Shining a light on energy poverty in the European private rented sector

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Abstract

The Fit for 55 package stipulates a fair, competitive and green transition by 2030 and beyond. As part of this, increasing attention is given to the decarbonisation of the building stock: only 1 % of buildings in Europe are retrofitted each year, a number which must double if the EU is to meet its 2050 targets. Significant energy efficiency investments are needed, whilst the planned expansion of the EU-ETS to the building sector in 2026 will likely pass the carbon cost onto the consumer. This will increase the cost burden placed on low-income households, exacerbating energy poverty, if these two strategies are not counterbalanced by adequate policies and support mechanisms.

The European Private Rented Sector (PRS) is often side-lined by policymakers when implementing energy efficiency policies to tackle energy poverty. As many as 1 in 10 Europeans spend 40 % or more of their income on housing costs, with those in the PRS struggling with energy-related problems, such as poor energy efficiency and maintenance, to a much greater degree than the general population. Understanding these challenges and creating targeted policies is of critical scientific and policy importance.

To date, a pan-European policy on how to address energy poverty and energy efficiency improvements in the PRS is lacking; current European Union instruments to address such issues (including the Fit for 55, and the Clean Energy Package that preceded it) lack a dedicated approach towards the complex structural issues embedded in the European PRS. What is more, there is a limited understanding of the character of energy poverty in such residential dwellings, as well as policies to address energy injustices. We therefore examine current and historical disparities in energy poverty between the EU's PRS tenants and the general population by analysing a variety of quantitative indicators which reflect different dimensions of energy poverty. We then take stock of the policy landscape, identifying energy efficiency policies tailored to alleviate energy poverty in the PRS and common challenges. We subsequently interrogate possible solutions, drawing on existing good practice policies. In so doing, we aim to reduce the sector's political invisibility by addressing the lack of disaggregated, targeted data and dismantling barriers that currently lead to the PRS being disproportionately affected by energy poverty.

Introduction and Background

Energy poverty is a multidimensional phenomenon resulting from a variety of individual and structural drivers, most notably high energy prices, low energy efficiency of buildings and appliances and insufficient incomes (Pye et al. 2015; Bolino & Botti 2017; Halkos & Gkampoura, 2021). Beyond this, low energy literacy (Chodkowska-Miszczuk 2021), increased energy needs due to social, cultural, economic or health reasons, such as disability or old age, limited access to energy services and low flexibility to adapt service provision to one's needs (Bouzarovski & Petrova 2015) as well as (changing) climate conditions (Trinomics 2016) have been found to drive vulnerabilities to energy poverty.

Improving the energy efficiency of the EU's building stock is seen as a key solution to tackling both energy poverty and reducing carbon emissions, with the last few years seeing a strong policy impetus to move towards more sustainable practices of energy use across the residential sector. This drive is particularly embodied in the Fit for 55 (Ff55) policy proposals, which are part of the European Green Deal seeking to achieve climate neutrality by 2050. The proposals represent the most ambitious effort, to date, to move towards far reaching reforms in the EU's climate, energy and transport-related legislation. The proposals aim to achieve 'a just and socially fair transition', while 'maintaining and strengthening innovation and competitiveness of EU industry' and underpinning 'the EU's position as leading the way in the global fight against climate change'[1].

In terms of energy poverty, a key element of the Ff55 package is the establishment of a new €72.2 billion Social Climate Fund, aimed at providing earmarked funding to Member States to support people who are affected by, or vulnerable to, energy poverty. The fund is to be drawn from the establishment of a new Emissions Trading System, which is to include heating in buildings and transport for the first time. This has drawn criticism from advocacy groups working on energy poverty and consumer protection in general, due to likely increases in bills as the cost of carbon is passed on to the consumer, a perceived lack of sufficient funding for vulnerable groups despite the Social Climate Fund, and the broader reliance on market-based instruments to address low-carbon transitions (EPSU 2021).

The success of the Ff55 proposals depends in part on the ability of new decarbonisation policies to include people and places that have remained outside the remit of mainstream energy policies. The European Private Rented Sector (PRS) – here defined as housing that is owned by private landlords, including individuals or privately-owned organisational actors (companies, co-operatives, corporations) which is let for residential purposes in order to collect rental income and profit (Westerheide, 2011) – embodies this form of exclusion. It is well established that levels of energy poverty are higher, and the energy efficiency of dwellings, heating systems and appliances in the PRS is much lower than that of the remaining housing stock (Ambrose & McCarthy 2019; Ambrose 2015; Burfurd et al. 2012; Crook & Hughes 2001; Dowson et al. 2012; Hope & Booth 2014; Morris & Genovese 2018). The reasons for this situation are complex, and can be attributed to the lack of regulatory and economic incentives for private sector landlords to improve the energy efficiency of PRS housing, as well as broader structural conditions linked to history, geography, technology and politics. Tenants have little agency to improve their energy situation, other than small-scale behavioural changes, as it is usually only landlords who can make alterations to a dwelling (Ambrose 2015). To compound the issue, even if a landlord does choose to act, energy retrofitting projects and efficiency initiatives can lead to an increase in rents, displacement from so-called 'renoviction', and residential segregation (Stojilovska et al. 2021). Policies at different governance levels can play a key role in alleviating some of these issues, which we will explore in this paper.

1. https://www.consilium.europa.eu/en/policies/green-deal/eu-plan-for-a-green-transition/

State of energy poverty in the European PRS

Due to the multitude of (partly localised) drivers, energy poverty manifests itself in different ways, which has resulted in a variety of definitions and corresponding indicators to measure and monitor it (Trinomics 2016). Broadly speaking, there are four different approaches for measuring energy poverty levels focusing on 1) self-reported assessments of indoor housing conditions, and the ability to access and afford basic energy services (*consensual-based metrics*), 2) household energy expenditure, often compared to income (*expenditure-based metrics,* 3) *direct measurement* of the level of energy services (such as heating) achieved in the home compared to a set standard or 4) outcomes associated with energy poverty, e.g., disconnections, arrears on utility bills, health issues or cold-related mortality (*outcome-based metrics*).

On a European level, energy poverty measurement is, besides conceptual considerations, largely driven by availability of comparable data across EU MS. Unfortunately, to date there is no pan-European database comprising comprehensive information at the household level to build an indicator (or index) capturing the different energy poverty dimensions and/or to examine the construct validity of single indicators. Accordingly, the European Commission and EPOV recommend using a set of consensual and expenditure-based indicators from different databases (European Commission 2020). The most comprehensive and reliable database comprising energy poverty related information is the annual EU Survey on Income and Living Conditions (SILC). It provides information on households' reported financial difficulties to afford comfortable indoor temperature levels or to pay for utility bills on time, which is used to calculate two primary energy poverty indicators: share of the population experiencing an *Inability to keep home adequately warm (IKW)* (ESTAT indicator ilc_mdes01) or having *Arrears on utility bills (AUB)* (ESTAT indicator ilc_mdes07).

