Addressing Energy Poverty in Social Housing Estates

Whitepaper – November 2023

This publication was made possible by the Fuel Poverty Research Network (FPRN), as it was awarded the two-year grant Engaging in Energy Poverty in Early Career (EPEC), supporting early career researchers, postgraduate students, and early career practitioners to contribute to efforts to tackle fuel and energy poverty.

Contents

Foreword

Ben Pluijmers

Chair of EFL

Esteemed Readers,

I am personally very pleased to have played a modest role in this study by facilitating collaboration among various parties.

Our platform, EFL, is home to exceptionally talented and creative housing professionals who serve as a valuable resource for researchers. This work therefore aligns with our key goal: to promote cross-learning and bridge the gap between theory and practice. We firmly believe that sharing best practices and providing practical policy and practice recommend--dations hold tremendous value, especially in the context of affordable and sustainable housing.

Tackling complex issues like Energy Poverty requires a multidisciplinary – or even transdisciplinary – approach that connects various fields, including technology, finance, and social aspects. In this regard, RE-DWELL, a Marie Skłodowska-Curie ITN that we proudly partner with, embodies this kind of collaborative spirit.

This publication holds practical significance for social landlords in our contemporary world, where addressing climate change and promoting social equity are paramount concerns. The focus on low-carbon social housing remains a cornerstone of our sectoral efforts.

The transition towards such housing necessitates cooperation, a shared vision, and a dedication to justice and inclusivity. It is our collective responsibility to ensure that no one is left behind during this transformative journey. This publication resonates with this principle, emphasising the active involvement of vulnerable populations in building climate resilience and fostering social progress.

> **As we embark on this transformative journey, it is essential to ensure that no one is left behind**

Within these pages, the authors will explore the potential synergy between addressing climate change and promoting social equity. From illumi-nating successful local projects that reduce carbon emissions to offering policy recommendations for national governments, this work provides a compre-hensive perspective on the challenges and opportunities that lie ahead.

I hope you will enjoy reading it, and hopefully we will find time to discuss the findings during our '23 autumn conference in Belfast.

Executive Summary

This report addresses the pressing concern of energy poverty in social housing and offers strategic solutions to advance an inclusive energy transition. Energy poverty has become a prominent issue, disproportionately affecting vulnerable households with limited financial means and energy inefficient dwellings. The surge in energy prices and the ongoing transition towards low-carbon energy sources contribute to this challenge.

The report emphasises the significance of short-term measures to mitigate the impact of energy price surges on tenants. Empowering residents with energy coaches, distributing energy-saving boxes, deploying 'fix teams', establishing warm hubs, and offering financial leniency are practical steps to support vulnerable households during challenging periods.

Furthermore, long-term strategies are crucial to enhancing tenant resilience and preventing energy poverty from the outset. Social housing providers can prioritise renovation for homes occupied by households at risk of energy poverty and reform housing (re)allocation policies to allocate energy-efficient dwellings to vulnerable tenants. Targeted information campaigns can also influence energy consumption behavior and foster energy-saving practices among residents.

To support the energy efficiency of social housing stock, social housing providers can leverage funding opportunities offered by the European Investment Bank (EIB) and the upcoming Social Climate Fund (SCF). Initiatives like the EIB's Affordable Housing Initiative and ELENA program provide financial support for social housing renovation projects. The SCF, commencing in 2026, will inject approximately 86 billion euros to fund renovation projects for vulnerable Europeans and provide direct income support to households in need, with a focus on reducing energy poverty.

The core message of this whitepaper is that an inclusive energy transition in social housing requires a multifaceted approach that combines short-term measures and long-term strategies. Social housing providers play a vital role in addressing energy poverty, and by optimizing operations, reforming allocation policies, and launching targeted information campaigns, they can make a significant impact in promoting sustainable living conditions for vulnerable tenants. Leveraging funding opportunities from the EIB and the SCF, social housing providers can take proactive steps towards alleviating energy poverty and ensuring a brighter future for their residents.

*The insights presented in this whitepaper have been obtained through empirical analysis conducted by Tijn Croon (Delft University of Technology), Joris Hoekstra (Delft University of Technology), and Ute Dubois (ISG Business School Paris). It serves as an exposition of the outcomes derived from six focus group sessions organised at the premises of social housing organisations located in **France**, **England**, and the **Netherlands**. While certain insights gleaned from this study could be applied to the wider European social housing sector, it is important to emphasise that the conclusions presented are derived from specific countries. Hence, caution should be exercised when extrapolating and applying them in differing settings or contexts. The study was made possible through the collaborative support and sponsorship of EFL, Housing Europe, the Fuel Poverty Research Network, and RE-DWELL, an Innovative Training Network funded under the Marie Skłodowska-Curie Actions programme.*

1. Addressing Energy Poverty

A Strategic Concern for Housing Providers

In recent decades, energy poverty has transitioned from being a niche concern confined to UK researchers and policymakers to a prominent issue dominating European media headlines. The concerns on energy poverty have become even stronger with the Covid-19 lockdowns and the surge in energy prices triggered by the Russian invasion of Ukraine, resulting in severe energy affordability issues for households throughout Europe.

Despite a decline in energy prices following the peak in the third quarter of 2022 (See Figure 1), the consensus among experts is that prices are likely to remain high throughout the remainder of the decade (Financial Times, 2023). This projection is attributed not only to geopolitical uncertainties but also, more significantly, to the ongoing transition towards low-carbon energy sources, which is expected to bring about energy price volatility and, in some circumstances, increase prices due to high investment needs (for example in electricity networks).

Energy cost increases have always disproportionately burdened households with limited financial means, high energy needs, and energy inefficient dwellings. Energy poverty was recently defined in the EU's revised Energy Efficiency's directive as "*a household's lack of access to essential energy services, where such services provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, in the relevant national context, existing national social policy and other relevant national policies, caused by a combination of factors, including at least non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes*" (Energy Efficiency's Directive, 2023).

Energy poverty significantly impacts various aspects of people's lives, including physical and mental health, overall well-being, and social relationships (Thomson et al., 2017). It also influences behaviour, such as consumption choices tied to essential needs and coping strategies. The severity of its impact can vary, at times leading to lasting deteriorations like declining health, financial indebtedness, and housing degradation.

