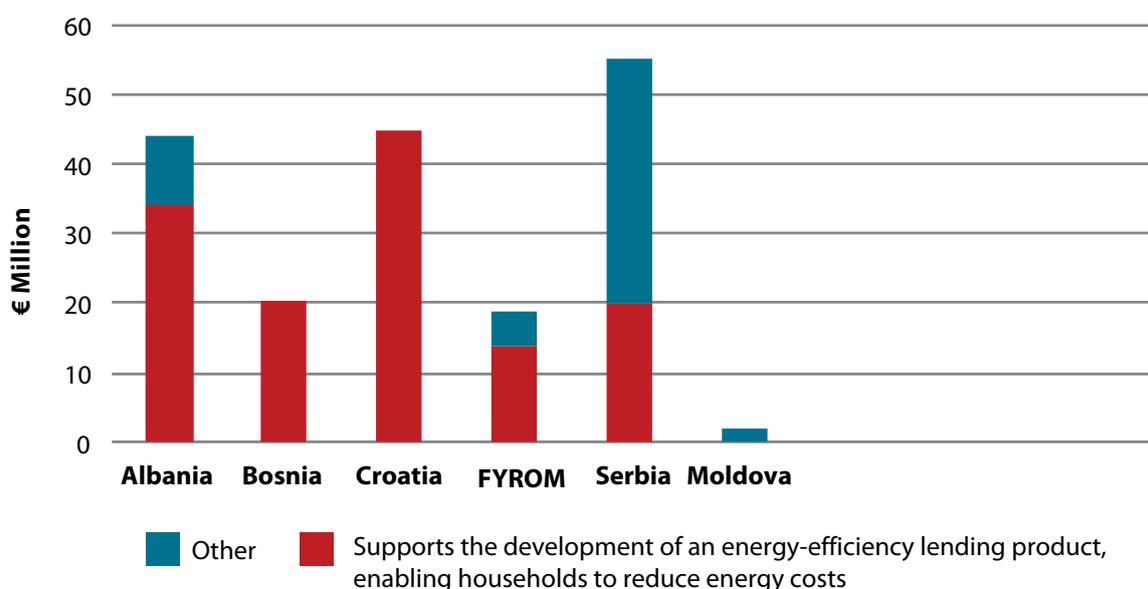
The GGF was initiated in 2009 by the EIB and KfW to enhance energy efficiency and foster renewable energies in South-East Europe, in the form of a public-private partnership with a layered risk/return structure. As of March 2015, the committed volume amounts to €185.6 Million, with a considerable share (62%) going to demand-side infrastructure [29].

The initial focus of the E5P was to support energy efficiency in Ukraine. While additional countries have been added, Ukraine remains the main priority. Based on pledges of €108 Million - from the EU, other European countries and the United States Agency for International Development - the fund primarily supports residential renovation (€23.15 Million) and district heating (€35.55 Million) in the country [30].

The energy intensity of the Western Balkan countries is much higher than the average of the EU. This is partly due to an inefficient building stock. Except for the WBIF (which allocates a small part to energy and even less to energy efficiency), the amount of funding dedicated to energy efficiency is limited (see Table 4).

While the regional investments programmes have taken steps in the right direction, additional measures are needed to boost private investments in demand-side infrastructure.

Figure 21 - Green for Growth Fund [29]



FINANCIAL INSTITUTIONS FINANCING ENERGY EFFICIENCY

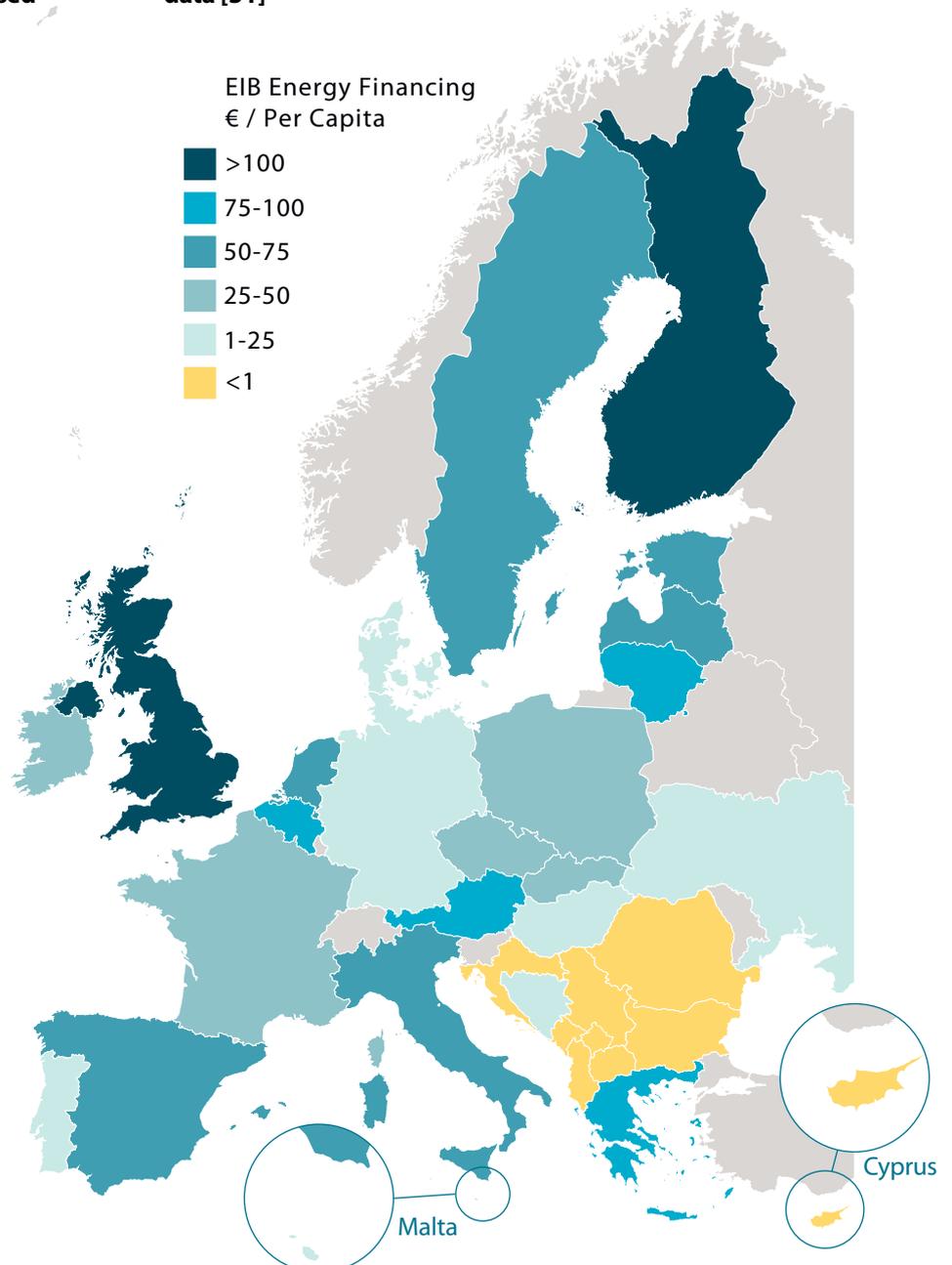
The European banks allocate considerable amounts to energy projects. Just as with the EFSI projects (managed by the EIB), most of the EIB and EBRD loans are not allocated to the countries covered by this report. Only 8.5% of the loans are directed to these 15 CESEC countries, with the majority (71%) directed to just two: Ukraine and Greece.

