



# HEART

## POLICY BRIEF II

D10.9 : POLICY BRIEFS AND REPORTS

### **Tackling Energy Poverty to Boost Building Renovation** - Availability and access to funding for building renovation through the 'Fit-for-55' package, European Structural and Investment Funds, and National Recovery Plans

#### **KEY MESSAGES:**

1. **National funding schemes, as well as reforms on energy efficiency standards that are targeting the investment gap,** will be equally important to tackle the energy poverty challenge,
2. A tenant friendly-investment of EU funding can only be efficient with **housing cost neutrality after renovation.** Affordability in renovation means that rent increases are fully balanced by energy-savings.
3. **Tenant protection** by the **security of tenure** and by **long term rental contracts** should be the guiding principle, especially in the case of key workers, working poor and precarious households.
4. **Climate allowances** prevent energy consumption, and energy emission taxation hits the fragile households the hardest, as these groups mostly live in less energy-efficient buildings. Possible measures to ensure this is to support low- and middle-income groups by climate allowances in housing, and coupling public EU spending with those allowances.
5. **Fostering the 'prosumer'- models** can lead the way to entire green quarters, where residents' housing security, affordability, and health are at the forefront.



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## INTRODUCTION

To mitigate energy poverty and enhance the well-being of European citizens and residents, **the EU has committed to actions focusing on improving energy efficiency** at both the community and the Member State level.<sup>1</sup> As an estimated “75% of the EU’s existing building stock is highly inefficient and buildings are responsible for 40% of the EU’s energy consumption”, energy efficiency improvements will reduce the financial burden of energy on European families while contributing to carbon emission reduction goals.<sup>2</sup>

The EU framework to accomplish these energy efficiency improvements includes an **Energy Security Strategy**,<sup>3</sup> **an integrated energy market** for all EU countries, **policy instruments, energy- and climate-oriented measures and interventions for 2030**,<sup>4</sup> as well as **financial incentives and tax breaks**. As the relevant actions to address the issue of energy poverty primarily regarding the built environment, the policy framework is oriented towards financial incentives in the context of a building renovation strategy across the residential sector to mitigate the problem effectively.<sup>5</sup> And subsequently, boost renovation rate across Europe.

To support emissions reductions in the built environment, in 2020, the Commission published the **Renovation Wave** strategy<sup>6</sup> intending to double annual energy-efficient renovation rates, from 1% to 2%, in the next ten years. These improvements will enhance the quality of life for people living and using these buildings. Several EU packages and policies have been put in place to make funding available for energy efficiency renovation; however, these efforts are not enough to address the scale of the issue. Further, in practice, there is a lack of capacity and knowledge about renovation opportunities and how to access them and **evidence-based guidance on investments in affordable housing** to promote social inclusivity.

## WHAT IS ENERGY POVERTY?

Despite increasing awareness of **energy poverty, the concept still lacks a common definition**, making it difficult to accurately evaluate the total number of people affected by it in Europe.<sup>7</sup> There are currently many approaches to measure the prevalence of energy poverty based on quantitative and qualitative indicators. Examples include the 10% approach,<sup>8</sup> which considers the share of the cost for energy-related services in comparison to a household’s income, or the low income – high costs<sup>9</sup> approach, which considers household income in relation to the national poverty line after extracting the respective cost for energy services, and the consensus approach,<sup>10</sup> which is based on self-assessments of domestic conditions.

The lack of agreement on the definition and how best to evaluate it notwithstanding, what is clear is that the magnitude of the issue of energy poverty in the EU is challenging: **56.7 million people live in poor-quality dwellings** (e.g., those affected by leaks, damp, rot, etc.)<sup>11</sup>, **27.7 million people face arrears on utility bills**<sup>12</sup>, **30.8 million people cannot keep their home adequately warm**<sup>13</sup>, and **125 million people face disproportionate housing expenditure**<sup>14</sup>. Exacerbating the issue further, average house prices in the EU’s private sector have also increased by over 30% in the past decade, and rents have gone up by almost 15%, outstripping the increase in the incomes.<sup>15</sup>

## THE ROLE OF RENOVATION IN FIGHTING ENERGY POVERTY

Given the ambitions of the EU’s climate strategies and the commitment to creating an equal society, the EU must **support energy transition efforts without exacerbating existing social inequalities**. In this context, the energy-efficient renovation has an important role to play. With buildings responsible for over 40% of EU greenhouse gas emissions, the number of EU residents already facing energy poverty, and the increasing energy costs associated with the EU’s path to climate neutrality, accessible retrofit options for existing buildings represent a crucial lever with which environmental and social challenges can be tackled simultaneously.

