

Social Green
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Looking Ahead to Blended Financial Models of Green Retrofits:

Lessons learned from the Social Green
Project

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Housing plays a pivotal role on the path to a sustainable future. Within the European Union (EU), “buildings are responsible for approximately 40% of energy consumption and 36% of CO₂ emissions” (European Commission, 2018a). While the construction of new energy-efficient dwellings is part of the solution, it is estimated that to achieve Europe’s 2050 climate goals for net-zero emissions, 97% of the current building stock needs to be upgraded to achieve high efficiency standards (BPIE, 2018). Based on the current rates of deep renovation it would take centuries for Europe to meet its 2050 renovation targets. More needs to be done.

Available funding is a key factor in the process to achieve the retrofitting objectives. For social housing retrofitting projects, funds are gathered through a variety of mechanisms such as financing from the EU and multiple levels of government through various policy-funding schemes. Accessing funding presents a critical gap, which is reflected by the fact that the EU has identified improving financing conditions as one of its main policy improvement goals for energy efficiency and in multiple objectives associated with the 2018 Smart Finance for Smart Buildings initiative (see e.g. European Commission, 2018b).

Why Social Housing Retrofits?

Social housing presents a particularly difficult and sensitive target for retrofitting. It is widely recognised that “the most efficient and sustainable way to deal with fuel poverty is [to reduce] the energy demand of the building through renovation” (BPIE, 2014, 8). At the same time, the greening of social housing can also result in improvements to tenants’ health and quality of life (UN-Habitat, 2015, 9). However, renovation projects also risk pushing vulnerable households into fuel poverty by raising rent or service costs. To prevent this form of “eco-gentrification” (Quastel, 2009), social housing energy efficiency projects need to be designed with long-term affordability in mind, placing the health and economic needs of social tenants at the forefront.

The Interreg Europe project Social Green¹ has improved energy efficiency in the social housing sector. This included a focus on projects that have a positive impact on both the energy performance of buildings and the well-being of the people living in them. Through its focus on regional policy instruments, Social Green also improved the policies and preconditions that set the stage for EU funding to be used to support the greening of the social housing sector.

Early in the Social Green project, the project partners held activities and long-discussions on defining and understanding social housing. Regulations and terms differ considerably within national legislation, and social housing can take multiple forms even within a single country. In general, there is no universal definition of social housing, but there are a few aspects to consider: “four dimensions characterise (and differentiate) social housing models and policies: the tenure, provider of the service, beneficiaries, and funding arrangements” (Directorate-General for Internal Policies, 2013, 6). In other words, although almost all social housing is supported by the public sector through some mechanism (rent reduction, tax breaks, low-cost services, etc.), they can be managed by different actors, be occupied for different amounts of time, and target different segments of the population.

¹ For more information about the project, including publications and good practices, please visit www.interregeurope.eu/socialgreen

Taking account of the different types of social housing that exist, Social Green's working definition of social housing is broader than only acknowledging publicly owned housing. Likewise, the more pressing issue is to alleviate conditions of energy poverty through green energy investments in housing—both energy efficiency measures and small-scale renewable energy deployment. The establishment of the EU Energy Poverty Observatory in 2018 indicates that energy poverty is a concept also supported by the European Commission. However, several definitions of energy poverty exist in policy and research. One broader definition that covers the core issues of energy poverty is outlined as: “[a situation] when a household is unable to secure a level and quality of domestic energy services—space cooling and heating, cooking, appliances, information technology—sufficient for its social and material needs” (Bouzarovski, 2018, 1). Here, green retrofits and energy efficiency measures play a part to mitigate energy poverty.

Challenges of Social Housing Retrofits

Through the collaborative approach in the Social Green project, all partners conducted a self-assessment and discussed the results with their local stakeholder groups, consisting of an assembly of actors involved in improving regional policy instruments and funding schemes and engaged in projects that implement green social housing retrofits in the partner regions. In brief, a few of the identified challenges with green retrofits of the social housing sectors include:

- Lack of funding that deals with social, economic, and green components of green retrofits
- Lack of knowledge about access to available funding
- Inadequate flexibility in the use of public funds to retrofit social housing
- Limited benefits to social housing residents
- Incomplete data to measure what matters – the identification of energy poor households and the effects of green energy interventions on energy performance and energy poverty mitigation.
- Lack of focus on rural and sparsely populated regions

(For more details, see Nordregio, 2018; Weber et al., 2018; Reardon et al., 2019; CEiiA, 2019; Cardoso, 2019; see also all Action Plans, available at the Social Green website²).