The map below illustrates the amount granted by the EIB to energy projects throughout Europe in relation to the countries' population. The yellow colour marks no or very little funding for energy. The majority (seven out of nine) of countries not receiving EIB financing for energy are in the CESEC region. Only in Greece, Slovenia and Slovakia can the level of EIB financing for energy projects per capita be compared with other EU countries. Other EU countries receive almost 3 times as much EIB financing per capita as CESEC countries (€57 compared to €22).

Figure 22 - EIB Energy Projects. Calculation based on EIB data [31]

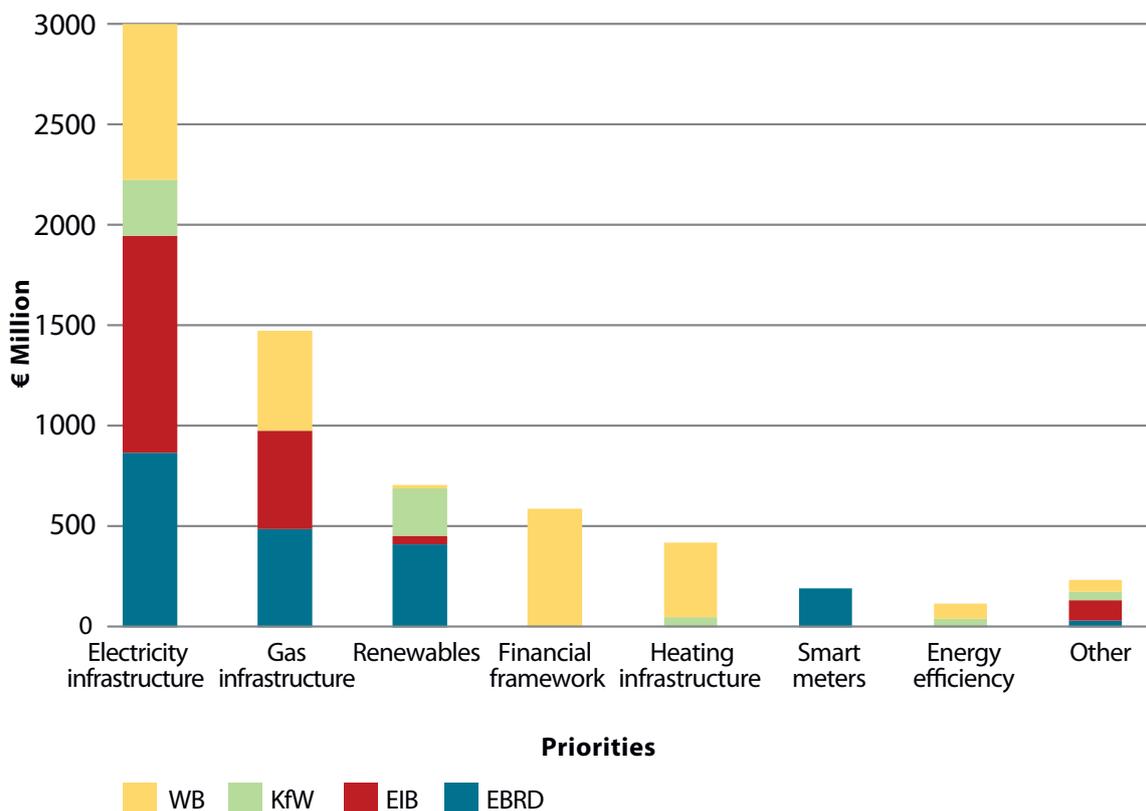


Figure 23 - EIB energy investments. Calculation based on EIB data [31]



Our analysis of the funds allocated by the EIB, the EBRD, the KfW and the World Bank shows that most funding for energy investments is directed to supply-side infrastructure. Electricity and gas infrastructure projects received more than 66% of these funds. Only a minor share is allocated to energy efficiency projects and even less to energy renovation of the building stock. Only 1.7% of the total committed amount of the €6.8 Billion is allocated to demand-side infrastructure.