The second database employed to explore energy expenditure related manifestations of energy poverty in the EU is the Household Budget Survey (HBS), a set of national statistics on household expenditure patterns that are harmonised by Eurostat at 5-year intervals. Based on this data, more complex indicators such as *2M (Share of households whose share of energy expenditure in their income is more than twice the national median share)* and *M/2 (Share of households whose energy expenditure is below half the national median value)* may be calculated to detect financial burden of energy costs, reflected by either disproportionately high or low expenditure.

To examine the state of energy poverty in the European PRS, we draw on statistics calculated within the H2020 ENPOR project and presented on the newly developed Energy Poverty Dashboard[2]. Apart from the aforementioned primary energy poverty indicators, a range of additional indicators were calculated and disaggregated by tenure status, to provide a comprehensive picture of the historic and current situation in the PRS compared with the general population. Where possible, indicators were further disaggregated by NUTS-Level to allow for a subnational analysis of energy poverty across regions. For the present paper, due to space limitations we focus our analysis on

2. https://www.energypoverty.info

Table 1. Overview of analysed indicators, sources and time coverage.

Database	Indicator	Description	Time coverage
EU-SILC	Inability to keep home warm (ilc_mdes01)	Share of a population not able to keep their home adequately warm, based on the question "can your household afford to keep its home adequately warm?"	2004-2019
	Arrears on utility bills (ilc_mdes07)	Share of a population having arrears on their utility (water, electricity, gas, heating, etc.) bills, based on the question "in the last twelve months, has the household been in arrears, unable to pay on time due to financial difficulties for utilities?"	2004-2019
HBS	2M - High share of energy expenditure in income	Share of households whose share of energy expenditure in their disposable income is more than twice the national median share.	2010; 2015
	M/2 - Low absolute energy expenditure	Share of households whose disposable income and absolute energy expenditure is below half the respective national median values, capturing the underconsumption of energy relative to national median energy expenditure.	2010; 2015

the primary energy poverty indicators, which provide the most comprehensive base for comparison of energy poverty levels over time and by tenure status. Table 1 provides an overview of the indicators, their database, time coverage and description.

ENERGY POVERTY IN THE PRS ACCORDING TO CONSENSUAL INDICATORS

According to Eurostat, in 2020 more than two thirds of people in the EU27 were homeowners, with the remaining 30 % renting their housing[3]. However, home ownership and in turn the size of the PRS differs significantly among MS. Historically, home ownership rates in Eastern European countries have been particularly high, with more than 9 out of 10 persons living in their own home in RO (96 %), SK (92 %) and HU (91 %). On the other end of the spectrum, DE has traditionally been a renter society, with ownership rates only recently increasing above 50 %. Next in line are AT (55 %) and DK (59 %). Combining this information with the indicator described above can provide insights into the depth and scope of energy poverty in the respective PRS.

As shown in Figures 1 and 2, on both consensual indicators, the share of energy poor people is higher in the PRS compared to the overall population, in some cases significantly. For instance, energy poverty levels in the PRS of ES and IE according to the IKW indicator are twice as high as in the overall population. An exception is HU, where the proportion of people unable to keep their home adequately warm in the PRS is slightly below the national share. On average across the EU27, energy poverty levels according to both indicators in the PRS are 3.5 percentage points (pp) above the national values. The largest differences on the IKW indicator can be found in CY, ES (both 7 pp), IT and PT (both 8 pp), while on the AUB indicator the difference between tenants and the general population is highest in HU and IE (both 8 pp).

The highest energy poverty levels in the PRS according to the IKW indicator are found in BG (35.6 %) followed by LT (33 %), CY (28 %) (cf. Table 2). While these numbers reflect the increased saliency of the issue in the PRS, combining them with the size of the PRS provides an additional perspective on its relative scope in a country. When multiplying the energy poverty levels with the respective PRS sizes[4], the order changes with energy poor tenants making up the largest share in the overall population in CY (9 %), followed by PT (7.2 %) and EL (5.8 %).

To enable the design of targeted policies effectively addressing the issue, it further is of interest to calculate the share of tenants in the energy poor population within a country. This derived indicator can provide guidance for national policy makers and practitioners as to where to focus their efforts to alleviate energy poverty.

Calculating it for the MS with the highest energy poverty levels in the PRS provides a different picture with decreasing relevance of the sector for the overall energy poverty levels (IT (44.6 %) followed by CY (43.2 %) and PT (36.1 %). Among all MS, the data shows that particularly in AT (72.5 %), IE (70.3 %), DE (67.9 %) and to a lesser extent in DK (60.5 %) and FR (59.6 %) energy poverty is largely a PRS issue, whereas in others its relative relevance for addressing energy poverty is rather low, e.g., in LT (10.6 %), HU (7.5 %) and RO (5.2 %).

In terms of people in arrears with their utility bills (AUB), EL exhibits the highest share in its PRS (36.3 %) followed by BG (26 %) and HR (17.9 %). When relating this information to the size of the PRS again, the order remains (EL (8.9 %), BG (4.1 %), HR (1.8 %)). Looking at the share of tenants in the energy poor population on the AUB indicator shows that in these countries the PRS is not at the core of the problem (EL (28.9 %), BG (15.9 %), HR (12.9 %). Again, among all MS, the highest proportions of energy poor persons living in the PRS are found in those with the largest PRS such as SE (71.9 %), FR (66.6 %) and DE (65.5 %), though in slightly different order whereas MS with smaller PRS such as HU (14.9 %), HR (12.9 %) and RO (4.9 %) display the lowest shares in this regard.

Unsurprisingly (from a mathematical point of view), these figures are to a large extent shaped by the size of the respective PRS (cf. Figure 3). Nevertheless, there is still some variation resulting from the relationship between PRS and overall

3. https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-1a.html?lang=en

4. Since the latest available data for our calculations is from 2019, we used the respective PRS size in that year for our calculations.