Figure 1 (below) illustrates the key elements in social housing retrofits, namely sources of funding, which, in multiple ways, lead to greening the social housing sector or parts of it. All challenges listed above can here be understood as disruptions to the somewhat straightforward scheme of funding, which increase the barriers to green retrofits of energy-poor households that need to be overcome.



² <https://www.interregeurope.eu/socialgreen/library/>

As concluded by the Social Green partner CEiiA, “Success in greening the social housing sector requires collaboration from an array of players and often involves numerous steps within a funding, design, and building process. No step should be neglected, or the success of the whole can be compromised” (2019, 15).

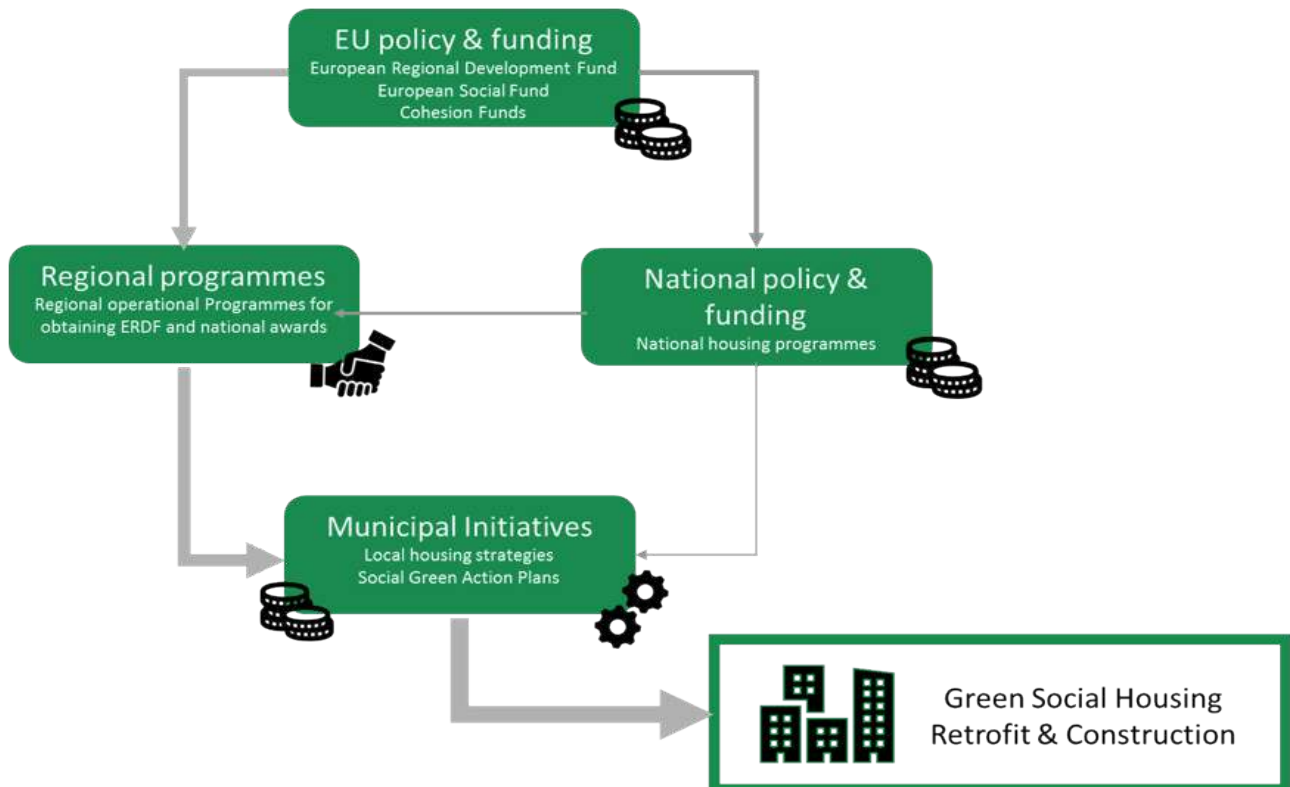


Figure 1: Scheme showing common funding sources for green social housing retrofit and construction projects. The thickness of the arrows is indicative of the relative importance of public funding flows. These projects are typically managed and implemented by municipal authorities who can obtain funds in a number of ways. The most common path would be EU funds that are distributed through regional policy, such as Regional Operational Programmes (ROPs). National policy support, in the form of grants and the establishment of preferential loans schemes, can also be obtained via regional authorities or directly from national governments. And certainly not least, municipalities can provide funding for their own social housing initiatives.