Figure 24 - Energy projects financed by international financial institutions²¹ *



* Projects include: Active projects, or projects that have been signed 2014 or later. Data gathered from EIB [31], EBRD [32], WB [33] and KfW [34]

Figure 24 illustrates that supply-side measures are more attractive for international financial institutions. This happens for several reasons: (i) supply-side projects are in general bigger and therefore come with greater political significance; (ii) international development and investment banks have more experience of investing in supply-side energy projects; and (iii) in the context of securing energy supply, demand-side investments, such as building renovation, have often been overlooked. Some of these supply-side investments are crucial to ensure a reliable supply of energy, but it is evident that demand-side investments remain overlooked.

²¹ 'Other' comprises two municipal service projects, one project that upgrades a power plant, two projects which improve transparency and compliance, and two oil projects

MAIN FINDINGS: NON-EU FUNDING STREAMS

Non-EU funding streams do not focus on demand-side infrastructure. The WBIF supported in total 144 projects with only six of them (with WBIF funding of €49 Million) in the energy efficiency sector. The REEP, GGF and E5P allocate funds for this purpose, but their budgets are very small in comparison, as shown in Table 4.

International financial institutions do not prioritise demand-side infrastructure investments in this region. Figure 22 shows that a mere 8.49% of EIB's projects in the CESEC region are energy-related, and none of these focus on demand-side infrastructure. Figure 24 shows that these international financial institutions prioritise supply-side measures (electricity and gas).

Out of the total energy investments made by these funding streams, only 2.5% is allocated to demand-side measures and just 0.006% of all the investments is going to the CESEC region (see Table 4).

Table 4 - Summary: other funding streams in CESEC. Data from WBIF [35], GGF [29], E5P [30], REEP [28], EBRD [32], EIB [31], KfW [34] and WB [33]*

In Million EUR	WBIF ²²	GGF	E5P	REEP	EBRD	EIB	KfW	WB
Total Investments	15,200	186	94	103	10,815	10,857	1,461	15,569
Investments in Energy	4,200	186	94	103	2,239	1,817	783	3,515
Investment in Demand-Side Infrastructure	54.5	116	23	15	0	0	38	79

*Calculation was not possible due to the high number of projects and the format of the available data

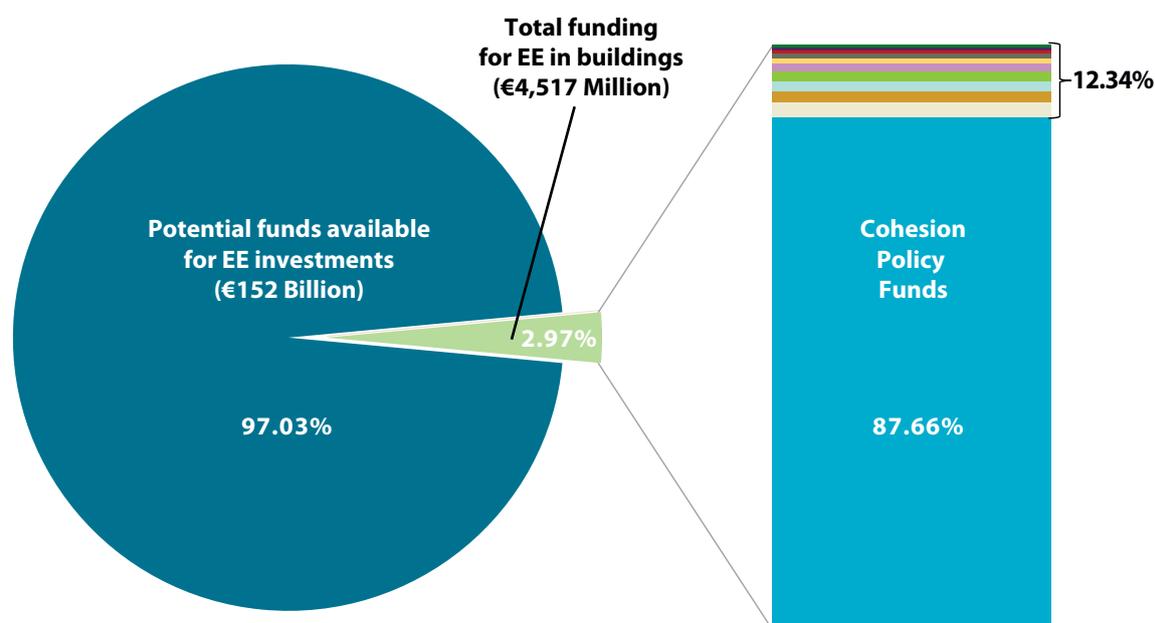
Just as with EU funding streams, demand-side measures such as building renovation, remain overlooked and underinvested in by non-EU funds in the CESEC region.

²² WBIF figures are based on 'total investments', which include loans that these investments have triggered

FINANCING AN ALTERNATIVE PATH TO ENERGY SECURITY

Currently, less than 3% of the total funding that could be used for energy efficiency investments in Central, Eastern and South-East Europe is dedicated to upgrading buildings (Figure 25).