Figure 1 Household Energy Price Index, July 2015 = 100 (VaasaETT, 2023)

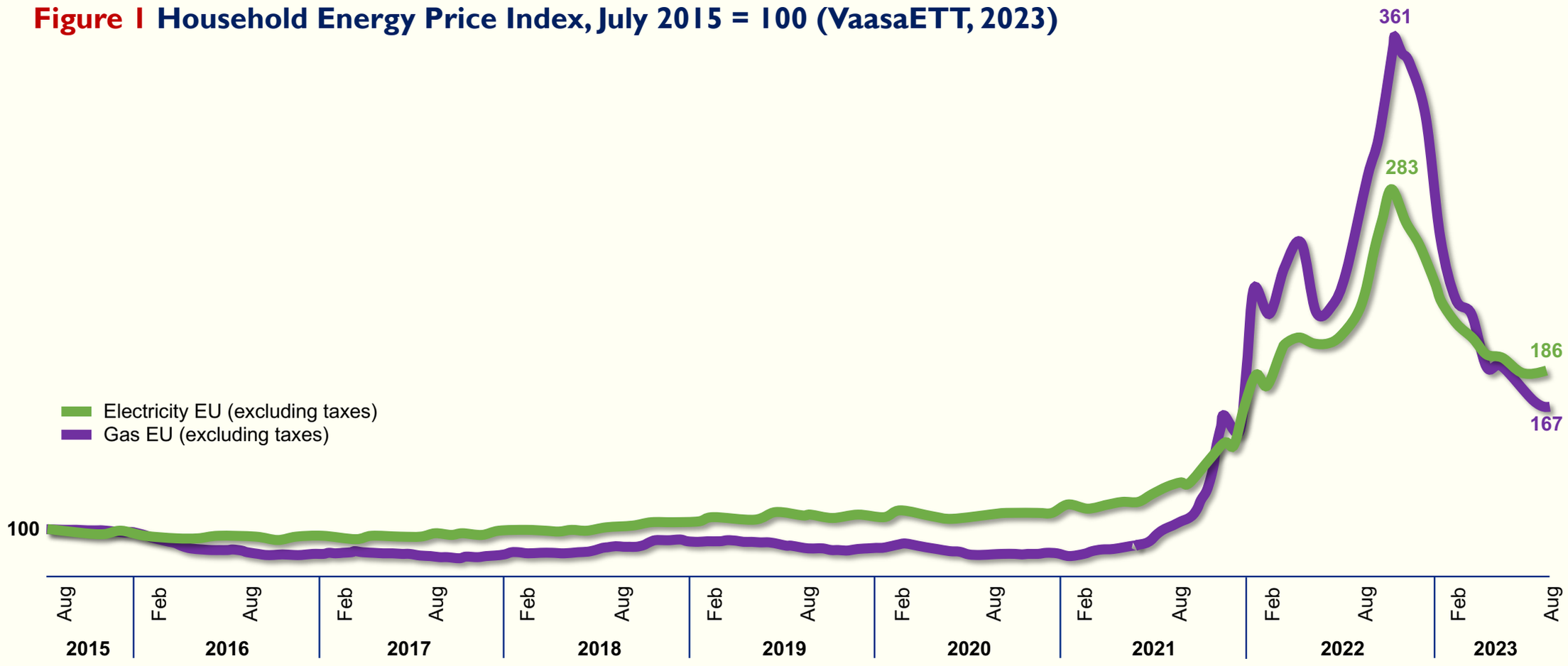
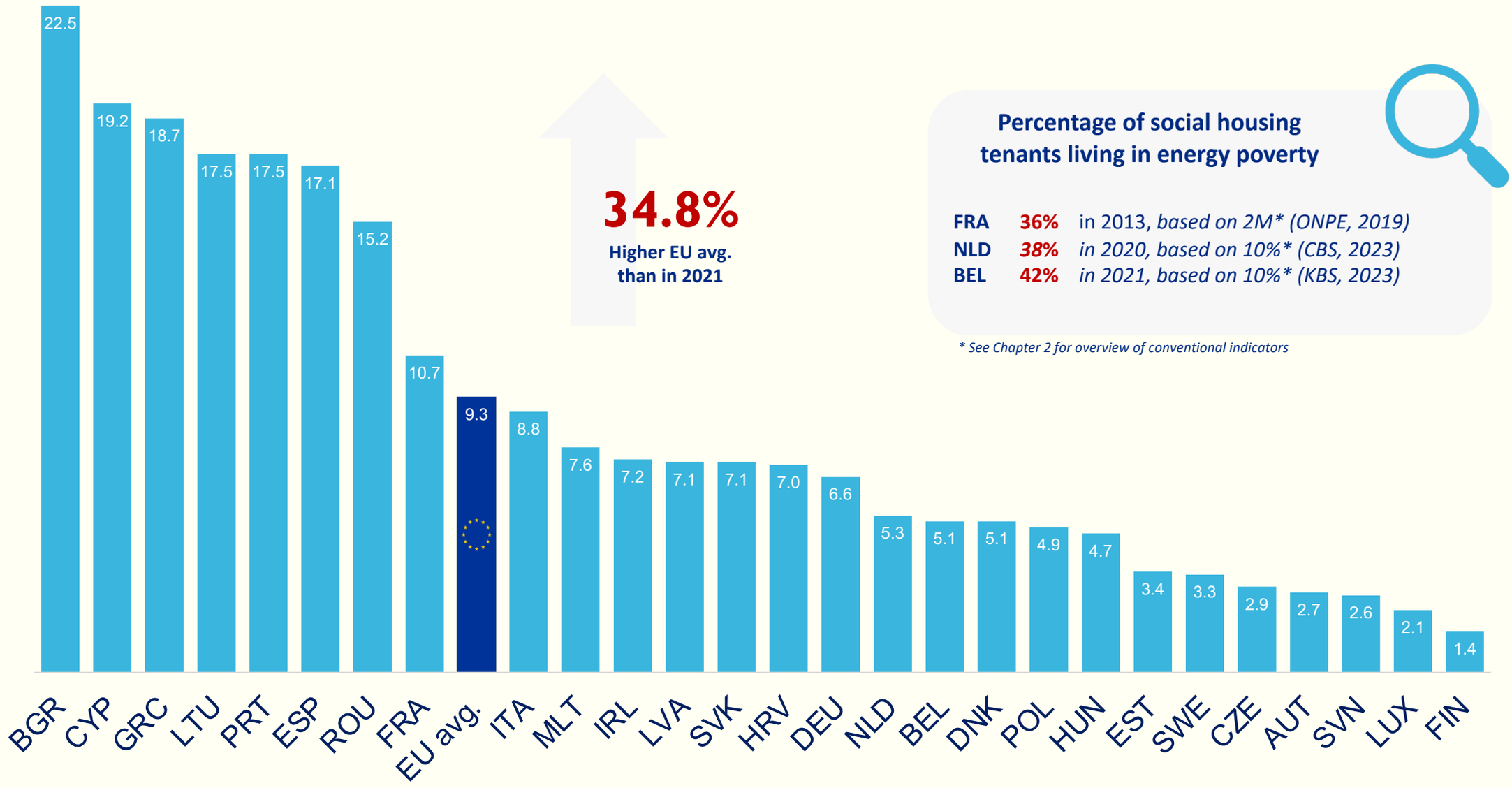