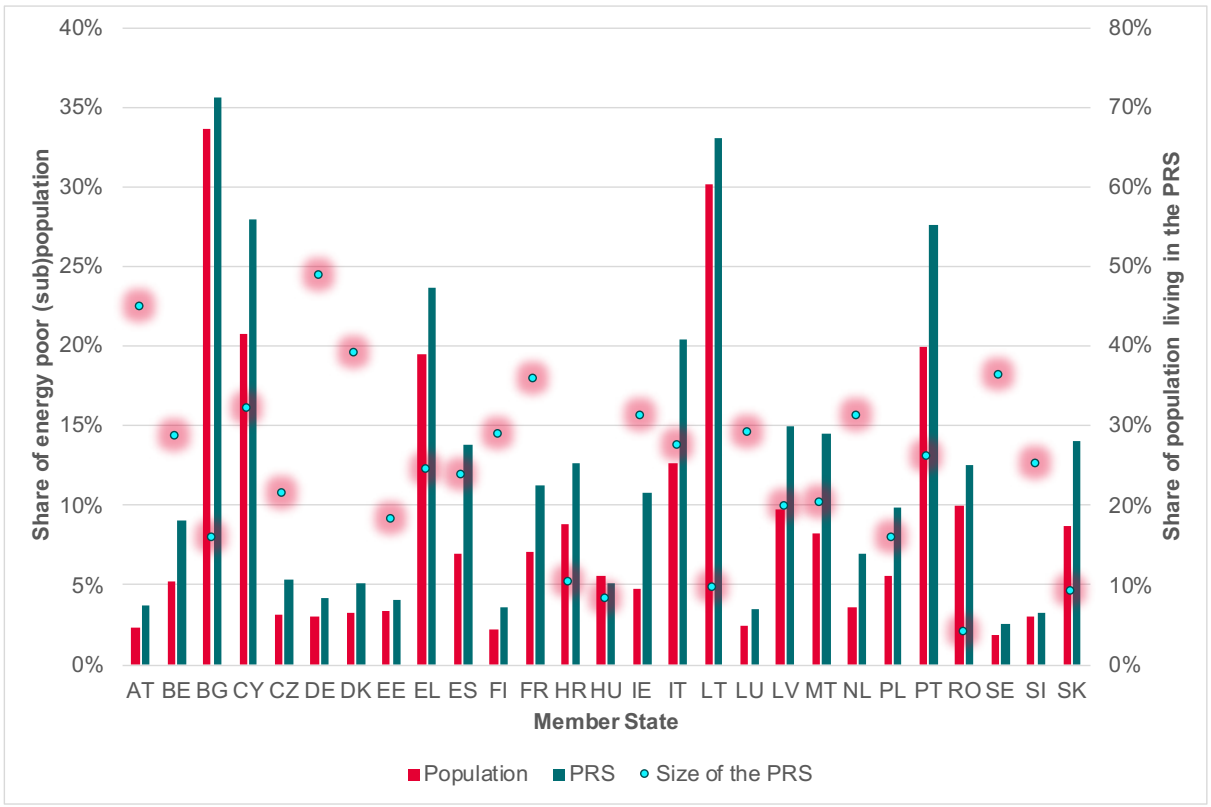

Figure 1. Share of persons unable to keep their home adequately warm in the PRS and in the general population and size of the PRS in the EU27 (2019). Source: own calculations based on EU-SILC data.

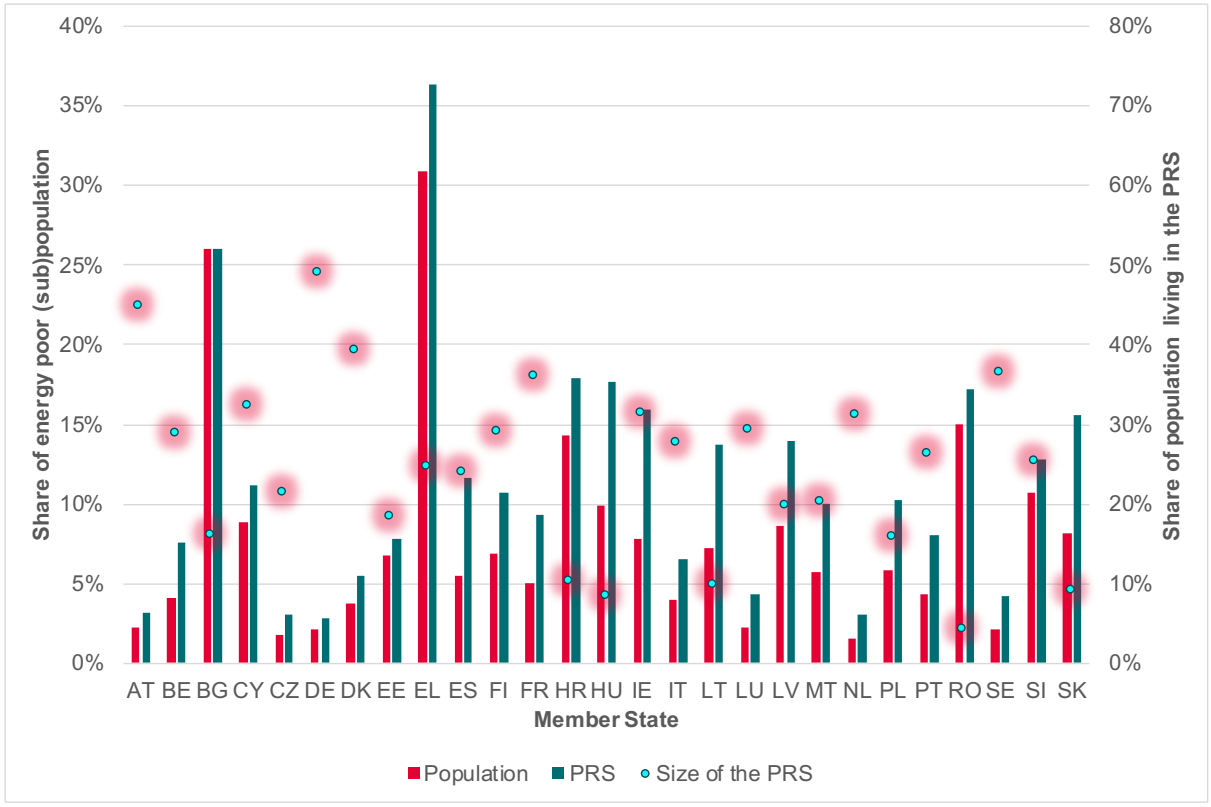

Figure 2. Share of persons with arrears on utility bills in the PRS and in the general population and size of the PRS in the EU27 (2019). Source: own calculations based on EU-SILC data.

energy poverty levels, as exemplified when comparing IE and DE. While the share of tenants in the energy poor population is similar in both countries, the difference in energy poverty levels in the PRS and the overall population is much larger in IE (6pp) than in DE (1.1pp) (cf. Table 2). Accordingly, in IE the indicator is driven by higher levels in the PRS compared to the overall population whereas in DE the value is shaped to a larger extent by the mere size of the PRS.

Examination of energy poverty trends in the PRS and the overall population over time shows that these follow similar patterns in most MS, which may be explained by the significant share of energy poor persons living in the PRS in some MS but also other factors unrelated to the tenure status such as energy prices or income developments as well as policy frameworks and programmes generally targeting (energy) poverty. Furthermore, despite being homeowners, by definition the households identified as energy poor by these indicators may still lack the necessary funds to improve the energy efficiency of their dwellings to sustainably change their situation. Nevertheless, in some MS we can observe some divergent or convergent trends reflecting differing developments in the PRS and the overall population (cf. Figure 4).

While connecting the impact of specific policies or programmes to these macro level statistics remains difficult due to the multitude of individual and structural influencing factors, visualisation of national trends can create a starting point for

Table 2. Ranking of countries in the EU27 with regard to energy poverty levels in the PRS and the overall population, the share of energy poor tenants in the population, the share of tenants in the energy poor population and PRS size in 2019.