Figure 25 - Overview of the share of funding streams dedicated to energy efficiency in buildings in the CESEC region. Figures are based on previous calculations



Funding streams for energy efficiency in buildings - € Million

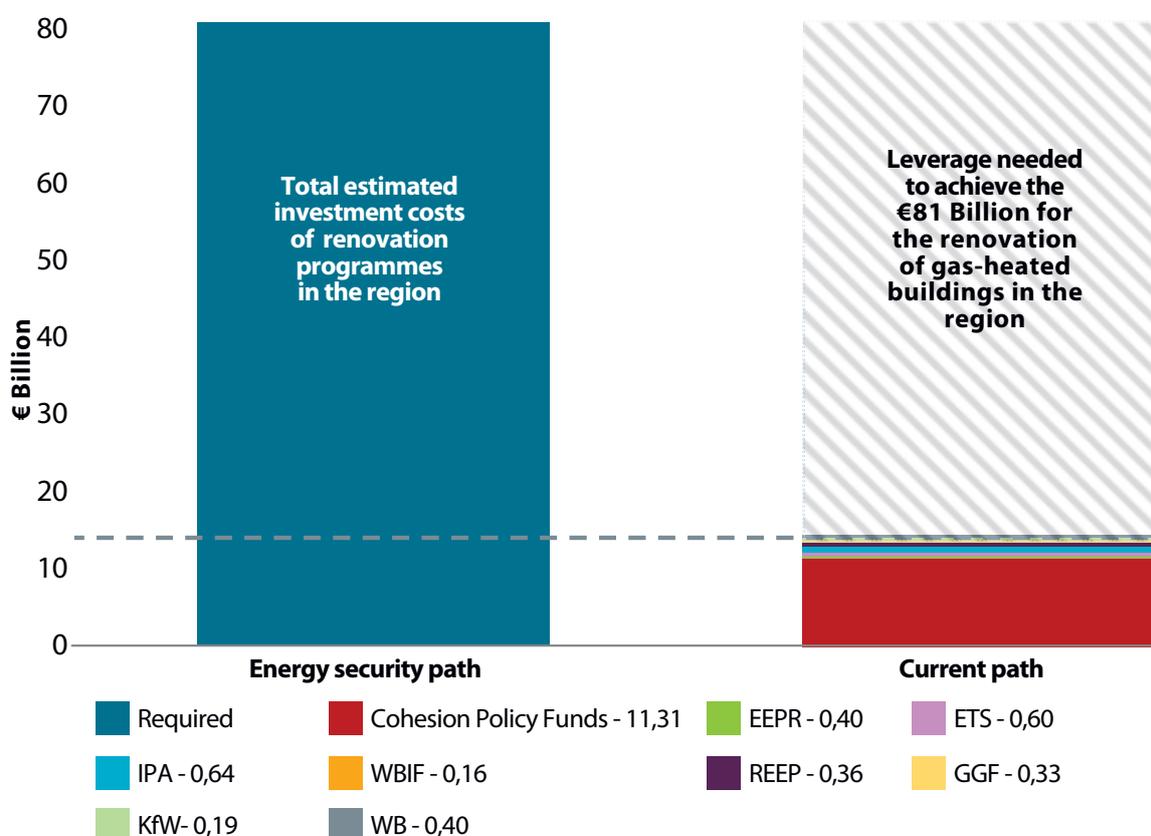
Cohesion Policy Fund - 3,959	EIB - 0	REEP - 15
EBRD - 0	EEEEF - 25	KfW - 38
ESP - 23	WBIF - 55	WB - 79
NIF - 42	ETS - 85	GGF - 116
IPA - 80	EFSI - 0	

If the current financial flow was maintained at the same pace, it would reach €14.38 Billion over the next 20 years, equal to 17.8% of the amount needed to bring energy security to the region (see Figure 26) as highlighted by BPIE in its 2016 analysis of the building stock's vulnerability to gas-supply disruptions. The analysis used a Building stock Vulnerability Indicator (BVI) to assess the vulnerability of the building sector to gas-supply interruptions and concluded seven countries in the Central and South-East region are facing significant risk²³. Considering this vulnerability, adopting an "efficiency first" approach would be a viable alternative to increase supply: a dedicated building renovation programme could, within 20 years, upgrade all gas-using buildings in the region and reduce gas consumption of the building stock by as much as 8.2 bcm/a, or 70% of the current consumption.

²³ Country with severe to moderate risk being unable to heat their national building stocks: Slovakia and Hungary (severe), Bulgaria (substantial), Bosnia and Herzegovina, FYROM, Serbia and Slovenia (moderate)

A more efficient use of the funds could also help leverage new investments and attract additional private and public financial support. For example, a leverage factor of five to six would result in the €81 Billion investment needed to renovate gas-using buildings and achieve an ‘alternative energy security path’, which would lead to financial returns of €106 Billion in reduced energy bills in the CESEC region [2]. A more efficient use of financial instruments could create a revolving effect, multiply the amounts available and allow reinvesting funds in new projects. This would substantially reduce the threat to society and economy posed by gas-supply disruptions. The residual low demand for gas in the region could easily be covered with reverse-flow pipelines and imports through LNG terminals in neighbouring countries.

Figure 26 - Delivering energy security through demand-side infrastructure investments. Based on BPIE calculation*



(*) For the ‘current path’, the funding streams have been assumed to remain constant

With the exception of the Cohesion Policy Funds, there is no major funding stream dedicated to demand-side infrastructure in the CESEC region. Bulgaria, Croatia, Greece, Hungary, Romania, Slovenia and Slovakia have committed a total of almost €4 Billion to energy renovations over a period of seven years. Non-EU countries have access to less financial support for this objective, inferior to €250 Million. While this is not an insignificant amount, it is far from what is needed to complete a deep renovation of the building stock and reduce gas dependency [2].