Social Green’s Local and Regional Action Plans

Six action plans were prepared within the Social Green project, consisting of actions to improve a defined policy instrument with available funding or to access funding to implement green retrofitting projects of social housing. All partners learned several lessons and took important steps in elaborating and implementing their actions plans. We will shed light on a few in particular.³

³ All action plans can be found in the library at the Social Green website: <https://www.interregeurope.eu/socialgreen/-library/>

Installing smart metering in Alba Iulia

Interregional learning activities, through study visits and sharing of knowledge and experiences, were at the core of the Social Green project. In January of 2018, representatives from Alba Iulia municipality (RO) made a study visit to Tartu, Estonia, where they were inspired by the Tartu Regional Energy Agency's (TREA) smart metering solutions for buildings. After the Social Green partner meeting, both Alba Iulia municipality and TREA stayed in touch and shared experiences. Their continued relationship led to the development of a pilot action in Alba Iulia to install smart metering solutions, which were adapted to the local context. In Romania, the installation of the smart metering solution would be one of the (if not the) first to also have potential to influence future policy instruments, like the new ROP, in the region and nationally.



This action has been very important for the local authority in many aspects. For example, not only would smart metering improve the monitoring aspect of social housing retrofits and energy consumption behaviour, but it would also be considered one component of the ROP that could be improved since the improvement of the energy efficiency and the consumer behaviour at the level of the social housing sector would be better understood. That being said, the installation of smart metering does not

come without difficulties, particularly in countries like Romania where establishing trust and mutual understanding for the benefits of the installation among social tenants and public authorities can be a challenge. Through the implementation phase of the action plan, the municipality worked intently with developing trust by collaborating with the right people at the municipality who already worked with the social tenants, and by remaining patient. Luckily, most of these activities with the social tenants could take place before the pandemic outbreak in 2020; otherwise, the municipality is convinced the process would have been more complicated because face-to-face interaction were perceived as necessary. The underlying aim has been to overcome social and collaboration barriers, such as communication and information regarding the expected benefits also for the tenants in a new and quite technical project—in other words, to convince the tenants that a small change in their consumption habits could have an important effect on their utility bills and comfort, which could be more easily identified and observed with the smart metering system.

Finally, the target group for the pilot action was formed by tenants of social apartments, which also meant that Alba Iulia municipality had to consider that the majority of the tenants were unable to afford such a system. The municipality needed to anticipate how the project could be criticized, or perceived as too complicated, and thus refused by the tenants for personal reasons. Complications such as this are why it is important for

municipalities to simultaneously address the financing solutions when presenting projects like this, which must include setting realistic expectations and communicating the benefits in dialogue with the tenants. By considering those factors, the likelihood to achieve the success as the case of Alba Iulia would increase.

Importance of local stakeholder engagement in policy improvements

The local stakeholder engagement was a core component in the preparation phase of the actions plans in the Social Green project. Both in Region Norte (PO) and in Estonia, the engagement of local stakeholders has been crucial in similar but also in unique ways.

First, in Region Norte, the engagement throughout the preparation phase of the action plan by a diverse array of actors, including municipalities (who own most social housing apartment buildings), universities, etc. led to the identification of new policy measures. The partner had not expected to learn so much about energy efficiency measures in addition to what they already knew, but through the Social Green project, these aspects, such as considering the behavioural element of energy consumption, could be discussed also with other actors across Europe.



Furthermore, one of the main unexpected achievements in the action plan development and implementation in Region Norte were those related to the organisation of the spill over of the local stakeholder meetings. The meetings allowed the regional partner, the Regional Coordination and Development Commission of Norte (CC-DR-N), to establish a platform between the main owners of social housing and the Managing Authority (MA). From a policy-making point of view, CC-DR-N and the local stakeholders are each now more

articulate in communicating their needs, which allows them to create efficient and adapted policies at different levels of governance.