Results of retrofit toolkit such as the EU funded HEART project demonstrated that even energy-efficient retrofit of windows in a building could reduce the annual heating demand by about 16% (from 65.2 to 54.3 (kWh/m<sup>2</sup>)). HEART Project’s first demo building is a social housing residential building from 1985 with 12 residential units of a total of 640 m<sup>2</sup>. It is in a residential area of the Municipality of Bagnolo in Piano (RE, Italy).

The market review prepared by Housing Europe in 2020<sup>16</sup> showed that all organisations interrogated would be interested in integrated rehabilitation toolkits. For them, to take up the large-scale decarbonisation challenge of the housing stock, **it is crucial to find new – more affordable and quicker - ways to renovate.**

#### SIMULATION VS MONITORING DATA FROM THE ITALIAN DEMO BUILDING

BEFORE RETROFIT				AFTER WINDOWS RETROFIT			
MONTH	Energy Consumption (simulation)	Monitoring data	NMBE	MONTH	Energy Consumption (simulation)	Monitoring data	NMBE
	[kWh]	[kW]h	[%]		[kWh]	[kWh]	[%]
NOV-18	6227	4754	5,00	OCT-19	376	0,00	-0,13
DEC-18	10601	9692		NOV-19	5817	5623	
JAN-19	13822	13279		DEC-19	7299	8480	
FEB-19	11027	10730		JAN-20	10629	10048	
MAR-19	7588	8019					
SUM	49264	46474		SUM	24121	24151	

## FUNDING OPPORTUNITIES, CHALLENGES AND BARRIERS

### The “Fit-for-55” climate & energy package and its impact on energy poverty

To set Europe on a path to reach climate neutrality by 2050, the European Commission presented a policy roadmap in 2021 that aims at reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

The ‘Fit-for-55’ package was drafted to support ambitious projects and include the European Emissions Trading System (EU ETS), the Social Climate Fund, and the revision of the Energy Efficiency Directive, among other initiatives. What is critical is that it must not go against the Member States’ common goal to create a climate-neutral continent and deliver decent, healthy, adequate, and affordable housing for current and future generations.

The proposed EU ETS for CO<sub>2</sub> emissions will put a quantity limit and a price on emissions, including those from the heating and cooling for buildings. In practice, this means that there will be a maximum number of emissions units issued by the European Commission and national governments. Each unit will work as a permit that allows the holder to emit one tonne of greenhouse gases. Permit holders will be providers of fuel for heating and transport operating in the EU. The holders will be allocated a certain number of emissions units, and if they want to exceed the maximum limits, they will have to buy more. Those who improve their processes and emit less can sell or bank their excess units, incentivising cleaner practices.

Within this system, fuel suppliers, not individual homeowners, tenants, or drivers, will have to pay for the allowances to put fuel on the market, and the cleaner the fuels, the fewer suppliers pay.

As a result, **emitting CO<sub>2</sub> to produce fuel for heating and transport will become more expensive** as the EU ETS will have the same effect as a carbon tax unless market prices go down in such a way that the increases due to the carbon tax are offset by the decrease of the wholesale price of fossil fuels.

Although making carbon more expensive is a way to incentivise the shift towards clean energy, **the evidence shows that low-income households, and therefore residents of social housing, will end up paying more for their energy without having the possibility to switch to a cleaner source of heating or transport fuel.**

To support these consumers, 25% of the revenues from this system will be dedicated to the new **Social Climate Fund that could potentially compensate vulnerable groups for higher costs of heating** and help invest in cleaner solutions. The Commission is expecting

**€ 72 billion** to be made available to all Member States, providing **direct income support, assisting citizens in financing their heating or cooling systems or purchasing a cleaner car.**<sup>17</sup>

To protect the energy-poor, the revised Energy Efficiency Directive proposes a new article about protecting vulnerable consumers, including social housing residents. Article 22 rightly states that the “Member States **shall take appropriate measures to empower and protect people affected by energy poverty**”. In particular, Member States shall “**set up methods and measures to ensure affordability, the promotion of housing cost neutrality**, or ways to ensure that public funding invested in energy efficiency improvement measures benefit both, owners and tenants, of buildings and building units, in particular regarding vulnerable customers, people affected by energy poverty, and, where applicable, people living in social housing.”<sup>18</sup>

In practice, that means that we need to make sure that all the programmes implemented by the Member States contain the safeguards that ensure housing cost neutrality the protection of the vulnerable people, like the security of tenure or climate allowances.