Rank	Energy poverty level in the overall population*				Energy poverty level in the PRS				Share of energy poor tenants in the population				Share of tenants in the energy poor population				Size of the PRS in 2019	
	IKW		AUB		IKW		AUB		IKW		AUB		IKW		AUB			
1	**BG**	**33.6%**	**EL**	**30.9%**	**BG**	**35.6%**	**EL**	**36.3%**	**CY**	**9.0%**	**EL**	**8.9%**	**AT**	**72.5%**	**SE**	**71.9%**	**DE**	**49%**
2	**LT**	**30.2%**	**BG**	**26.0%**	**LT**	**33.0%**	**BG**	**26.0%**	**PT**	**7.2%**	**IE**	**5.0%**	**IE**	**70.3%**	**FR**	**66.6%**	**AT**	**45%**
3	**CY**	**20.8%**	**RO**	**15.0%**	**CY**	**28.0%**	**HR**	**17.9%**	**EL**	**5.8%**	**BG**	**4.1%**	**DE**	**67.9%**	**DE**	**65.5%**	**DK**	**39%**
4	**PT**	**19.9%**	**HR**	**14.3%**	**PT**	**27.6%**	**HU**	**17.7%**	**BG**	**5.7%**	**CY**	**3.6%**	**DK**	**60.5%**	**AT**	**63.7%**	**SE**	**36%**
5	**EL**	**19.5%**	**SI**	**10.7%**	**EL**	**23.7%**	**RO**	**17.2%**	**IT**	**5.6%**	**FR**	**3.3%**	**NL**	**59.6%**	**IE**	**63.6%**	**FR**	**36%**
6	IT	12.6%	HU	9.9%	IT	20.4%	IE	16.0%	FR	4.1%	SI	3.2%	FR	56.9%	NL	59.9%	CY	32%
7	RO	10.0%	CY	8.8%	LV	15.0%	SK	15.6%	IE	3.4%	FI	3.1%	BE	49.9%	DK	57.1%	IE	31%
8	LV	9.7%	LV	8.6%	MT	14.6%	LV	13.9%	ES	3.3%	ES	2.8%	SE	48.8%	LU	55.2%	NL	31%
9	HR	8.8%	SK	8.2%	SK	14.1%	LT	13.8%	LT	3.2%	LV	2.8%	ES	46.7%	BE	53.5%	LU	29%
10	SK	8.7%	IE	7.9%	ES	13.8%	SI	12.8%	LV	3.0%	BE	2.2%	FI	46.0%	ES	50.6%	FI	29%
11	MT	8.2%	LT	7.3%	HR	12.6%	ES	11.7%	MT	2.9%	DK	2.1%	IT	44.6%	PT	48.6%	BE	29%
12	FR	7.1%	FI	6.9%	RO	12.5%	CY	11.2%	BE	2.6%	PT	2.1%	CY	43.2%	IT	45.3%	IT	28%
13	ES	7.0%	EE	6.8%	FR	11.3%	FI	10.7%	NL	2.2%	MT	2.0%	LU	40.4%	FI	45.3%	PT	26%
14	HU	5.6%	PL	5.9%	IE	10.8%	PL	10.3%	DE	2.1%	HR	1.8%	PT	36.1%	CY	40.8%	SI	25%
15	PL	5.6%	MT	5.7%	PL	9.8%	MT	10.1%	DK	2.0%	IT	1.8%	MT	35.8%	CZ	37.2%	EL	25%
16	BE	5.2%	ES	5.5%	BE	9.1%	FR	9.3%	AT	1.7%	PL	1.6%	CZ	35.7%	MT	35.5%	ES	24%
17	IE	4.8%	FR	5.0%	NL	7.0%	PT	8.0%	PL	1.6%	SE	1.5%	LV	30.6%	LV	32.0%	CZ	21%
18	NL	3.6%	PT	4.3%	CZ	5.3%	EE	7.8%	HR	1.3%	HU	1.5%	EL	29.9%	SI	30.2%	MT	20%
19	EE	3.4%	BE	4.1%	DK	5.1%	BE	7.6%	SK	1.3%	AT	1.4%	PL	27.9%	EL	28.9%	LV	20%
20	DK	3.3%	IT	4.0%	HU	5.1%	IT	6.5%	CZ	1.1%	EE	1.4%	SI	27.3%	PL	27.5%	EE	18%
21	CZ	3.2%	DK	3.7%	DE	4.2%	DK	5.5%	FI	1.0%	SK	1.4%	EE	21.6%	EE	21.1%	BG	16%
22	DE	3.1%	LU	2.3%	EE	4.0%	LU	4.4%	LU	1.0%	DE	1.4%	BG	16.9%	LT	18.4%	PL	16%
23	**SI**	**3.0%**	**AT**	**2.3%**	**AT**	**3.7%**	**SE**	**4.2%**	**SE**	**0.9%**	**LT**	**1.3%**	**SK**	**14.7%**	**SK**	**17.4%**	**HR**	**10%**
24	**LU**	**2.5%**	**SE**	**2.1%**	**FI**	**3.6%**	**AT**	**3.2%**	**SI**	**0.8%**	**LU**	**1.3%**	**HR**	**14.7%**	**BG**	**15.9%**	**LT**	**10%**
25	**AT**	**2.3%**	**DE**	**2.1%**	**LU**	**3.5%**	**NL**	**3.1%**	**EE**	**0.7%**	**NL**	**1.0%**	**LT**	**10.6%**	**HU**	**14.9%**	**SK**	**9%**
26	**FI**	**2.2%**	**CZ**	**1.7%**	**SI**	**3.3%**	**CZ**	**3.0%**	**RO**	**0.5%**	**RO**	**0.7%**	**HU**	**7.5%**	**HR**	**12.9%**	**HU**	**8%**
27	**SE**	**1.9%**	**NL**	**1.6%**	**SE**	**2.6%**	**DE**	**2.8%**	**HU**	**0.4%**	**CZ**	**0.6%**	**RO**	**5.2%**	**RO**	**4.8%**	**RO**	**4%**

** Deviations from official Eurostat figures are due to differences in the data cleaning/preparation.*

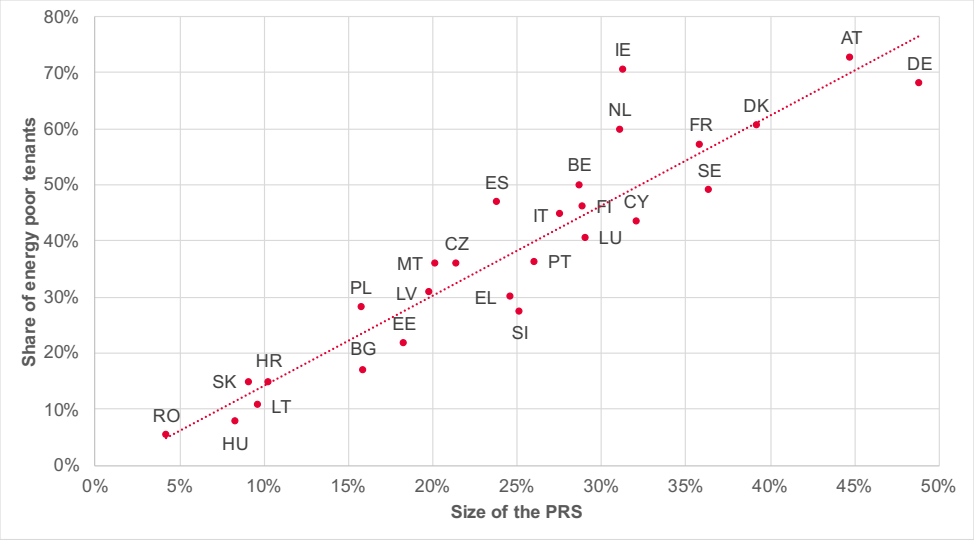

Figure 3. Relationship between the PRS size and the share of tenants in the energy poor population in the EU27 according to the IKW indicator (2019). Source: own calculations based on EU-SILC data.