The results show that - despite their critical role in reducing energy dependency, increasing savings on the energy bill and improving health and comfort levels - buildings are not perceived as a critical infrastructure. Current funding streams do not adequately target the worst performing buildings or buildings heated with gas, which is a precondition to delivering energy security.

The findings also show that the opportunities for investments in demand-side infrastructure, such as building renovation, are not fully exploited:

- A limited share of the total EU funds is allocated to demand-side infrastructure in the CESEC region. The Cohesion Policy Funds are the main financial sources for EU countries. Only 4.35% of the region's Cohesion Policy Funds is allocated to demand-side infrastructure, for a total of €3.96 Billion. Among those funds, the European Fund for Strategic Investments (EFSI) is not being exploited and only two projects (worth €100 Million, 1.25% of the total EFSI) are active in the region, including one gas project in Romania.
- International financial institutions (the EBRD, EIB, KfW and the World Bank) direct the majority of their investments to supply-side measures and only 1.7% of the total committed amount is allocated to demand-side infrastructure.

The preferred solution to address energy security concerns remains to invest in additional supply infrastructures. Continuing with this approach would lock the region into a long-term dependency on imported gas, high vulnerability to fuel price fluctuations, continued outflow of national income, and would worsen the risk of stranded assets should projected gas demand not materialise.

The largest current example is the Southern Gas Corridor, an initiative from the European Commission, which plans to bring gas from the Caspian Sea to South-East Europe. The total cost for this Project of Common Interest²⁴ is expected to be around €40 Billion, funded mainly through loans from the EIB and EBRD. The total cost of these pipelines, excluding the cost for interconnection pipelines, energy subsidies spent on the imported gas, and social and environmental costs, is half the cost of the 'alternative energy security' scenario. It is worth mentioning that the cost for the European section of the pipeline alone, the Trans Adriatic Pipeline (TAP), is to be €4.5 Billion²⁵. In comparison, the total allocation of Cohesion Policy Funds for 2014-2020 to building renovation in the EU CESEC countries will not be more than €4 Billion.

While the increased awareness and committed funding for demand-side infrastructure in MFF (Figure 7) sends a positive signal in favour of building renovation, the total amount allocated, in comparison to supply-side investments, shows that buildings are not yet considered as strategic infrastructure. A more strategic view accompanied by a long-term political commitment would increase the confidence among investors and would create an incentive to shift considerable investments in the region from supply to demand-side.

²⁴ TAP has received formal EU status through its listing as a Project of Common Interest (PCI) and Project of Energy Community Interest (PECI). These statuses are given to key infrastructure projects and are intended to accelerate the granting of necessary licences and permits and to improve regulatory processes

²⁵ <https://www.tap-ag.com/the-pipeline/the-big-picture/southern-gas-corridor>

FROM PROBLEM ANALYSIS TO SOLUTIONS – MEASURES TO INCREASE INVESTMENT IN ENERGY EFFICIENCY

The CESEC region has come to a junction where two paths are possible: to continue investing in supply-side infrastructure, or to shift investments towards demand-side infrastructure. This second option would increase the energy performance of its building stock and by doing so, optimise comfort and health levels, create local and regional economic opportunities, alleviate energy poverty [36] and significantly reduce the dependency of some countries on energy imports.

The limited impacts that available funds have on demand-side investments can be explained by a multitude of reasons that have not been fully explored in this study. However, interviews with local experts have highlighted four main potential solutions:

- Make investing in demand-side infrastructure a strategic priority;
- Reduce uncertainty to spur private investments;
- Overcome the lack of project proposals for demand-side projects;
- Remove silos that are hindering effective governance of funding streams.



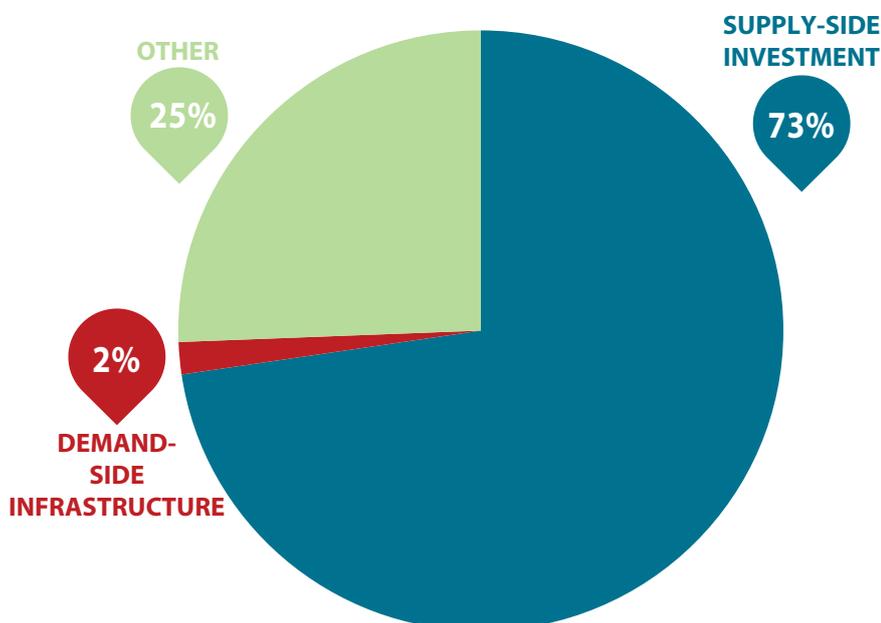
MAKE INVESTING IN DEMAND-SIDE INFRASTRUCTURE A STRATEGIC PRIORITY

The CESEC region is highly dependent on gas imports and its economies are very energy intensive. Despite being central to the European Union's objectives of energy security and a rapid transition to a low-carbon economy, funding for energy renovation of buildings only accounts for around 4.35% of Cohesion Policy Funds, which are the biggest funding stream available to EU countries. A similar pattern is visible for the Western Balkan countries, where only a minor share of the IPA and WBIF streams is allocated to energy efficiency and buildings, and the funding streams fully focused on clean energy development (EEEE, GGF, REEP and E5P) are limited. Figure 27 presents an overview of the funding streams, covering grants, loans, guarantees and subsidies to the region.