Figure 2 Percentage of population that is unable to keep home adequately warm in 2022 (Eurostat, 2023)



34.8%
Higher EU avg. than in 2021

Percentage of social housing tenants living in energy poverty

FRA	**36%**	in 2013, *based on 2M* (ONPE, 2019)*
NLD	***38%***	*in 2020, based on 10%* (CBS, 2023)*
BEL	**42%**	*in 2021, based on 10%* (KBS, 2023)*

** See Chapter 2 for overview of conventional indicators*

Most statistical studies into energy poverty do not differentiate between various housing market tenures. However, those that do have consistently revealed a significantly high incidence of energy poverty among tenants in social housing (See Figure 2). The estimations vary depending on the characteristics of each country and the specific indicator employed (see Chapter 2).

The high incidence of energy poverty among social housing tenants cannot simply be attributed to the quality of housing within the sector. In fact, social housing exhibits better energy performance than other market segments in several European countries. The high incidence of energy poverty among social housing tenants has more to do with the target demographic of social housing providers. Many tenants within this group have low incomes and, in some cases, rely on social benefits. Moreover, a significant number of social housing tenants have higher energy needs due to specific physiological features or due to them spending more time at home. Examples include elderly individuals, the unemployed, and people with chronic illnesses or disabilities.

Concurrently, decisions made by social housing providers have significant influence on energy poverty among social housing tenants (Seebauer et al., 2019). This applies to all three primary drivers of energy poverty (Boardman, 1991): low income, inadequate energy efficiency, and high energy costs.

Firstly, social housing tenants typically have low incomes, and for those with the lowest earnings, the rent has a significant impact on their disposable income. Secondly, the energy efficiency of the buildings depends on the quality and maintenance of the structures, which are results of long-term decision-making by social housing providers. Thirdly, their choice of heating systems (and thus energy sources) directly affects the energy bills of the tenants, potentially limiting their control over energy usage. And finally, social housing providers also have some influence over the allocation of prospective tenants to their properties (thereby deciding whether households end up in energy efficient dwellings).

The following chapters primarily concentrate on potential approaches that social housing providers could use in tackling or mitigating energy poverty.

2. Monitoring Energy Poverty

Learning from Best Practices in the Sector

Research demonstrates that energy poverty monitoring increases the successful implementation of targeted support policies (Hesselman et al., 2021). However, given the complex nature of the concept, accurate energy poverty measurement is rather difficult.

One way to do it is through 'self-reporting' energy poverty-related difficulties, such as the difficulty to keep home adequately warm, or arrears on utility bills. Eurostat, the EU's statistics agency, employs this approach across all member states to to assess the magnitude of households' difficulties and to make comparisons, by asking: *"Are you unable to afford to keep your home adequately warm?"*. Another way is to measure energy poverty based on information such as households' incomes, their energy expenses, or the energy efficiency of their dwellings. In the following section we present the main indicators used throughout Europe. We then discuss possible options for social housing providers to assess energy poverty of their tenants.

Energy Poverty Indicators: State of the Art

While most indicators look at income (See Table 1), some focus solely on home conditions like humidity, dampness, and mold (Ginestet et al., 2020). The income-based ones use 'poverty lines' to figure out which households are dealing with energy poverty.

One famous indicator, the 2M indicator by Brenda Boardman (1991), designates a household as energy poor if it needs to allocate a substantial portion of its budget to energy energy costs, with the threshold set at twice the median budget share in the country's population. Boardman's calculation for England in the late 1980s, which stood at 10%, gained widespread adoption as an easy reference, often without considering the context-specific median budget share for energy expenses.

There are two other broadly institutionalised indicators to consider: Low Income High Cost (LIHC) and Low Income Low Energy Efficiency (LILEE), illustrated below in Figure 3. They mix a low-income threshold, shown by the vertical line, with high costs (LIHC) or low energy efficiency (LILEE) thresholds, shown by the horizontal line.

An alternative method is the branch of hidden energy poverty indicators that focus on exceptionally low energy spending rather than high costs. M/2 is an example, as it designates a household as energy poor if it spends less than half the median budget share on energy. It assumes some households limit their energy use because of other financial struggles (Betto et al., 2020; Meyer et al., 2018).

Table 1 Overview of common energy poverty indicators

Energy poverty indicator	Focus point
10%	Ratio of energy expenditure to income signalling high burden
2M	Ratio of energy expenditure to income signalling high burden
M/2	Low energy expenditure signalling rationing
MIS	Residual income falls below minimum income standard
LIHC	Residual income and energy expenditure *(visualised right)*
LILEE	Residual income and energy expenditure *(visualised right)*