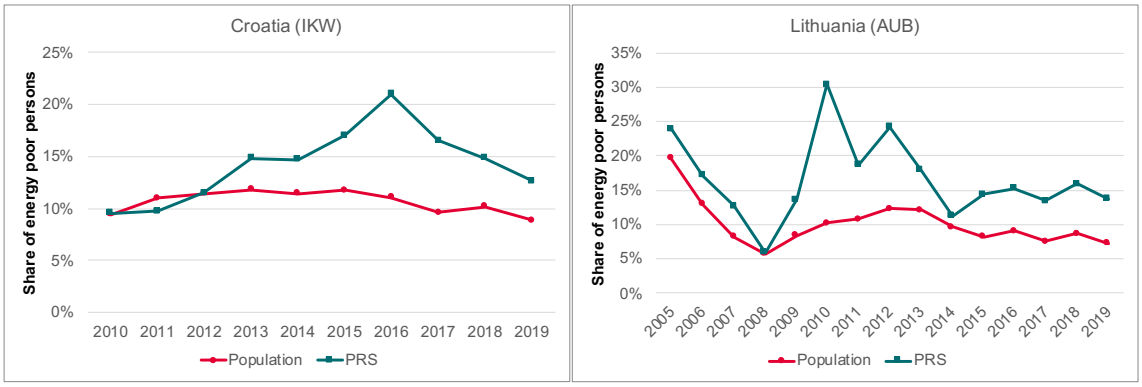

Figure 4. Energy poverty trends in the PRS and the overall population in HR and LT according to the IKW and AUB indicator respectively and data availability in the period 2010–2019 and 2005–2019 respectively. Source: own calculations based on EU-SILC data.

further in-depth analysis. For instance, in HR we can observe a divergent trend with the energy poverty level (according to IKW) in the PRS doubling between 2011 and 2016 in contrast to a relatively stable situation in the general population, indicating a comparatively higher vulnerability of tenants to energy deprivation. While this paper does not aim for in-depth analysis of the drivers in different national contexts, this rise and the reversing trend from 2016 falls in line with the change in household gas prices, which peaked in 2016[5]. Furthermore, in 2015 new legislation was passed granting energy subsidies to vulnerable households (Lenz & Grgurev 2016), which in combination with the energy price development may have contributed to this trend reversal.

A similar divergence of trends can be observed in LT, where the share of persons with arrears on utility bills more than tripled in the PRS following the financial crisis in 2008, whereas their share in the general population "only" doubled.

Overall, according to both indicators the situation in the PRS has improved in most MS – or at least not become significantly worse (cf. Figure 5 and Figure 6), reflecting successful efforts of many MS, particularly in Eastern Europe, to improve the situation of vulnerable consumers. While there are specific factors shaping national outcomes related to the respective policy frameworks, overall, the development in the region can be attributed to a combination of wider economic trends leading to increasing incomes[6], stable energy prices and improving energy efficiency in the residential sector[7] supported by targeted policies (e.g., funds for energy refurbishments). With respect to the IKW indicator, in some MS (SI, RO, PT, DK) the decrease of energy poverty has even been distinctly more pronounced in the PRS than in the overall population. This positive discrepancy is evident in even more MS (BG, CZ, EE, IE, IT, LV, SE,

5. https://ec.europa.eu/eurostat/databrowser/view/NRG_PC_202__custom_1945810/default/line?lang=en

6. Cf. https://www.intereconomics.eu/contents/year/2021/number/2/article/cohesive-growth-in-europe-a-tale-of-two-peripheries.html

7. https://www.odyssee-mure.eu/publications/efficiency-by-sector/households/trends-europe.html

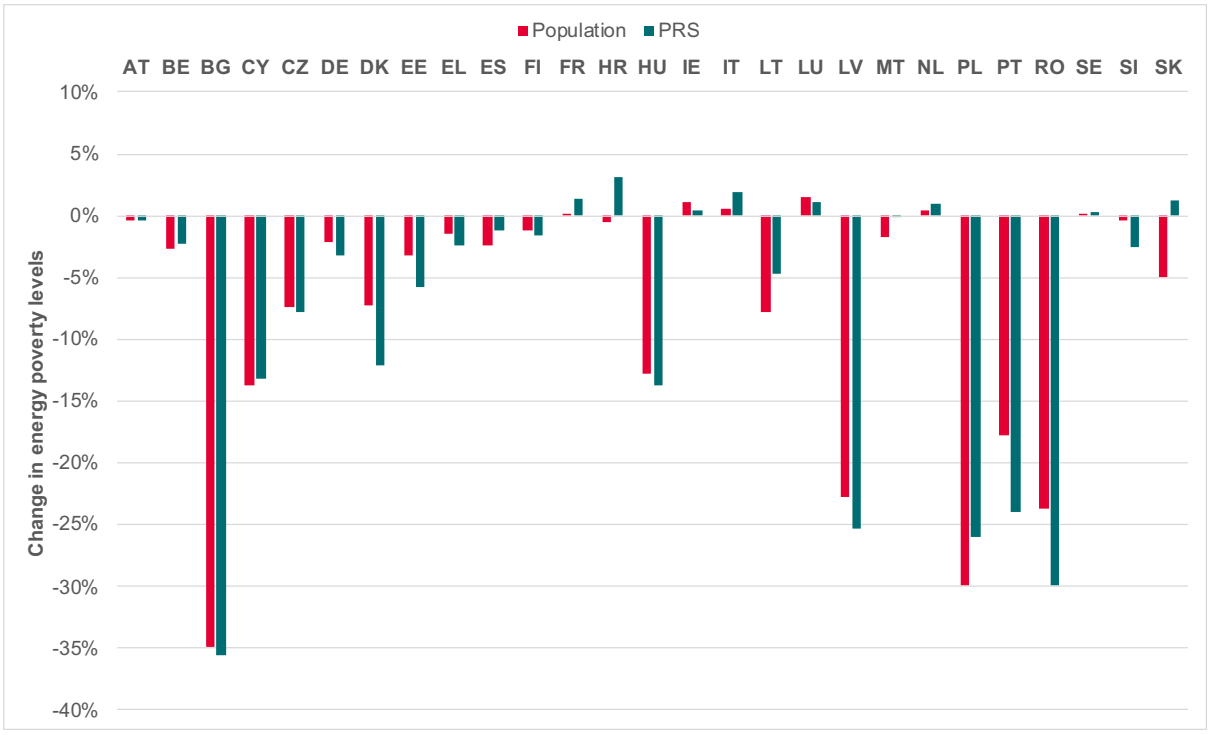

Figure 5. Change of energy poverty levels in the PRS and the overall population in the EU27 in percentage points according to the IKW indicator in the period 2004–2019. Source: own calculations based on EU-SILC data.