## Potential in the Cohesion Policy 2021-27

The European Structural Funds (ESIF) represent an important opportunity for projects tackling energy poverty as the increased funding amount compared to 2014-2020, in total €377,768 million. The 2021-2027 Cohesion Policy has set 5 policy objectives, and each of the funds will focus on different priorities. Of particular importance for tackling energy poverty are the **European Regional Development Fund (ERDF), the Cohesion Fund (CF), and the European Social Fund Plus (ESF+)**, which will be focusing on objectives 1 “a more competitive and smarter Europe”, 2, “a greener, low-carbon transitioning towards a net-zero carbon economy” and 4, “a more social and inclusive Europe”.

**65-to-85% of European Regional Development Fund (ERDF) and Cohesion Fund (CF) resources will be allocated to priorities 1 and 2**, depending on Member States’ relative wealth, which is good news for energy efficiency related projects.<sup>19</sup> The **European Social Fund Plus (ESF+)**, with €87.3 billion in funds to allocate, will focus on objective 4, “a more social and inclusive Europe.”

From the energy poverty point of view, it is key that the allocation criteria have slightly changed for all Structural Funds. The allocation method for the funds is **still largely based on GDP per capita**. However, **new criteria have been added, including impacts of climate change** and the reception and integration of migrants, to better reflect the reality on the ground.

There are also other important changes in the rules under all Structural Funds that include:

1. **€767 million** allocated to **technical assistance that can help regional/local authorities and homeowner associations to get help on developing their rehabilitation projects and develop the research on needs that will be the base for these projects;**
2. **the combination of these resources with other funds such as Horizon Europe or InvestEU is further encouraged**, now allowing the combination of grants and Financial Instruments (FI) as a single operation that can help co-financing complex rehabilitation works;
3. simpler rules on VAT eligibility, with **full eligibility for projects below € 5 million**, will decrease the administrative burden on local authorities.<sup>20</sup>

Regarding the eligibility of costs, a larger scope can be observed compared to the period 2014-2020. The **ERDF still focuses on energy efficiency and Renewable Energy Sources (RES)-related investments** in infrastructure but also enables investments in **climate change adaptation, disaster resilience**, and the transition to a **circular economy**. Investments in **access to quality services, studies, networking, and exchange of good practices** are also supported.<sup>21</sup>

As described above, the co-financing rate for **CF** will be a maximum of 85%, which is a step back from the previous period with a maximum of 100%. Nevertheless, it allows **investments in housing, related to the promotion of energy efficiency or renewable energy use** as well as **technical assistance**.<sup>22</sup>

**The ESF+<sup>23</sup> is a substantial addition to the ESIF** in this new period and has the potential to be used in projects tackling complex issues such as energy poverty. The scope of **support focuses on the challenges identified in the national reform programmes, in the European Semester** as well as in the relevant Country Specific Recommendations, and considers principles set out in the **European Pillar of Social Rights**.

**The ESF+ support will be crucial for several Member States in their work related to energy poverty.** ESF+ can notably support the development of large-scale programmes, as the support is available for dedicated research, training programmes (for example, for the construction sector workers), capacity building for local authorities and housing associations, as well as for networking and exchanging practices with other countries. As the combination with other funds is now simplified, ESF+ can be easily used in projects funded under InvestEU, Just Transition Fund, or Horizon Europe.

The support under this fund covers numerous areas relevant to tackling every poverty, social inclusion of marginalised communities (such as the Roma and refugees)<sup>24</sup>, community-led local development strategies, the adaptation of skills and qualifications, food and/or basic material assistance, among others. Additionally, the Commission has emphasised the well-being of children at risk of poverty, requiring that the Member States allocate at least 5% of programming resources towards directly supporting children's equal access to rights such as decent housing.

## The Next Generation (NGEU) package

**The plan for European recovery (NGEU) is a new instrument of €750 billion** to address the consequences of COVID19 and set the Union firmly on the path to a sustainable and resilient recovery.<sup>25</sup>

**The Recovery and Resilience Facility (RRF)** is part of Pillar 1 that will support Member State efforts to recover stronger from the crisis. The RRF represents €560 billion, of which loans represent €310 billion and grants €250 billion. In order to benefit from the RRF, Member States prepared their national Recovery and Resilience Plans.