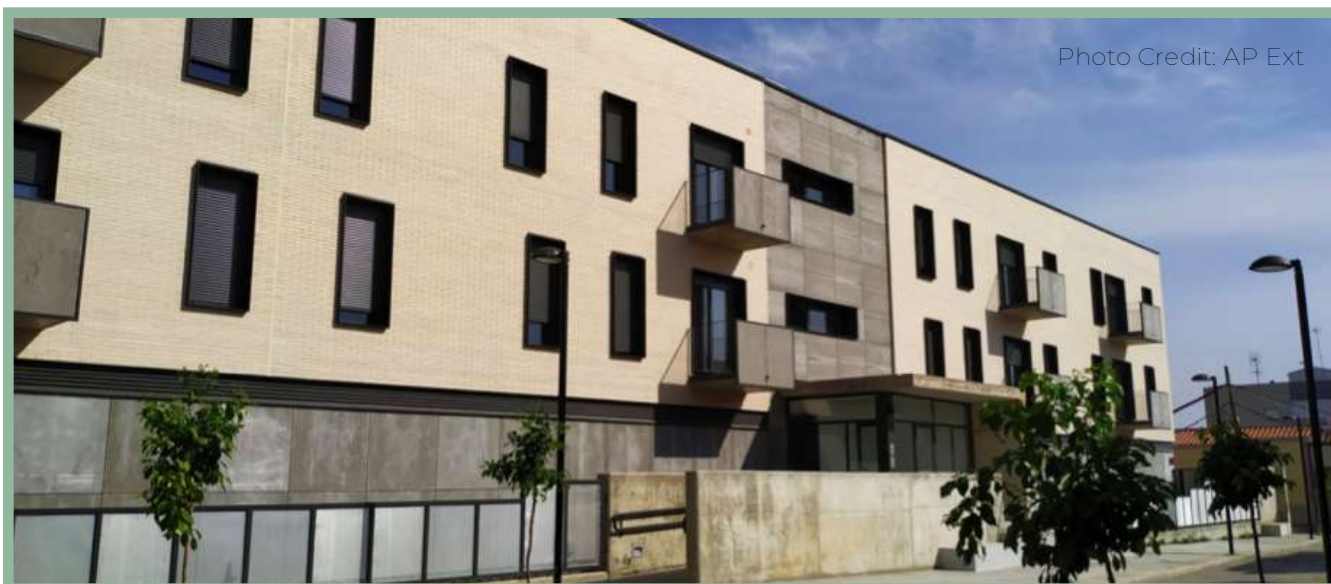
The case from Estonia is another example of collaborative efforts; however, in this case the roundtable discussions that were established between the Social Green Partner, TREA, and major stakeholders all over Estonia continued from the preparation phase into the implementation phase of the action plan. The roundtable discussions were an eye-opener for many stakeholders in Estonia to identify and understand the extent of many housing and energy-related issues in the country. One example was that the successful KredEx scheme⁴ failed to target shrinking and/or rural regions. Identifying this deficiency led to improvement—adding a territorial dimension to the policy instrument—which was successfully performed throughout the Social Green project. Moreover, these roundtable discussions are still ongoing on a regular basis. In other words, a collaboration platform has been established which may continue in the future. During these meetings, the participating stakeholders are not only discussing energy-related issues, but all types of issues in the housing sector, which will allow for more important policy solutions to come.

⁴ See for instance one of the good practices identified by the Social Green project: <https://www.interregeurope.eu/policylearning/good-practices/item/214/sopruse-202-implementing-the-kredex-scheme-in-tallinn-estonia/>

Finding innovative approaches to overcome barriers to reducing energy poverty in Extremadura

As outlined above, there is no single social housing model, not even within countries and regions in Europe. In Extremadura (ES), for instance, many energy-poor households live in privately owned homes, and “social housing” also takes various forms. For example, the existing “social housing” stock consists either of more traditional social housing or so-called “protected housing” (for a more detailed description, see AGENEX’s action plan, available at the Social Green website). All three tenure forms are inhabited by residents considered as households with energy poverty, which is the prevailing challenge that needs to be overcome in Extremadura. Even if the action plan prepared by the Extremadura Energy Agency (AGENEX) within the Social Green project has focused mainly (not entirely) on social housing owned by the regional government, the lesson learned can be applied to the more generic issue of overcoming barriers to reducing energy poverty in the region.