SI) when looking at the differences in the share of persons in arrears with their utility bills.

Regarding opposite developments, in other MS the share of tenants not able to heat their home has increased compared to the respective first point of measurement (HR, IT, FR, LU, SK, NL). In HR and SK there is a diverging development between the PRS and the overall population. Also, regarding the share of tenants with arrears on utility bills, levels have gone slightly up in several MS (RO, SK, ES, MT, EL, PT) with SK, MT and PT (again) displaying divergent trends.

In terms of people not being able to adequately heat their home, the largest improvements over time in both the PRS and the overall population have been achieved in Eastern European MS (BG, PL, RO and LV) as well as in PT, with energy poverty levels in the PRS decreasing by 35.5, 29.9, 26, 25.4 and 23.9pp respectively. Regarding the energy poverty levels measured by the AUB indicator, the biggest drops can be observed in LV (-14pp), HR and PL (both -12pp), EE (-11pp), IT and LT (both -10pp).

ENERGY POVERTY ACCORDING TO EXPENDITURE-BASED INDICATORS

While the consensual indicators overall display a positive trend in the European PRS, examination of expenditure-based indicators can provide an additional angle on the issue. Although, due to its limited time coverage, the underlying data is not suited for an assessment of the most current state, it still allows for comparing the (latest) situation and development in the PRS with that in the general population. With view to the 2M indicator, in 2015 the comparison of MS (for which data is available) provides a mixed picture with the share of energy poor households being higher in the PRS of two thirds of MS and the remainder displaying lower levels (cf. Figure 7).

This variation not only applies to the direction but also the size of the differences, which is reflected by a rather sizable standard deviation of 8.4 %. The largest differences to the general population in either direction can be found in the PRS of BE (10.5pp) and SE (-22.1pp) respectively. In terms of development over time, energy poverty levels in the PRS have increased in almost all MS between 2010 and 2015. Exceptions are BG (-10.4pp), LV (-8pp), FR (-2.4pp) and RO (-1.5pp). In several MS (SK, PL, IE, BE, ES), energy poverty has increased in the PRS while decreasing in the overall population.

With view to the M/2 indicator, in 2015 the share of energy poor households was higher in the PRS of most MS, with the exception of BG (-3.3pp), EE (-2pp) and CZ (-0.5pp) (cf. Figure 8). On average, energy poverty levels in the PRS across MS in 2015 were 6.4pp higher than in the overall population with the largest differences found in SK (23.6pp), FR (18.1pp) and IE (12.2pp). Differences between MS in this regard were slightly less pronounced with a standard deviation of 6.2 %. The comparison of energy poverty levels in the PRS between 2010 and 2015 shows that the share of tenants under-consuming energy services has developed quite differently across the EU. While in several MS (BE, CY, CZ, EL, ES, LU, NL, SE) there has been little to no change either way, in some the share of energy poor households in the PRS has notably increased (FR, HR, HU, IE, LT, SK) and others have seen a drop in PRS energy poverty levels (BG, DK, EE, FI). The development in HR, which has seen an 8.4pp increase in the PRS and a 1.9pp decrease in the overall population, aligns with the trend observed on the IKW indicator (Figure 4), thus corroborating the higher vulnerability of tenants to energy poverty drivers.

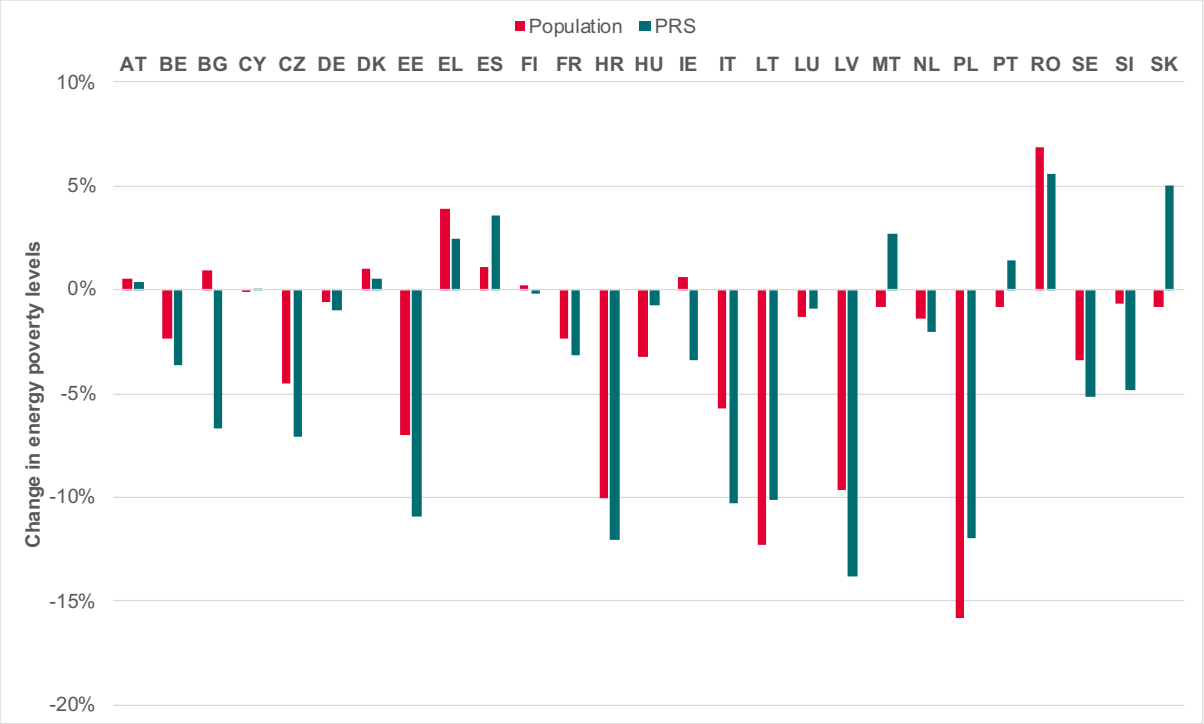

Figure 6. Change of energy poverty levels in the PRS and the overall population in the EU27 in percentage points according to the AUB indicator in the period 2004-2019. Source: own calculations based on EU-SILC data.