Figure 3 Illustration of LIHC and LILEE

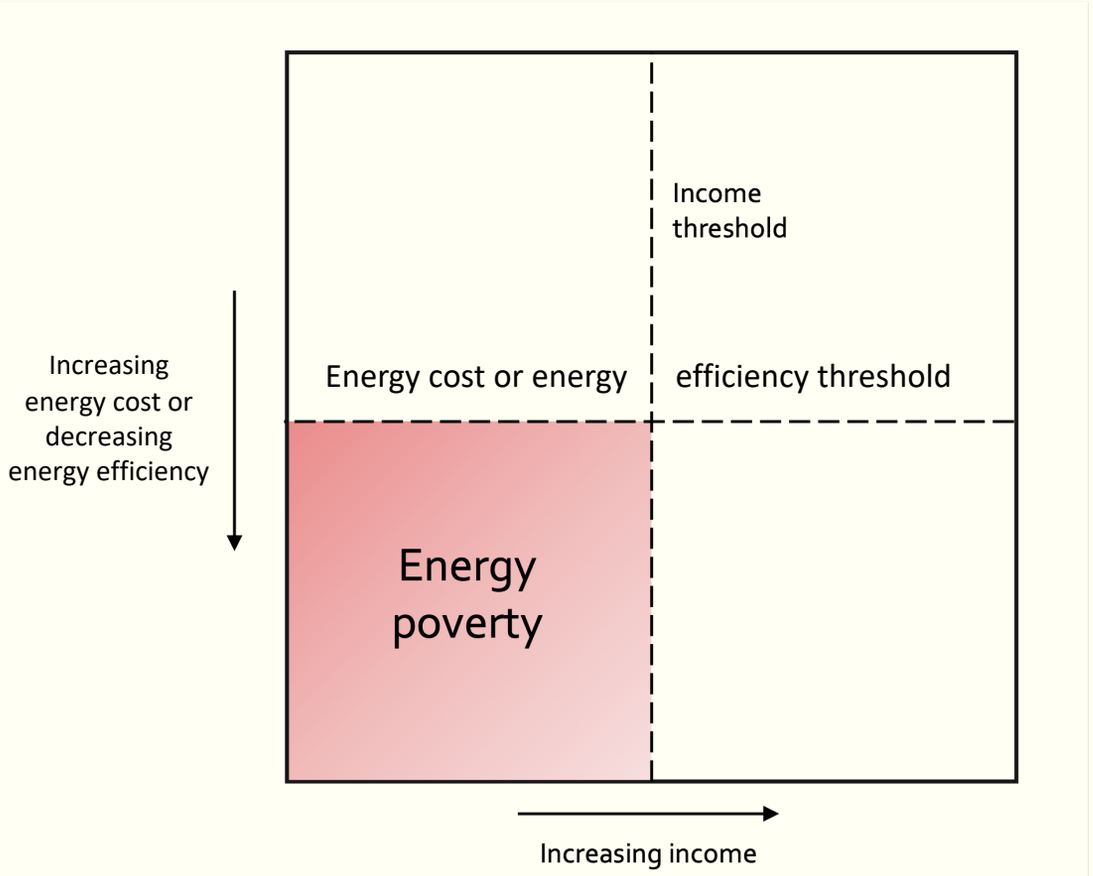
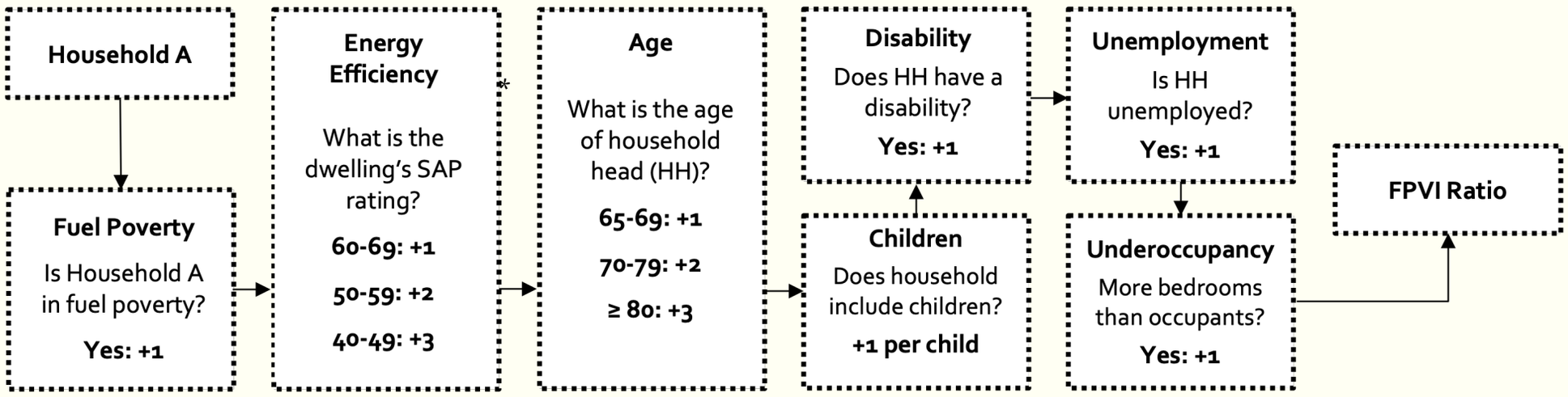


Figure 4 **Clarion Housing's Fuel Poverty Vulnerability Indicator (FPVI)**
(from 2014, evolving over time to respond to changes in benefits, in-work poverty, etc.)



** SAP = UK's energy efficiency scale (1-100), higher is better*

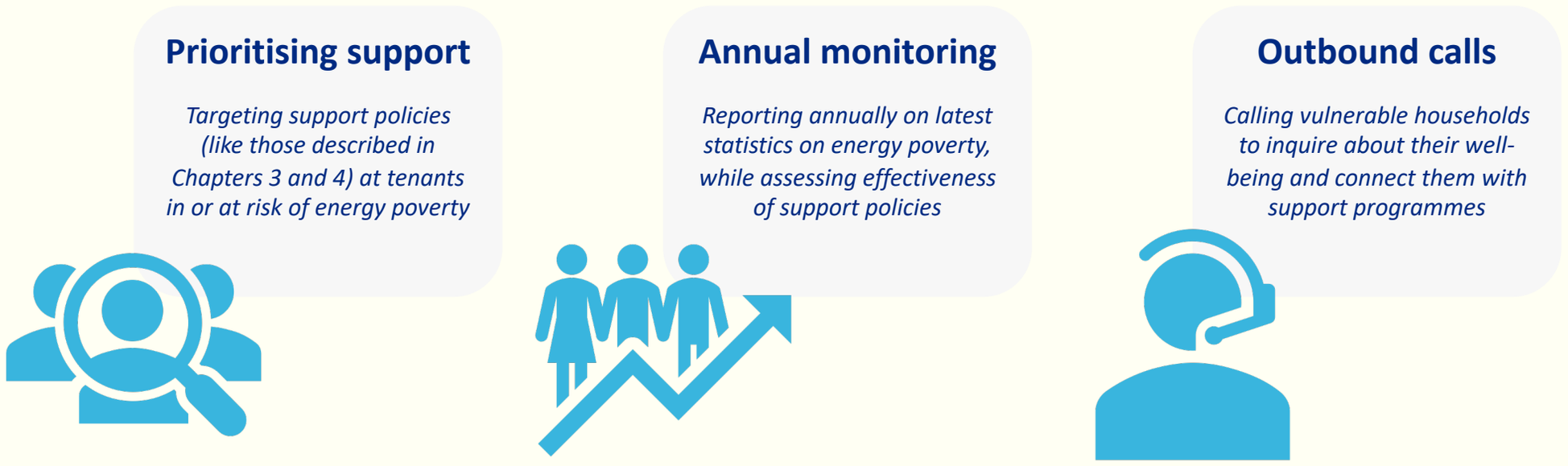
While it is feasible for national statistical agencies with access to administrative data may to accurately measure energy poverty using these indicators, social housing providers often encounter challenges in obtaining sufficient data due to privacy, IT, or regulatory reasons. There are however ways to work around this lack of data and still monitor energy poverty among tenants.