## National Recovery Plans to tackle energy poverty

Drawing from their national commitments as well as from the need to respond to the European and global efforts in the energy poverty front, **several countries appear to be responding to this emerging challenge by designing an effective and sustainable energy efficiency policy framework to support the energy-poor citizens**, despite the significant barriers presented due to the ongoing crisis.<sup>26</sup>

With the commitment of the RRF of € 560 billion in funding, **the EU aims to at least double the annual renovation rate of the existing building stock.** The freshly adopted national Recovery Plans certainly put significant efforts in making the Renovation Wave a fair one. **Beyond the renovation efforts (that will amount to at least € 47,2 billion), several Member States have also dedicated more than € 5 billion for the provision of social housing and Housing First, thus improving the housing conditions of the most vulnerable.** In addition, **key reforms have been planned in numerous countries.**<sup>27</sup>

The national Recovery Plans contain data on the support for multi- and single-family buildings (especially those with tenants suffering from energy poverty). **At least nine countries have put forward ambitious plans:**

1. Austria plan aims to support 2,250 energy-poor households,
2. Bulgaria aims to support 10,680 energy-poor households and **develop a definition of “energy poverty”** in the Energy Efficiency Act in its plan for the purposes of financing energy efficiency.
3. Croatia, as part of its ‘Decarbonisation of buildings’ reform, plans to **adopt an energy poverty reduction programme** in areas of special state concern for 2021-2025. The investment also aims to increase the use of renewable energy sources and encourage the use of development of green infrastructure and the circular management of buildings and spaces.<sup>28</sup>
4. Cyprus is targeting the alleviation of energy poverty through **reduced energy and water bills**.
5. Czechia is planning to introduce a **two-stage pre-project preparation for low-income households**.
6. Greece has proposed an **energy poverty reform** that includes the **development of a National Action Plan** defining the phenomenon and a monitoring process and **will propose policies and assess their effectiveness**. In particular, it will provide for the provision of financial mechanisms for the energy upgrading of vulnerable households.<sup>29</sup>
7. Portugal’s plan intends to intensively support the renovation of residential buildings with a budget of €300 million. The energy efficiency solutions will improve the living conditions of **100,000 families in situations of energy poverty**.
8. Romania plans to establish a **Grant scheme for resilience and energy efficiency** in residential/multi-family buildings with an impressive budget of €1 billion.
9. Estonia is going to support the **renovation of 80 small residential houses** with €2.4 million coming from RRF.<sup>30</sup> After the renovation, the dwellings will comply with the energy performance class C or higher.

While these ambitious plans demonstrate a step in the right direction, they will not be sufficient to tackle the issue. This is confirmed by the assessments of the European Commission<sup>31</sup> as well as by the recent analysis of Housing Europe on the Recovery Plans<sup>32</sup>, which finds that the EU as a whole will miss this historic opportunity of RRF funds to launch wide-ranging population renovation programmes with forms of support that allow low-income people to access renovations.

Concretely, the analysis estimates the renovation efforts of the Member States of at least € 47,2 billion, and the access to housing ambition of € 5.5 billion, which will be **in total a modest amount (€ 52,7 billion) compared to the current investment need**. The famous ‘Report of the High-Level Task Force on Investing in Social Infrastructure in Europe’ of 2018 identified a **minimum investment gap in affordable housing of € 57 billion/ year**.<sup>33</sup> **This means that up to 2026, € 342 billion should be invested in the sector, and the € 52 billion contributions from the RRF seems just a tiny part of this need.**

It is more than clear that **national governments would need additional investment measures backed by evidence-based policymaking** for achieving the targets.

## MOBILISING INVESTMENT AND IMPROVING ACCESS TO FUNDING FOR RENOVATION

### Mobilising and channelling investment

In terms of mobilising EU funding, there are concerns about the absorption ability at a local level due to the **lack of capacity and skills**. The mobilisation of funding remains a challenge, especially for social-housing providers and homeowner associations, which are keen on carrying out such energy-related projects. **Lack of available sector-specific information** or sufficient training on State aid and heavy procedures (application and payment procedures) are part of this challenge. From the tenants'/owners' side, **a lack of understanding and skills** is also an issue that would **require more enhanced, sector-specific advisory services**.

### Improving the ESIF pace and eligibility constraints

The pace of **implementation of EU funding is extremely slow**, especially in the case of the ESIF 2014-2020, which is still being implemented today. Due to the pressure to implement the national Recovery Plans, the delay of the new ESIF 2021-2027 will be even longer.

In the case of ESIF 2014-2020, **eligibility of the residential sector, as well as the eligibility of activities (demolition works, accompanying measures) was also not a given** in several countries. Stakeholders are advocating now for their eligibility in this new period ESIF 2021-2027.