Throughout the action plan implementation, the public funds have been committed to develop deep retrofits in derelict houses. Additionally, research and innovation activities are being developed to establish the guidelines that must be considered by the MA when building new social housing. Both achievements are important steps in greening the social housing sector. Thanks to the actions defined within the Social Green project, together with parallel ongoing processes in the region, the regional government has managed to access national funding to add to the region and to invest in renovation project. But this is far from enough, and more is required to improve energy poverty in the region.



Influenced by the KredEx scheme in Estonia, AGENEX has continued to integrate innovative solutions to address energy poverty in the regional policy instrument. Two of its actions (action 1 and 2) were characterised as retrofitting projects which have been successfully implemented throughout the Social Green implementation phase. Those actions had further territorial effects such as creating jobs on the local labour market, which was beyond the expectations prior the Social Green project. More importantly, AGENEX continued to work on improving the funding schemes designed for retrofitting projects of energy-poor households. One of the major works in the implementation phase has been to

integrate new financial instruments into the funding schemes that the MA is using for both new social housing construction and for retrofitting existing ones. Due the pandemic outbreak, face-to-face meetings have been limited which has delayed the implementation of integrating new financial instruments to the funding scheme. Thanks to all efforts so far, AGENEX is convinced that it will be successfully implemented in the coming year(s).

The case from Extremadura illustrates the importance of thinking outside the box with established structures when it comes to mitigating energy poverty in the region. It is necessary to take a step back and look for innovative solutions beyond the usual ones, such as traditional grant schemes. The expectation is that the integration of new financial instruments will be implemented after the finalisation of the Social Green project, which, in the end, is projected to result in fewer households of energy poverty in the region.

Never give up!

Green retrofits of energy-poor homes require involvement from a complex array of players and are dependent on funding, developers, workers, public authorities, housing associations, and many others. To identify the challenges in a territory is challenging per se, but to find solutions and then turn them into improvements of an already defined policy instrument can be all the more difficult. The journey of South Muntenia Regional Development Agency (SMRDA) is an illustrative example of the core essence of never giving up—and of continuing to work for the necessary improvement which will culminate in the successful outcome of overcoming energy poverty.

SMRDA was influenced by several good practices from other partners in the Social Green project, such as the KredEx scheme in Estonia. Through engagement with its local stakeholder group, SMRDA identified solutions for how to improve the policy instrument in the South Muntenia region (RO) with funding available under the current programming period. Even though appropriate suggestions of policy measures were proposed, the Social Green partner needed to change their approach in order to improve another policy instrument, the Regional Development Plan 2014–2020. The intention was to improve the development plan because it will influence the forthcoming (2021–2027) ROP. However, SMRDA encountered further difficulties in influencing the regional development plan during the implementation phase of the Social Green project. Instead of giving up, SMRDA shifted its focus towards influencing the ROP directly, which provides a more promising result. Here it seems like SMRDA will be more successful, and there are a few improvements and new policy measures that will likely be introduced.

As mentioned above, the most prevalent challenge in the region is poor-energy apartment buildings built prior any energy requirements. In order to combat energy poverty in the region, the improvement of those buildings must be a primary focus. For example, in the Regional Operational Programme 2021–2027, one of the proposed measures is to support the investment in buildings to ensure/improve energy efficiency, including consolidation activities in line with identified risks and measures for the use of alternative energy sources. This suggests that, in the future, there will be funds directed to greening the energy-poor homes, including important consolidation activities, in South Muntenia. Because of the work of SMRDA and all involved local stakeholders, the aim to reduce energy poverty in the region has a higher likelihood of success.

In addition to this, one major takeaway from SMRDA's journey is the importance of the involvement of other local stakeholders. While phase 1 of the Social Green project involved formal meetings with local stakeholders, such meetings were removed from phase 2, which, according to one interviewee, made the implementation phase more challenging than expected.