The lack of a strategic approach to building renovation is combined with scarce project financing by the EIB and EFSI in this region. Only two projects are funded by EFSI in the seven South-East European countries, and none addressing energy efficiency in buildings. A similar situation is evident for EIB projects. This is in stark contrast to other EU countries. For example, Finland has five energy-related EFSI projects, of which three invest in energy efficiency of buildings.

Our analysis of the energy priorities of four main international financial institutions (EIB, EBRD, KfW and the World Bank) shows that almost 73% of their energy investments are directed to supply-side infrastructure, gas, heat and electricity (Figure 27). Reports [37] have shown that once built, the new gas infrastructure has a lifetime of 40 years or more. Investing in more supply-side infrastructure cannot be the only solution. Additional supply-side investments are required in the CESEC region to ensure a stable energy supply, but the central focus should shift to measures that lower the overall demand.

Figure 27 - Energy priorities of international financial institutions (EIB, EBRD, KfW and the World Bank). 'Other' includes renewables, financial framework, smart meters, etc.



REDUCE UNCERTAINTY TO SPUR PRIVATE INVESTMENTS

Financial and political uncertainty in the CESEC region makes long-term investments riskier. To bolster private investments in the energy renovation of the building stock, confidence in the market and the surrounding political system is essential. High interest rates and energy subsidies are hampering private investments by making the opportunity cost for energy renovations more expensive. In some countries, the high level of grants is hindering the creation of more innovative financial tools and, therefore, not triggering private investments. In many cases, grants increase risk-aversion and create disincentives for the blending and aggregation of projects.

Local experts also suggest that the biggest barrier is the lack of reliable business models and the perceived economic risk due to uncertainties of what future legislations will look like.



OVERCOME THE LACK OF PROJECT PROPOSALS FOR DEMAND-SIDE PROJECTS

The Member States in the CESEC region have been unsuccessful in attracting additional private and public financial support provided through EU funding (e.g. through the EFSI). The EFSI and the EIB invest heavily in demand-side infrastructure projects, yet not in the CESEC region. Just 8.5% of the EIB energy projects and 1.25% of the EFSI energy projects are located in the CESEC region (see Figure 12 and Figure 22). In addition, most of these investments are directed to supply-side infrastructure.

The low level of successful proposals for demand-side measures coming from the CESEC region could be due to lack of experience in setting up projects building with private incentives. The right technical expertise is sometimes missing from the responsible agency and the reliance on grants with easier requirements can crowd out more demanding proposals.



REMOVE SILOS THAT ARE HINDERING EFFECTIVE GOVERNANCE OF FUNDING STREAMS

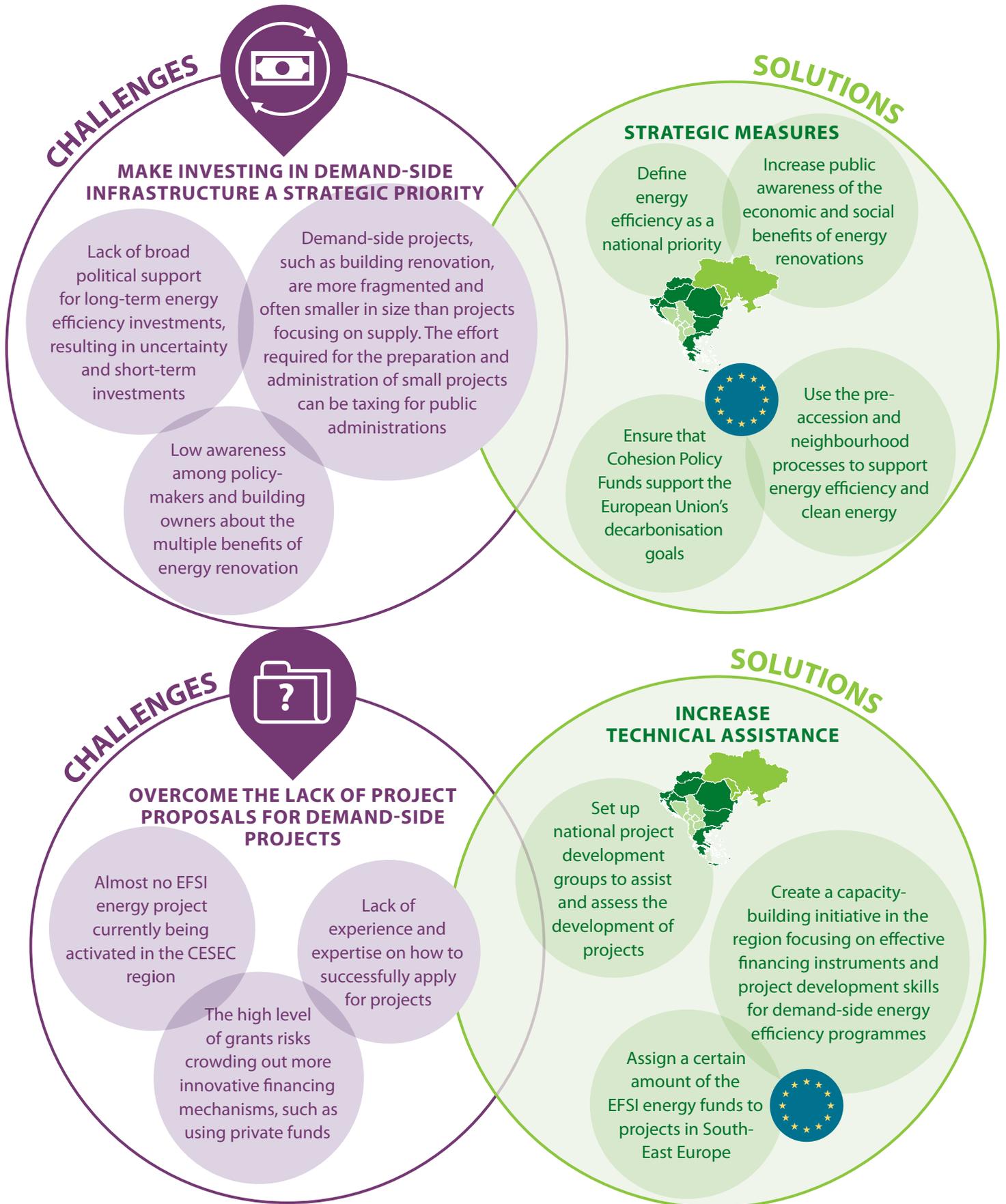
Most of the interviewees noted that the EU funds could be used more effectively. The link between the allocation of funding streams and national overarching strategies (such as the National Renovation Strategies for the EU countries and Country Strategy Papers for the Western Balkans) was described as weak, if not non-existent.