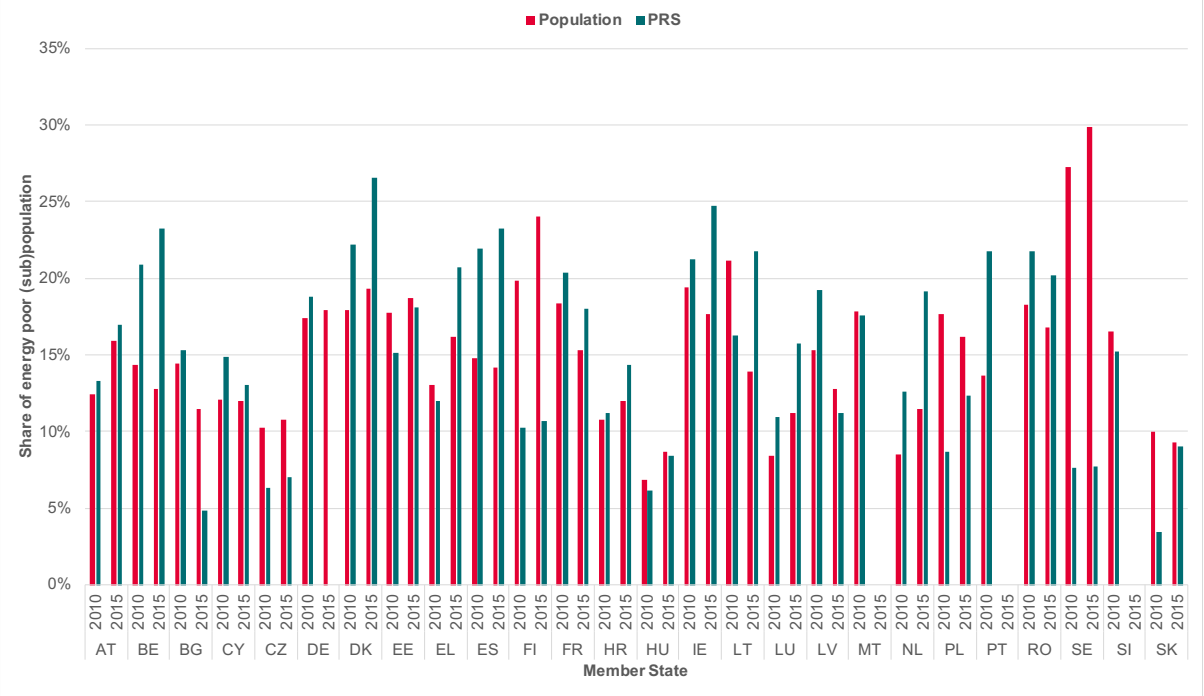

Figure 7. Share of households whose share of energy expenditure in income is above twice the national median share (2M) in the PRS and in the general population in the EU27 (2010 and 2015). Source: own calculations based on HBS data.

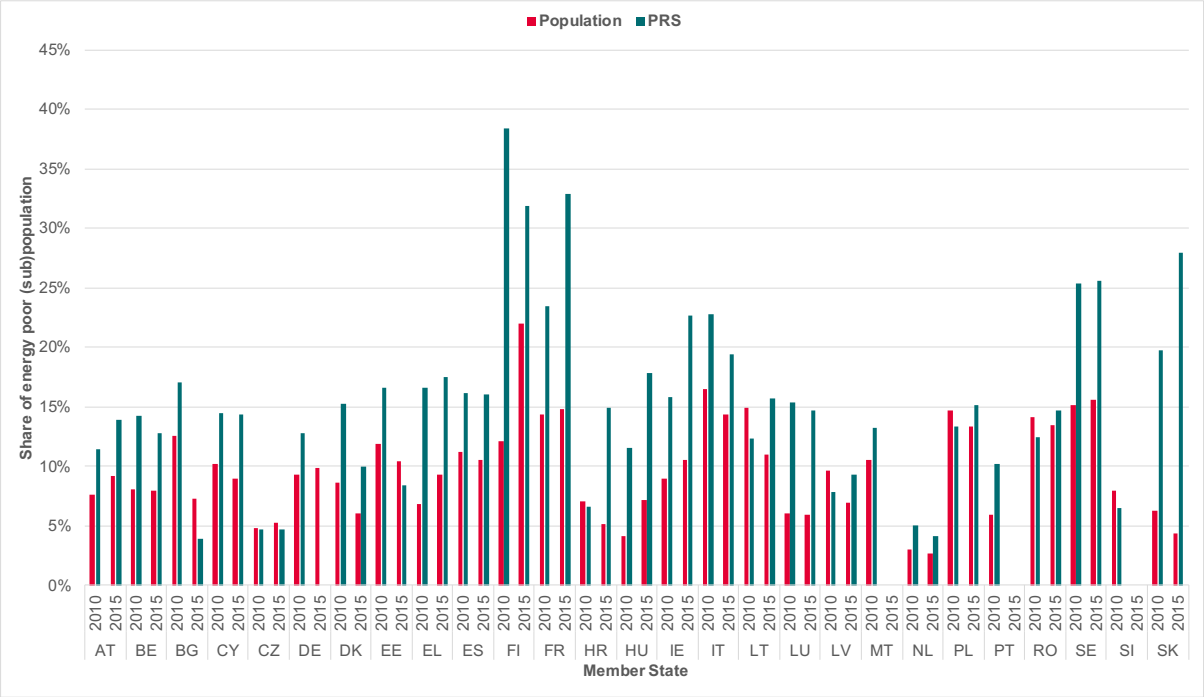

Figure 8. Share of households whose energy expenditure and household income are below the national median value (M/2) in the PRS and in the general population in the EU27 (2010 and 2015). Source: own calculations based on HBS data.

Table 3. Characteristics of identified policies.

Policy Characteristic	
Geographical Distribution	• 31 European policies, 4 non-European • Primarily Anglophone & Western European
Policy Scale	• 55% implemented nationally • 25% locally implemented • 20% regionally implemented
Implementing Authorities	• Diverse implementing authorities incl. private companies, NGOs, community organisations and government • Majority by governments at range of jurisdictional scales
Types of Measures	• Grouped into technical (efficiency, renovations) financial (subsidies, loans, one-off payments) and educational measures (information, awareness raising). • Some financial measures tied to level of technical measures achieved • 2/3 included financial and technical measures

The European PRS Policy Landscape

As the above section shows, in nearly every EU MS, for nearly every indicator, energy poverty is worse in the PRS than for the general population, and in some cases, with an overwhelming majority of the energy poor being located in the PRS. In this section, we look at the policy landscape in Europe to understand and assess if political responses are adequately addressing the energy poverty issue present in the PRS. Data on existing policies was collected under the auspices of the ENPOR project between December 2020 and February 2021 (Bouzarovski & Burbidge 2021). The aim of this review was to investigate the content and structure of PRS policies, highlighting key patterns in the distribution, strengths and aimed at PRS tenants and/or landlords. This landscape analysis did not aim to be exhaustive or comprehensive, rather, its objective was to provide indicative insights into the overall typology of support measures that include the PRS. In total, 35 policies were collected, the characteristics of which are summarised in Table 3.