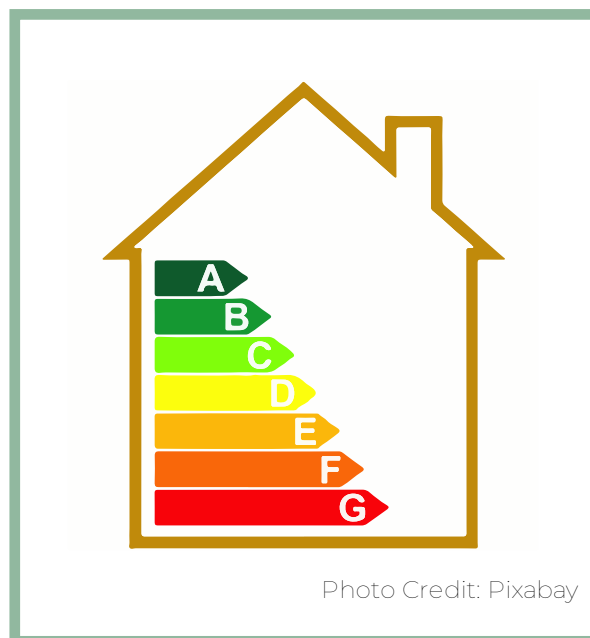
The many shades of greening social housing in Croatia

In Croatia, there are many shades of greening the social housing stock that must be taken into account. Throughout the Social Green project, the Regional Energy Agency of the North (REAN) has emphasized the different concepts of and related issues for social housing, and the agency has considered how to connect them to the improvements of energy-poor households.

First, the old social housing stock in Croatia was established in the former state, Yugoslavia. After the dissolution of the state, the housing stock was sold to the users of the social housing scheme at that time. Given this history, traditional social housing is more or less non-existent in Croatia. In order to navigate the issue of green retrofits of homes with vulnerable groups and to identify policy improvements, one of the crucial steps has been to define a common understanding of the problem at hand. One of the challenges identified by the Croatian partner early on in the project was the lack of a dedicated legal framework for social housing – a topic discussed widely in the local stakeholder meetings.

One of the main reasons for this is that social housing is not specifically addressed in any policy instruments in Croatia. The local stakeholder group agreed that the abovementioned legal framework could be improved to address social housing stock as well as the process of its retrofit. Although this is not a prerequisite for greening the social housing stock, it would improve the process of development and retrofit in various ways.

Another case for consideration is single-family homes. Though they do not fall under the category social housing in Croatia, many occupants of single-family homes are exposed to energy poverty. In order to address both of these challenges, and to overcome the many shades of greening social housing in Croatia, REAN has worked to make sure that no vulnerable group is left behind and to give the opportunity of improving energy performance to all through its action plan. Fortunately for residents of energy-poor, single-family households, the Croatian partner succeeded in making public funds available for energy renovation. When it comes to multi-apartment buildings, making funds available to counteract energy poverty has been more challenging thus far. The results of one action—e.g., on energy renovation of single-family houses—is expected to be revealed next year, which will likely affect the existing policy instrument. The implementation of energy renovation of multi-apartment buildings dedicated to social housing is also expected to be implemented in due time.



The Croatian example illustrates the many shades of green retrofits of energy-poor homes. There are several additional elements of importance in this case such as creating a mutual understanding of the issue of energy poverty itself and finding ways to monitor and measure what matters in order to define, follow up, and improve the necessary policy instruments. In the end, it will be these policy instruments that influence the key aim: to improve the energy situation for the energy poor.

What needs to be done?

The above examples are just a selection of distinct highlights and lessons learned during the preparation and implementation phases of the Social Green action plans. They illustrate the importance of finding long-term, collaborative approaches with local and regional stakeholders, building long-term trust with social tenants, and never giving up.

The social housing sector is especially vulnerable in the green retrofit process: while the situation for social tenants needs improving, eco-gentrification remains an ever-present pressure. The most common challenge all Social Green partners have dealt with is overcoming financial barriers. In the case of mixed and privately owned, energy-poor housing, the individual owners (or, often, the tenants) are responsible for accessing funding, which requires them to navigate the complex world of funding sources and joint efforts among neighbours and/ or other actors. This reality in most of Social Green partner regions reveals the need for further public support to help individuals and housing associations to access available funds but also to understand the necessary measures that need to be taken to achieve retrofitting targets. This leads to the potential of upscaling housing for social tenants in terms of large, publicly owned housing companies (like in France) who would take the responsibilities for the maintenance and retrofit of the housing stock. This more top-down governance approach among such housing companies helps to provide the necessary resources and capacities to significantly effect change.