In addition, responsible agencies often work in silos, for example, the individuals responsible for the National Renovation Strategies are not the same as those managing EU funds. Without a successful coordination and knowledge sharing, crucial synergies might be neglected. Lack of effective collaboration horizontally (among ministries) and vertically (between regional, national and local level) hinders a comprehensive approach to the energy challenge. Breaking down these silos would increase understanding and generate synergies.

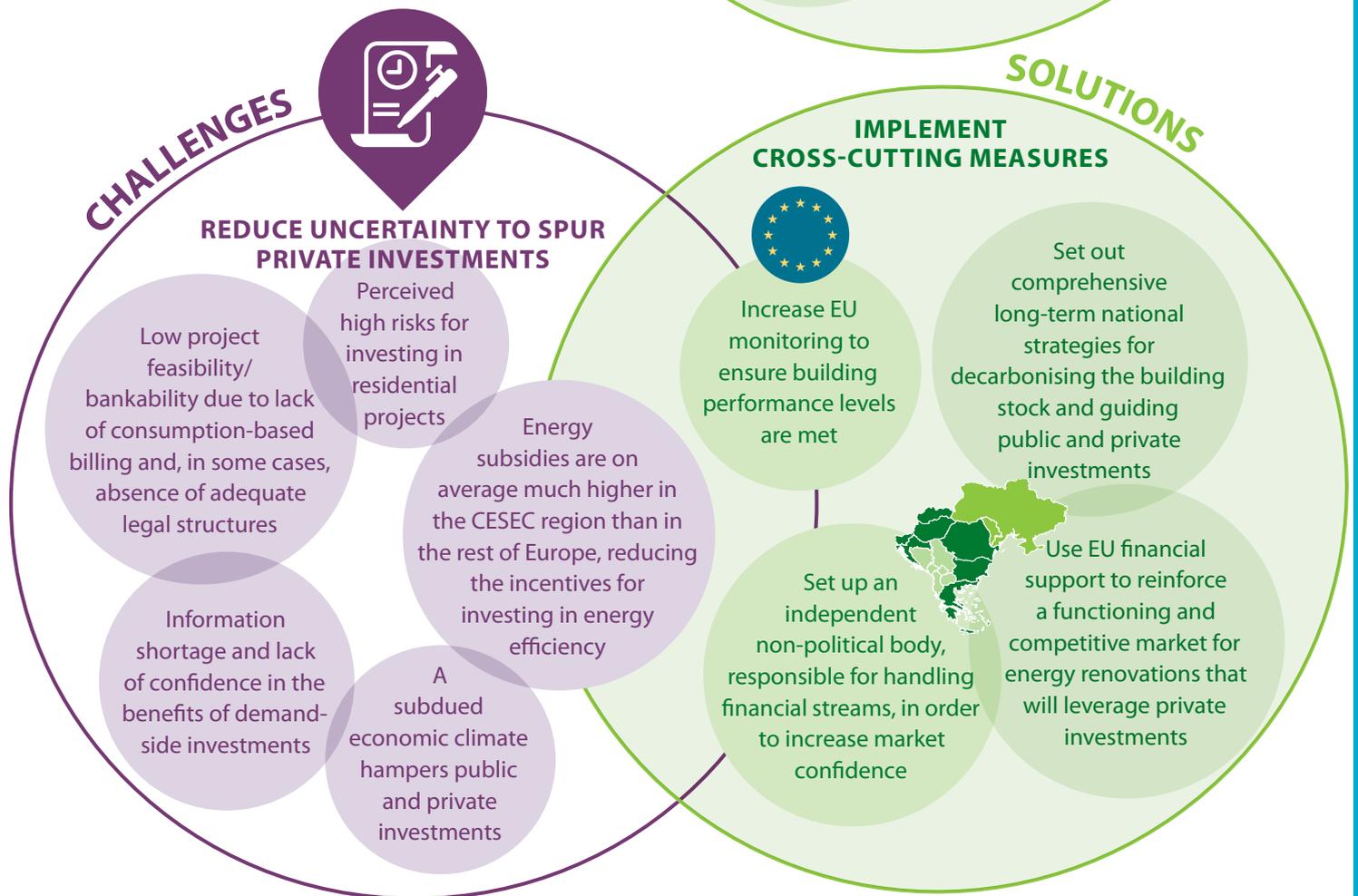
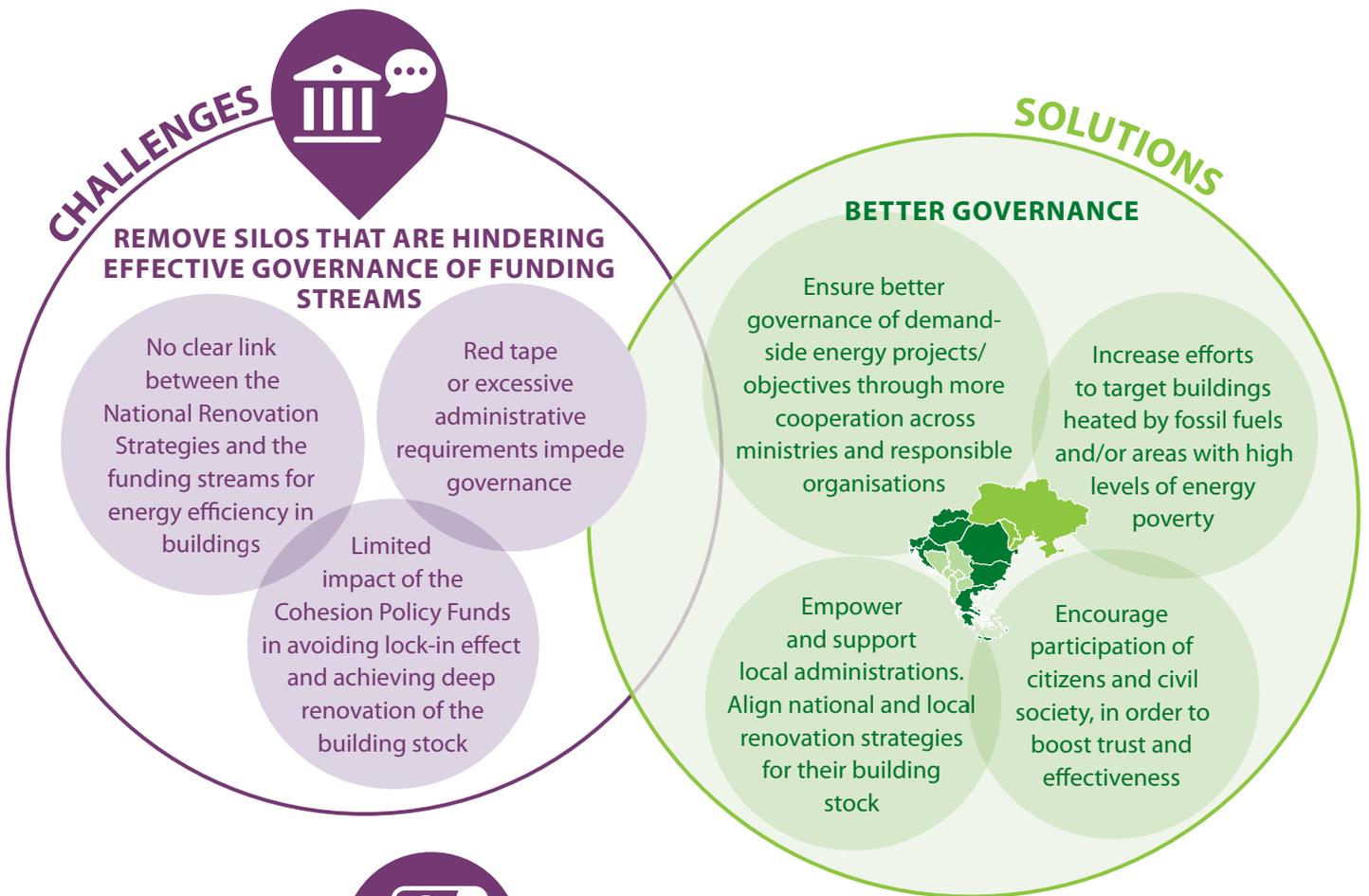
Red tape or excessive administrative requirements also have a negative effect on the governance of funds. Greater flexibility (for example, shifting allocated Cohesion Policy Funds from public buildings to residential buildings) could be beneficial, if well planned and managed.

It is essential that the EU and its Member States take advantage of the upcoming Multiannual Financial Framework review and the Smart Finance for Smart Buildings strategy to frame the discourse and address these barriers. A strong link between the National Renovation Strategies and the use of funding streams is essential to ensure that the funding is allocated effectively. To boost building renovation, additional efforts to mitigate grant dependency and leverage private funds for demand-side infrastructure in the CESEC region are needed. The EU should also use the Pre-Accession and Neighbouring policies to push for energy efficiency measures in these countries.

Figure 28 - Challenges and potential measures to overcome the lack of investments in demand-side infrastructure*



(*)The potential measures are derived from qualitative interviews with local experts. The challenges have been identified from existing reports [25] [38] and interviews.



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