Proxy and/or Tailor-made Variables

An excellent example of how social housing providers can assess energy poverty can be found in England, where Clarion Housing uses proxy data to approach national statistics. In 2014, when LIHC was still the official indicator, Clarion developed its first indicator, using 'benefit entitlement' as a proxy for low income and energy performance certificates as a proxy for high cost. Interestingly, the government later changed its official indicator to LILEE, which brought it even closer to Clarion's indicator rather than the other way around. A potential advantage of aligning one's indicator with that of the government is better positioning for future subsidies. An example of this alignment can be observed in the British Social Housing Decarbonisation Fund, which closely aligns with the government's fuel poverty targets. Therefore, Clarion's initiatives and interventions are well-positioned to leverage government funding and support, maximising their impact on alleviating energy poverty within their communities. This indicator classified households as 'energy poor' or 'non energy poor'. Because such an approach might lack nuance, Clarion also devised a 'vulnerability indicator,' which considers several characteristics that could increase the risk of energy poverty (see Figure 4).

Specifically, Clarion uses the learning from this type of analysis to identify vulnerable households and proactively reach out to them during cold weather periods, ensuring they have the necessary support and resources to stay warm and safe. This outreach effort is a critical component of Clarion's commitment to community welfare and energy justice. They are exploring other potential applications and participated in the study leading to this publication. Some possible applications can be found below in Figure 5.

Figure 5 **How energy poverty monitoring can be used in the operations of social housing providers**



3. Short Term Measures

to Mitigate Energy Poverty

Empowering tenants with energy coaches

Training and deploying ‘energy coaches’ will help to promote energy conservation and offer practical solutions among tenants. By conducting personalised energy assessments, educating tenants on energy-saving practices, and assisting them in the adoption of energy-efficient technologies, energy coaches can help residents significantly. Additionally, they can offer advice on accessing financial assistance programs and subsidies, providing relief to vulnerable households facing financial strain.

Distributing energy boxes for energy conservation

To improve energy efficiency, it helps to provide energy boxes to tenants, which come equipped with various tools such as LED lamps, door and window draft stoppers, shower timers, tap aerators, and thermometers. By distributing these devices and pairing it with personalised energy advice, residents can take immediate steps to conserve energy and reduce their utility costs. LED lamps, for instance, are up to 80% more energy efficient than halogen bulbs. When a social housing provider notices that tenants lack curtains due to financial constraints, these could also be distributed for free to enhance energy conservation.

Deploying ‘fix teams’ for short-term energy-saving measures

So-called ‘fix teams’, comprised of skilled craftspeople, focus on implementing small-scale energy-saving measures to reduce tenants' energy costs. They conduct activities like infrared measurements, insulation application, radiator foil installation, draft-proofing profiles, and LED light installations. Their longer presence within tenants' homes enables them to identify more extensive issues and take appropriate action. These craftspeople are trained to become skilled installers, and may include individuals distanced from the labour market, such as the long-term unemployed or refugees,

Establishing warm hubs as communal spaces of comfort

These centres, often transformed offices or schools, serve as welcoming and inclusive spaces where residents can find comfort, interact with neighbours, enjoy a warm meal, and participate in various activities without the burden of worrying about their energy bills. The hubs effectively revive the sense of community centres within neighbourhoods. Moreover, during the summer, warm hubs can be transformed into cool hubs, providing air-conditioned spaces where residents can gather and escape the heat.

Supporting residents by offering financial leniency

Flexible bill collection can help alleviate the impact of energy price surges in the short term. Proactive social housing providers are taking steps to support their tenants by establishing tenancy support funds or hardship funds to assist households struggling with monthly payments. Furthermore, they are offering tailored payment terms and extended deadlines. For social housing providers that also provide heating, they have the added benefit of greater control to spread price increases over an extended period, reducing the immediate burden on tenants.

Installing smart meters to increase awareness of energy use

Smart meters offer real-time monitoring of energy consumption, allowing residents to understand their usage patterns and costs better and make informed decisions. This is especially advantageous for collective heating systems, as tenants can be billed based on their actual use rather than an average of their whole building. This could encourage residents to shift energy-intensive activities to off-peak hours when electricity costs are lower. Social housing providers can identify at-risk households and provide tailored coaching, addressing energy poverty more effectively.

Optimising existing appliances by carrying out energy audits

Conducting energy audits helps identify areas of inefficiency. One such example is hydronic balancing of radiators, which optimises the heating system's performance and ensures a more even distribution of heat throughout the building, enhancing tenant comfort and reducing energy wastage. Additionally, investing in energy-efficient models for shared spaces, like refrigerators or laundry room machines, further contributes to reducing overall energy consumption. Efficient use does not only result in lower utility bills but also maximises the lifespan of existing appliances, leading to significant cost and resource savings.

4. Long-term Strategies

For an Inclusive Energy Transition

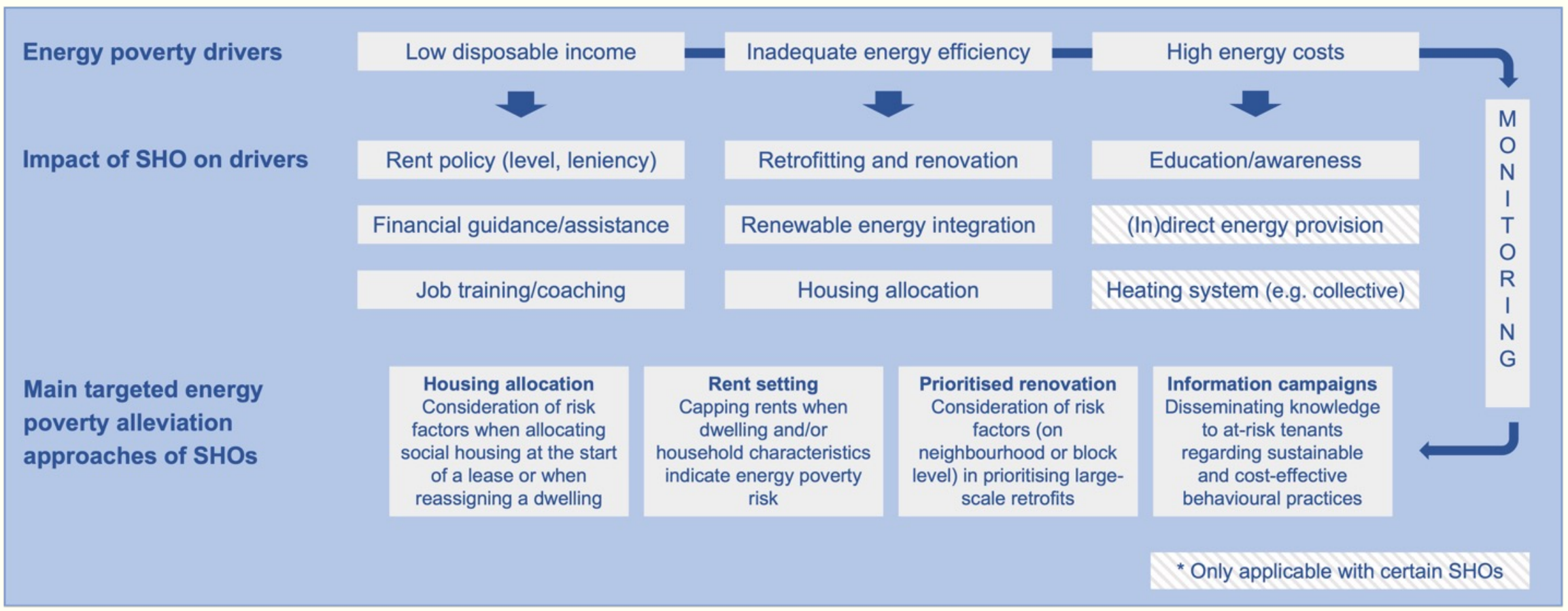
Addressing energy poverty is not merely a short-term concern tied to price crises; it's a structural issue that calls for long-term strategies. As described in Chapter 1, the day-to-day operations of social housing providers influence energy poverty among their tenants significantly. Figure 6 illustrates a range of operations that directly or indirectly affect the main drivers of energy poverty, namely low incomes, high energy costs, and low energy efficiency. By focusing on their existing operations and developing targeted, more inclusive approaches, social housing providers seem to have the potential to alleviate energy poverty risks among their tenants