Considering the usual pace of allocations and eligibility constraints that will probably still present to some extent, additional measures would be needed to achieve **the desired uptake**, which leads us to a new model of governance. That could be done through a **stronger partnership principle** and multi-level governance that includes stakeholders from the ground into the different decision-making processes and a wider application of, and **Community-Led Local Development (CLLD) approaches** on implementation.

It cannot be emphasised enough that EU funding **should be complemented with other national funding schemes as well as reforms on energy efficiency standards** targeting the investment gap.

## BUILDING THE EVIDENCE FOR INVESTMENT IN AFFORDABLE HOUSING

### Evidence-based investment in affordable housing

Evidence shows that an **affordable, adequate home is a vital form of social and economic infrastructure, providing not just shelter but also a place to work, learn, create and sustain healthy, fulfilling lives**.

Among other reports, the recently published **Housing 2030 toolkit by UNECE underlines the burning need for evidence-based policymaking**, planning, as well as effective monitoring and evaluation of expenditure.

The second chapter of the toolkit<sup>34</sup> addresses access to finance and funding, which can help housing policymakers to find ways to **adapt and combine policy instruments to address local needs**. A wide range of climate policy tools, combining regulation, non-regulatory policy initiatives, funding and financial incentives, as well as awareness-raising and training, are all well explained in the Report that can help implement both climate-neutral and affordable housing solutions.

**High-quality, large-scale investments in affordable housing - which are based on evidence - are crucial in the EU**, especially given ageing populations, radical structural changes in labour markets, and the opportunities presented via technological innovation. To support this, **Member States need to do the necessary research and create evidence-based guidelines for their decisions about programmes for the most vulnerable**.

## CONCLUSIONS & RECOMMENDATIONS

There is no doubt that the efforts of the EU, including **the Fit-for-55 Climate Action Social Facility<sup>35</sup> Next Generation EU package, the increased Cohesion Policy budget, and the National Recovery plans funded by the Recovery and Resilience Facility**, are significant steps.

Now, the way forward is firstly the **efficient implementation of the EU Regulation**: The new proposed article of the Energy Efficiency Directive about the protection of vulnerable consumers, including social housing residents, should become a reality. The European Commission should ensure that the **Member States set up measures to ensure affordability**.

Beyond that, the role of national initiatives is key:

10. **National funding schemes, as well as reforms on energy efficiency standards that are targeting the investment gap**, will be equally important to tackle the energy poverty challenge,
11. A tenant friendly-investment of EU funding can only be efficient with **housing cost neutrality after renovation**. Affordability in renovation means that rent increases are fully balanced by energy-savings.<sup>36</sup>
12. **Tenant protection** by the **security of tenure** and by **long term rental contracts** should be the guiding principle, especially in the case of key workers, working poor and precarious households.
13. **Climate allowances** prevent energy consumption, and energy emission taxation hits the fragile households the hardest, as these groups mostly live in less energy-efficient buildings. Possible measures to ensure this is to support low- and middle-income groups by climate allowances in housing, and coupling public EU spending with those allowances.
14. **Fostering the 'prosumer'- models** can lead the way to entire green quarters, where residents' housing security, affordability, and health are at the forefront.



## ABOUT HEART PROJECT:

HEART Project received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 768921. The project is developing and testing several components that will facilitate renovation by using: a multifunctional prefabricated façade system; universal photovoltaic tiles; a high-efficiency water storage tank; direct-current smart fan coils and heat pumps; a multi-input/multi-output controller; and a cloud-based platform to support decision-making and energy management phases. Toolkit installation and envelope technologies are structured as a function of their synergic action, practicality, installation time and non-invasiveness. Applying the HEART's envelope solutions (thermal insulation and windows) ensures thermal loads reduction while applying novel installation technologies (PV, heat pump, fan-coils, storage system) provides energy efficiency and RES exploitation. HEART's control system optimises the building energy performance, enhancing synergies between different installation and technology sub-systems and operating according to an integrated logic.

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## ENDNOTES

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  - Member States of group 1 shall allocate at least 85 % of their total ERDF resources under priorities to PO 1 smart and PO 2 green, and at least 60 % to PO 1 smart;
  - Member States of group 2 shall allocate at least 45 % of their total ERDF resources under priorities to PO 1 smart, and at least 30 % to PO 2 green;
  - Less developed regions shall allocate at least 35 % of their total ERDF resources under priorities to PO 1 smart, and at least 30 % to PO 2 green.
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