That being said, energy-poor households will continue to exist within mixed-ownership structures throughout Europe. Therefore, even if upscaling takes place, there remains a need to find models and forms that help housing associations, vulnerable tenants, and privately owned households to access funding.



Photo Credit: Pixabay

When it comes to funding, several aspects must be considered. Mitigating energy poverty in Europe involves myriad actors such as public authorities at local, regional, and national level, utility companies, housing associations, technical experts, and lending institutions. All of these distinct actors need to collaborate to efficiently identify the need for a specific retrofitting project (e.g., identifying energy-poor households) followed by initiating and implementing the retrofitting projects themselves, during which funding is essential. The absence of regular (mostly public) financing schemes for financing energy poverty mitigation measures is a significant challenge, which reflects the magnitude of financial needs but also a lack of knowledge and understanding of energy-poor households and potential mitigation solutions. This includes the processes by which these households are identified at the local level as well as the development of attractive and fiscally sustainable solutions to reduce energy consumption locally.

Energy and utility companies (public and private) are increasingly prone to developing new services—new financing models and increasing competition force companies to develop new services that lower the cost of energy for their clients and provide additional security of supply (see for instance, Repsol, 2020). Therefore, combining private funding with public funding schemes is crucial and needs to be explored further in order to accelerate green retrofits of energy-poor homes in Europe. One challenge within the Social Green project has been that sources of public and private funding cannot be combined in specific projects, which hampers rather than supports some of the potential retrofitting projects. Therefore, new blended financial models need to address and mitigate risk factors for private funders by developing public guarantees within the financing models. Nevertheless, we believe that there are several paths forward for new blended financial models, and these need to be developed and explored further in the immediate future.

Finally, it is crucial that we emphasise collaborative approaches at the community level. The concept of “energy communities” is not new within the EU, but an increasing number of projects are being developed that, based on collaboration between building owners, private investors, NGOs, and governmental institutions, are developing community energy production and distribution schemes (see Caramizaru & Uihlein, 2020). These energy community models are a promising way to create engagement and participation from the local level to develop innovative blended schemes. We hope to see an acceleration of green retrofitting projects and renewable energy solutions in the coming years.

Photo Credit: Pixabay



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To access all partners' actions plans: <https://www.interregeurope.eu/socialgreen/library/>

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The Social Green Project in brief

Social Green is funded by INTERREG Europe and is scheduled to run between April 2016 and March 2021. It has received funding of 1.01m euros from the European Regional Development Fund (ERDF), which is distributed among eight partners in six countries: Tartu Regional Energy Agency (EE); Extremadura Energy Agency (ES); Regional Energy Agency North (HR); Regional Coordination and Development Commission of Norte (CCDR-N) (PT); Centre for Excellence and Innovation in the Automotive Industry (CEiiA) (PT); Alba Iulia Municipality (RO); South Muntenia Regional Development Agency (RO); and Nordregio – Nordic Centre for Spatial Development (SE). One advisory partner, Nordregio (Sweden), provides scientific and technical support to the consortium. The other partners, local authorities, energy agencies, and managing authorities work jointly in the development of the main project's activities, namely preparation, implementation, and monitoring.

Social Green promotes the greening of the social housing sector through mutual learning and the development of improved regional policies. It provides the opportunity to explore green building practices and significantly reduce greenhouse gas emissions through cost-effective means while providing much-needed housing in a healthy and sustainable manner. Through interregional cooperation, Social Green stakeholder regions identify, share, and transfer innovative methodologies, processes, and good practices in developing and implementing greener social housing sector policies, targeting new constructions, or retrofitting existing buildings. In this context, the project's sub-objectives are:

1. To understand the role of green building intervention in the social housing sector and the link with fuel poverty
2. To identify green measures for the social housing sector, specifically including energy efficiency and renewable energy development
3. To identify, share, and transfer experiences and good practices and to develop joint policy tools and instruments related to innovative solutions for greening the social housing sector in the areas of fuel poverty and energy efficiency
4. To develop strategic guidelines and policy recommendations as an integrated toolkit for regional and local authorities
5. To improve regional/local policies by introducing best practices into EU mainstream programmes in order to contribute towards fostering the competitiveness, sustainability, and social cohesion of cities, regions, and the EU as a whole.