.In an academic study, we explored various approaches with professionals from England, France, and the Netherlands. This chapter will delve into three out of the four approaches discussed in the focus groups: housing allocation policies, renovation strategies, and information campaigns.

The examination of rent setting adjustments, a topic discussed in our focus group sessions, will not be included in this whitepaper for several reasons. First, the nature of rents in the social housing sector across Europe, which is predominantly dictated by governmental bodies. Furthermore, the consensus among participants in our focus group study posited that rent adjustments exhibit limited potential as a feasible solution, considering that rents constitute the principal revenue stream for social housing providers, essential for funding essential renovation and construction endeavors.

By thoroughly investigating the other three approaches we discussed with social housing providers - targeted housing allocation, targeted renovation strategies, and targeted information campaigns – we present in the following pages possible measures to prevent and/or structurally mitigate energy poverty among residents of social housing units.

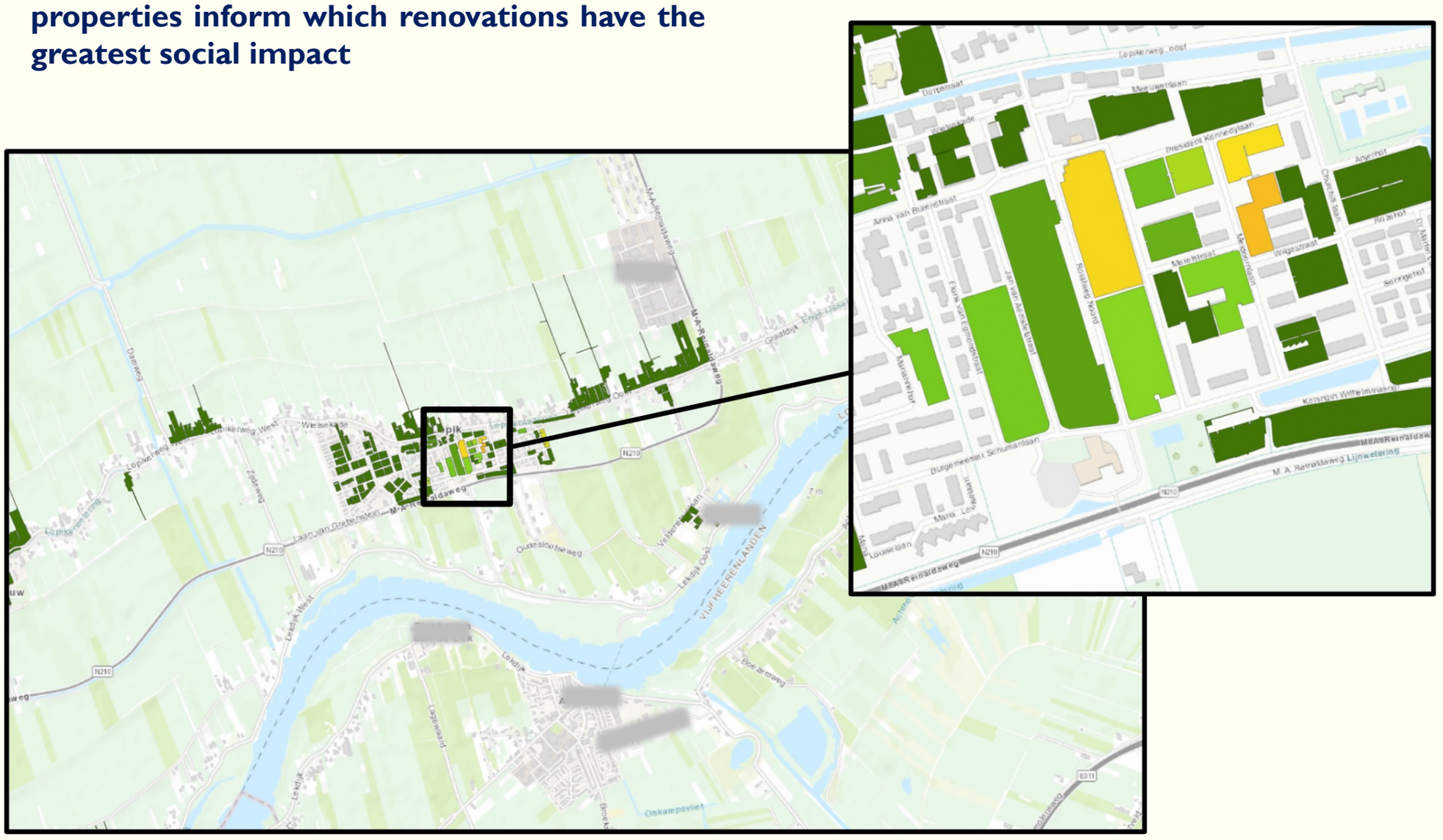
Figure 6 Operations of social housing providers that (in)directly impact energy poverty risk (Croon et al., 2023)



4a. Prioritising Renovation

in Areas with Severe Energy Poverty

Figure 7 **Detailed energy poverty statistics for specific properties inform which renovations have the greatest social impact**



The first approach focuses on prioritising renovation for homes occupied by households at risk of energy poverty. While these decisions must align with climate targets and involve collaboration with local governments, social housing providers have some flexibility in choosing which parts of their stock to renovate first. This flexibility allows them to focus on improving insulation and implementing low-carbon technologies in areas with a concentration of energy poverty. So far, this has not been common practice, as housing providers approach their retrofit strategy based on the economic business case (de Feijter et al., 2019).