On the whole, key barriers to implementing efficiency measures in the rental sector, such as the split incentive, were inadequately addressed by the policies analysed, in large part due to the lack of targeting at the PRS – the policies that did include the PRS tended to be umbrella policies that included all housing types. With regards to the policies' target groups, many of the measures collected did not directly target the PRS – two thirds were general, and included homeowners, social renters, landlords and PRS tenants alike. Of the twelve that did target the PRS, ten engaged only landlords, or landlords and tenants, with only two aimed only at tenants. Under half of the policies were aimed at low-income groups, for example, the sup-

port only being available for households in receipt of certain benefits, household income below a certain threshold or falling into categories of vulnerability, such as age or disability.

Overall, the assessment of the existing policy landscape reveals a dearth of targeted policies at the rented sector, despite the data in the preceding sections showing that energy poverty is often the most pronounced and concentrated in the PRS (Bouzarovski 2018). Policies and programmes could address these issues by incentivising renovations, increasing energy literacy and awareness of efficiency, improve the efficiency of household fabric and appliances and protect consumers through regulatory means, preferably a combination of all of the above. Nevertheless, existing policies are not only inappropriately targeted at the rented sector, they are insufficiently directed at low-income tenants, with poor public engagement. Furthermore, without addressing the specific challenges faced by the sector, such as the split incentive, it is unlikely that energy poverty and the issues related to poor efficiency and quality of housing in the rented sector will be overcome.

POLICY GOOD PRACTICES

Despite the generally poor quality of policies targeting the rented sector, there were some examples of good practices that could be useful to policymakers looking to overcome the challenges of energy efficiency and energy poverty in the PRS. Adequate policy design should be responsive to the unique challenges of the PRS, and be well targeted to the needs of tenants, whilst balancing the financial capacity and willingness of landlords to renovate. Identified barriers by the ENPOR project (see Burbidge et al. 2020) to implementing energy efficiency policies in the rental sector were categorised as financial, technical, political/regulatory, social and geographical, with the financial and social ones being deemed the most important. Ultimately, however, we will need policies that span each of these barriers if we are to overcome the sector's current challenges. By tapping into the data presented above, this can also assist policymakers to streamline efforts and ensure that policies are targeting the households in the regions and tenure types in most need.

In light of this assessment, we qualitatively selected the policies based on their ability to transcend the identified barriers above, as well as in relation to key energy justice aspects – distributional and recognitional – as they relate to energy poverty, as theorised by Bouzarovski et al. (2021). The list presented here is not exhaustive, but is rather a selection presented as vignettes to capture how a good practice can encompass a) recognising and increasing the visibility of energy poor people in the PRS, b) giving them access to procedures and processes to access relevant legal/political instruments, and c) allowing for the improved distribution of resources.

An identified good practice which worked to overcome the split incentive and spans financial, social and technical barriers, was the Mediation Precarité Energetique (Energy Poverty Mediation) in Lille, France. In this policy, a trained technician would carry out an energy diagnostic on a privately rented property, which was then followed by a mediated discussion between the landlord and tenant on the results of this diagnostic and on the renovation work to be carried out. This allows for both parties to discuss their experiences, concerns and ideas, allowing both sides to be listened to and therefore means there is more likely to be an informed, balanced discussion which in turn leads to more positive, beneficial outcomes from the renovation project. Although the mediation step might add extra time to the renovation process, longer-term success is more likely due to increased chance of buy-in from tenants and landlords. Within the accompanying evaluation, 50 % of landlords stated that they would not have implemented any measures without the mediation (ONPE 2019). The measure is also highly transferable and replicable in other areas, although trained technicians and mediators are required.

Another good practice with regards to overcoming financial, social and technical barriers through energy advice and awareness were the Energy Advice Points (EAPs) in Barcelona, Spain. These advice points, established in 2017 and distributed throughout the city, offer financial advice, including support for reducing costs of energy bills, understanding bills and finding the best tariffs, processing subsidy and social support applications, as well as legal advice, particularly for those at risk of disconnection, on their rights with regards to energy. This offers a form of empowerment for those at risk of energy poverty, as well as increasing people's knowledge and awareness of energy efficiency. This measure also worked to engage the public through citizen outreach workshops and activities regarding energy rights, as well as employing formerly vulnerable people as advisors, who understand the needs of the service-users. In 2020, the EAPs helped 13,355 households to avoid cut-offs and generate total savings of €81,692 by means of reducing electricity consumption, requesting social discounts, changing providers, switching to time-of-use tariffs and the cancellation of additional services[8].

Conclusions

In this paper, we examined the state of energy poverty in the European PRS according to different indicators and presented a preliminary stocktake of the policy landscape in Europe to underscore the depth of the issue of energy poverty in the PRS and the failure of current policy to address the issue adequately. Our analysis highlights both the disproportionate affectedness and vulnerability of tenants in the PRS to energy poverty as well as a lack of targeted policies addressing the specific challenges in the sector. The data not only uncovers the higher severity of the issue in the PRS, thus making the issue visible, but also by highlighting the proportion of tenants in the energy poor population, the data can provide guidance to policy makers and practitioners as to where to focus their efforts in their fight against energy poverty. This constitutes a novel contribution to the literature to the best of our knowledge.

The identified good practice policies underline the importance of integrative and integrating approaches, which rely on effective, target-group-specific communication to balance conflicting interests (i.e., the split incentives) between landlords and tenants. In addition, while not replacing sound evaluation of targeted policies and programmes, the data can provide a basis for a preliminary assessment of their impact on a macro level when controlling for other factors shaping energy poverty outcomes (e.g., energy prices, overall economic development

8. https://habitatge.barcelona/sites/default/files/126328_balanc_2020_final-caes.pdf

etc.). To further increase the data's utility for monitoring progress and policy impacts in terms of energy poverty alleviation, further amendments to current pan-European data collection exercises are needed, such as including energy expenditure items in SILC questionnaires, adding additional energy poverty indicators related to summer heat stress and mobility from former ad-hoc modules to the regular collection and expand data collection on a subnational level in all countries. This would enable a more integrated assessment of the multiple dimensions of energy poverty across countries and regions.

To effectively and sustainably address energy poverty in the PRS, eventually energy efficient renovation of the (worst performing) building stock in the sector needs to be upscaled. To this end, well designed policy packages including regulatory provisions, financing offers and financial incentives for landlords in combination with social compensation mechanisms are required. The proposed revision of the Energy Performance of Buildings Directive (EPBD) has taken up this approach in the form of introducing Minimum Energy Performance Standards (MEPS) for existing buildings. However, in how far these provisions will promote a just energy transition within the EU will largely depend on the respective transposition into national law and the setup of accompanying measures by the MS to counterbalance unwanted distributional effects. To support this effort, further collection of data supported evidence on such combined approaches across the EU and beyond is needed which takes the perspective of energy poor tenants into focus and provides information on the actual impact on household budgets and comfort levels.

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