Still, we found that most practitioners believe it would be desirable to explore this approach, especially since responsibility for these properties will persist in the future (unless they are sold) and therefore renovation expenses will inevitably be incurred at some point. The decision thus depends on the projected time frame.

It is however worth noting that this approach is only feasible at the neighbourhood or block level (see Figure 7), not on a smaller scale, as it would lead to high costs and confusion or even frustration among unserved neighbours. Additionally, there are concerns about the high turnover rate of tenants, which poses a potential risk to this approach. The frequent turnover and long preparatory period for renovation projects make decision-making information quickly outdated. Using energy poverty monitoring for renovation decisions is pointless if the tenants have already moved out by the time the renovation actually occurs.

Our research revealed that some social housing providers already use energy poverty statistics as one of the key criteria to determine where to target renovations. Others use these statistics to employ "fix teams" (as described in Chapter 3) to carry out small-scale renovations in neighborhoods with the highest energy poverty levels.

4b. Reforming Allocation

to Mitigate Risk at Start of Tenancy

Figure 8 **Considering risk factors when allocating homes could prevent energy poverty at the start of a tenancy**

Reforming housing (re)allocation policies to prevent energy poverty from the onset of a tenancy holds great potential in the long run. Social housing providers often possess some flexibility to determine tenant placements, enabling consideration of the impact of their allocations. Crucially, allocating energy-efficient dwellings to the most vulnerable households - such as the elderly or individuals with health conditions that keep them at home during the day –could become an important approach to avert severe energy poverty situations. This approach accurately addresses vulnerability characteristics and energy requirements.

However, it is not a structural solution, and does not address the fundamental causes of energy poverty. Instead, it focuses primarily on (re)distributing households within the existing housing stock. Furthermore, if such an approach oversimplifies energy poverty by relying on a few variables, targeting may overlook those who genuinely face challenges. Implementing such changes could also prove difficult considering the emotional attachments households may have to their homes.

Practical considerations include the need for reliable data on households' characteristics for proper targeting. Implementing such policies in an overheated housing market may pose challenges due to limited availability and potential resistance from applicants who find this approach patronising. Nonetheless, preventing energy poverty from the outset of a tenancy offers long-term benefits, improving living conditions and reducing energy-related hardships for vulnerable households (See Figure 8 for an illustration).

To explore this approach, social housing providers could start with the low-hanging fruit: providing information on expected energy costs within the housing allocation platform emerges as a straightforward option. Based on household size, relevant characteristics, and energy efficiency, this data empowers tenants to consider and understand potential implications for their household budgets.

An important finding from our study is that social housing professionals strongly prefer incorporating (expected) energy costs as part of housing expenses in policies of governments and their own organisations. While this is the current practice in France, the approaches used in other countries focus solely on rent, which might result in undesirable outcomes.

In the Netherlands, for instance, the rent setting in the social rental sector is based on a dwelling valuation system that assigns quality points to energy performance, enabling higher rents for more energy-efficient dwellings. At the same time, the housing allocation rules prioritise placing low-income households in dwellings with the lowest rents, without considering energy costs. While this approach may seem reasonable for managing rental expenses, it can have counterproductive effects regarding energy poverty. This situation often results in the most vulnerable tenants ending up in the supposedly 'most affordable' dwellings, which, in reality, have the poorest energy performance and consequently incur high operational costs.

4c. Inclusive Communication

to Foster Energy Literacy

This third approach involves targeted information campaigns to influence heating and energy consumption behaviour among households facing the greatest risk of energy poverty. In various countries, social housing providers employ social workers who offer guidance to tenants, providing an intervention that can be tailored based on identified needs (DellaValle & Czako, 2022).

This targeted approach is particularly important following (re)allocation and after the implementation of retrofitting measures. Comprehensive guidance is essential on the appropriate use of various installations, including floor heating, solar water heaters, and balanced ventilation systems. Neglecting to provide such information could potentially lead to higher than anticipated energy consumption, as well as housing degradation (e.g. mould growth due to inadequate ventilation). Empowering households with knowledge about these systems and their efficient use is key to reducing environmental impact and ensuring satisfactory energy services at the lowest cost.

Our findings suggest that considering socially disadvantaged tenants is crucial in bringing about energy literacy - a deep understanding of energy usage and efficiency within a household. This involves using multiple languages for communication and providing physical leaflets (beyond digital communication) for elderly tenants. Face-to-face information provision yields optimal results, especially when the message is reiterated during subsequent visits. To reach specific target groups, social housing providers could visit community centers or places of worship.

While it is often perceived as a disadvantage that only the most committed tenants attend sustainability information meetings, one can also leverage their engagement and appoint them as 'energy ambassadors.' It has been proven that tenants are more receptive to information from their neighbours than from official institutions, such as their landlords.

5. Exploring European Funding Opportunities

Improving energy efficiency of the building stock is a significant priority for the EU as part of its Green Deal. While the European Investment Bank offers cheap loans to social housing providers, the forthcoming Social Climate Fund is specifically designed to address the needs of vulnerable groups (such as social tenants at risk of poverty).

European Investment Bank (EIB)
The EIB offers funding opportunities to support renovation projects of social housing providers through initiatives such as ELENA (European Local ENergy Assistance). Besides financial support, the EIB also provides technical assistance in implementing energy efficiency renovations and renewable energy projects. Additionally, the EIB collaborates with various investment platforms like the European Regional Development Fund (ERDF) and Cohesion Fund to channel resources into social housing renovation projects.

Social Climate Fund (SCF)
In 2026, a year before the EU's Emissions Trading System (ETS) expands to cover buildings and road transport, approximately €87 billion will be allocated to the Social Climate Fund. This funding is intended to assist vulnerable Europeans at risk of energy poverty by supporting renovations and boosting renewables (at least 60%) and providing direct income support. Member States may fund social housing renovations in their national plans if they can demonstrate it will mitigate energy poverty. Governments are set to present their plans to the European Commission in the summer of 2025. It would be sensible for these plans to include financial assistance or fiscal incentives for social landlords, such as tax deductions for renovation costs or government-backed guarantees for low-interest loans. Additionally, the EU explicitly highlights that Member States can use SCF resources for targeted, accessible, and affordable information, education, awareness, and advice.

6. Advancing an Inclusive Energy Transition

Most institutions and organisations are currently in the middle of assessing their contributions to achieving a just transition toward a low-carbon society. For social housing providers, a significant component of this endeavour is addressing energy poverty, especially considering the considerable number of energy poor households residing in their properties across Europe. Moreover, their operations directly influence energy poverty through multiple avenues.

Firstly, tenants in social housing often have low incomes, making rent a substantial portion of their disposable income. Secondly, the energy efficiency of buildings depends on long-term decision-making and maintenance, affecting utility costs for residents. Thirdly, the choice of heating systems impacts energy bills, potentially limiting tenants' control over energy usage. Finally, social housing providers influence tenant allocation, reinforcing the significance of their decisions on energy poverty drivers.

This report explores short and long-term approaches that social housing providers can adopt to alleviate energy poverty. The desirability and feasibility of these approaches may differ across countries and local contexts due to varying institutional, legislative, and demographic characteristics. Nevertheless, exploring these approaches is essential to foster an 'inclusive transition' towards sustainable and affordable living conditions for vulnerable households.

In the short term, social housing providers can focus on measures like empowering tenants with small-scale energy-saving devices and establishing warm hubs as communal spaces of comfort during energy price surges. Additionally, deploying 'fix teams' to conduct small-scale energy-saving renovations and offering financial leniency can alleviate immediate hardships.

For the long term, strategic renovation plans prioritising energy-efficient dwellings for households at risk of energy poverty can significantly impact the lives of vulnerable residents. Reforming housing (re)allocation policies to consider energy efficiency in tenant placement can also prevent energy poverty from the outset of a tenancy. Furthermore, targeted information campaigns can educate residents on energy-saving practices and encourage behaviour changes that promote energy conservation.

One critical step is the development of better data and methods to identify concentrations of energy poverty and broader deprivation. This aligns with the first pillar of Rawlsian justice theory, 'recognition.' Without accurate data on disadvantaged populations, effective assistance cannot be provided. By improving data collection and analysis, social housing providers can better target their efforts and tailor solutions to the specific needs of vulnerable tenants.

By leveraging better data and implementing tailored short and long-term strategies, social housing providers can contribute significantly to alleviating energy poverty and creating sustainable communities.

References

Betto, F., Garengo, P., & Lorenzoni, A. (2020). A new measure of Italian hidden energy poverty. *Energy policy, 138*, 111237.

Boardman, B. (1991). *Fuel poverty: from cold homes to affordable warmth*. Belhaven Press.

CBS (Statistics Netherlands). (2023). *Monitor Energiearmoede 2020* [Data set]. https://www.cbs.nl/nl-nl/maatwerk/2023/04/monitor-energiearmoede-2020

Croon, T. M., Hoekstra, J. S. C. M., & Dubois, U. (2023). Energy poverty alleviation by social housing providers: Investigating targeted approaches in France, England, and the Netherlands. *Building Research & Information, in review*.

DellaValle, N., & Czako, V. (2022). Empowering energy citizenship among the energy poor. *Energy Research & Social Science, 89*, 102654.

European Investment Bank. (n.d.). Overview of ELENA – European Local ENergy Assistance. Retrieved from https://www.eib.org/en/products/advisory-services/elena/index.htm

European Parliament. (2023). Legislative resolution of 18 April 2023 on the proposal for a regulation of the European Parliament and of the Council establishing a Social Climate Fund (COM(2021)0568 – C9-0324/2021 – 2021/0206(COD)). Retrieved from https://www.europarl.europa.eu/doceo/document/TA-9-2023-0101_EN.html#title1

European Union. (2023). *Directive (EU) 2023/1791 of the European Parliament and of the Council of 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast)*. OJ L 231, 20.9.2023, p. 1–111. Retrieved from http://data.europa.eu/eli/dir/2023/1791/oj

de Feijter, F. J., van Vliet, B. J., & Chen, Y. (2019). Household inclusion in the governance of housing retrofitting: Analysing Chinese and Dutch systems of energy retrofit provision. *Energy Research & Social Science, 53*, 10-22.

Financial Times. (2023, June 3). *Why Britain's households should expect energy bills to remain high*. Retrieved from https://www.ft.com/content/72d22af6-abf9-4c44-8a86-83b47b4edb1f

Ginestet, S., Aschan-Leygonie, C., Bayeux, T., & Keirsbulck, M. (2020). Mould in indoor environments: The role of heating, ventilation and fuel poverty. A French perspective. *Building and Environment, 169*, 106577.

Hesselman, M., Varo, A., Guyet, R., & Thomson, H. (2021). Energy poverty in the COVID-19 era: Mapping global responses in light of momentum for the right to energy. *Energy Research & Social Science, 81*, 102246.

Koning Boudewijn Stichting. (2023). *Barometer energie-armoede: Analyse en interpretatie van de resultaten 2021*. Retrieved from https://media.kbs-frb.be/nl/media/10491/Barometer%20Energiearmoede%202023%20DEF

Meyer, S., Laurence, H., Bart, D., Middlemiss, L., & Maréchal, K. (2018). Capturing the multifaceted nature of energy poverty: Lessons from Belgium. *Energy Research & Social Science, 40*, 273-283.

ONPE. (2019). *Analyses rétrospectives de la précarité énergétique à partir de l'exploitation des Enquêtes Nationales Logement 2006 et 2013.* Retrieved from https://onpe.org/documents/rapports-de-l-onpe

Seebauer, S., Friesenecker, M., & Eisfeld, K. (2019). Integrating climate and social housing policy to alleviate energy poverty: An analysis of targets and instruments in Austria. *Energy Sources, Part B: Economics, Planning, and Policy, 14*(7-9), 304-326.

Thomson, H., Snell, C., & Bouzarovski, S. (2017). Health, well-being and energy poverty in Europe: A comparative study of 32 European countries. *International Journal of Environmental Research and Public Health, 14*(6), 584.

VaasaETT. (2023). *Price data — HEPI - Household Energy Price Index* [Data set]. Retrieved from https://www.energypriceindex.com/price-data

Share this Whitepaper

This whitepaper sets out different ways in which social housing providers can play a pivotal role in addressing energy poverty. It delves into various short-term and long-term strategies. If you believe that a colleague or someone in your network could benefit from these insights, then scan the QR code with your smartphone and help us disseminate!

Credits

European Federation for Living
Vijzelstraat 68
NL- 1017 HL Amsterdam
The Netherlands
Telephone: +31 6 54 72 72 86
Email: info@ef-l.eu

The European Federation for Living (EFL) is a European network of housing associations, companies and experts working to create more affordable, sustainable housing. The network offers easy access to relevant insights, information and expertise from the European housing sector.

Authorship: Tijn Croon, Joris Hoekstra, Ute Dubois