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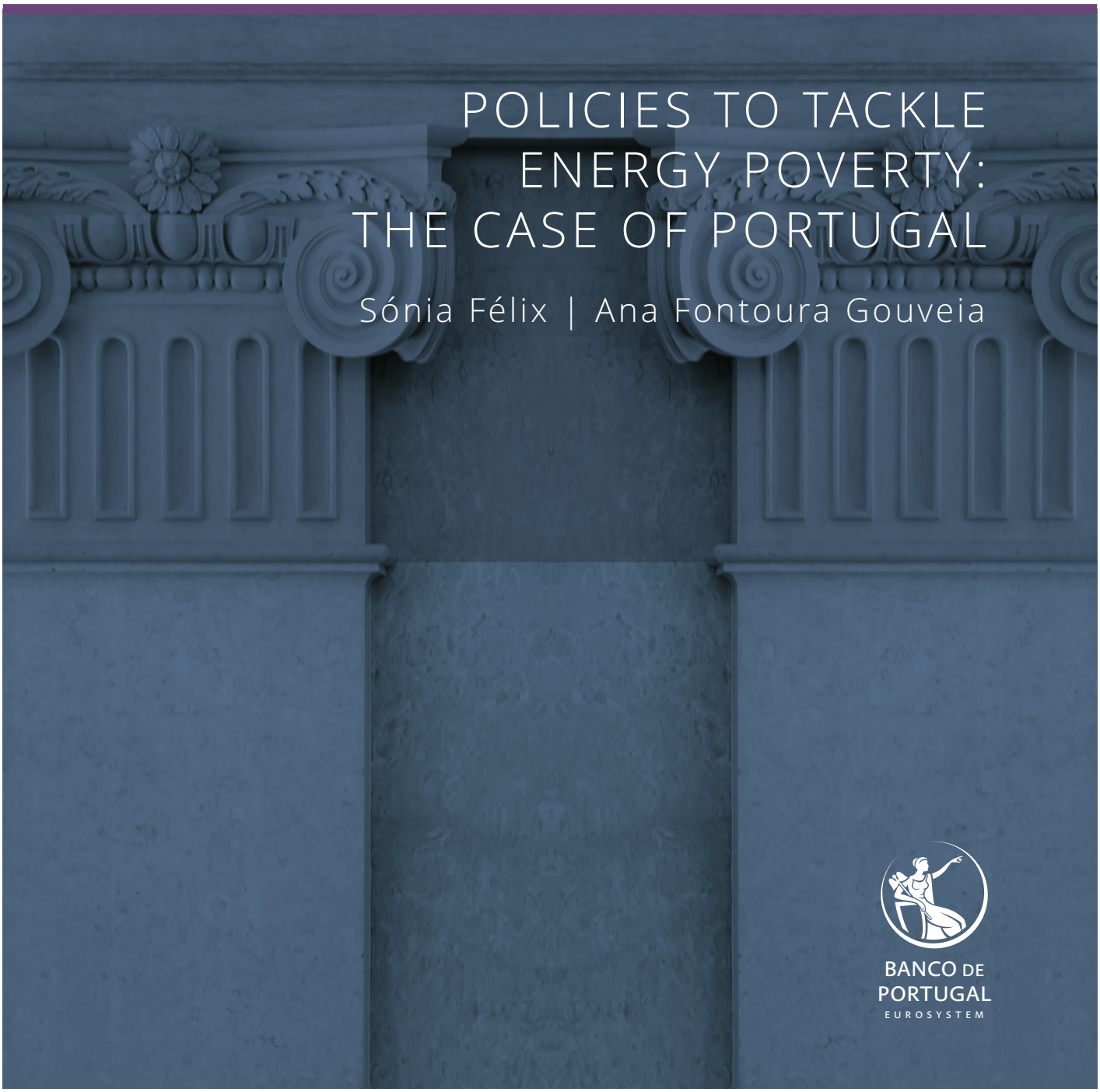
Sónia Félix | Ana Fontoura Gouveia



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Lisboa, 2024 • www.bportugal.pt

Occasional Papers | Lisboa 2024 • **Banco de Portugal** Rua do Comércio, 148 | 1100-150 Lisboa • www.bportugal.pt •
Edition Banco de Portugal • **ISBN (online)** 978-989-678-902-2 • **ISSN (online)** 2182-1798

Policies to tackle energy poverty: the case of Portugal

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August 2024

Abstract
Addressing energy poverty and protecting the most vulnerable consumers have assumed a vital role in national and European energy and climate policies. Access to energy is a fundamental pillar of sustainable development due to its impact on multiple dimensions such as poverty, inequality, climate change, food security, health, and education. At the same time, decarbonization and efficiency of energy consumption are essential to achieve the ambitious climate targets assumed by Portugal and the European Union. This paper characterizes energy poverty in Portugal and presents the main policy instruments that have been implemented or are in progress. Sharing national experiences and good practices in combatting energy poverty is relevant due to the challenges in designing effective policies and because several EU countries are currently strengthening their policy frameworks. The need to accelerate the ongoing energy transition on a global scale requires a robust policy framework, also targeting energy-poor and vulnerable consumers, thus ensuring a fair and just transition.

JEL: H50, I38, Q48

Keywords: Public policies, climate change, just transition, energy poverty, Portugal.

Acknowledgements: The authors are grateful to Nuno Alves, Nelson Lage, and Maria João Rodrigues for valuable comments and suggestions. An earlier version of this article was published in Portuguese; the current version, in English, includes minor updates. The analyses, opinions, and conclusions expressed in the article are those of the authors and do not necessarily coincide with those of Bank of Portugal or the Eurosystem.

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1. Introduction

Access to energy plays a central role in responding to current global challenges, such as poverty, inequality, climate change, food security, health, and education. Therefore, providing modern energy services to all citizens is a fundamental pillar of sustainable development.

The United Nations 2030 Agenda sets the ambitious goal of affordable, reliable, sustainable, and modern energy for all as part of the 17 Sustainable Development Goals (SDGs) to be achieved by 2030 (SDG7). This objective is not only a standalone goal but also reinforces other SDGs, such as eradicating poverty (SDG1), promoting good health and well-being (SDG3), and strengthening climate action (SDG13).

Addressing energy poverty and protecting the economically vulnerable citizens have assumed a vital role in the European Union's (EU) energy policy, envisaging a fair and inclusive transition. The reference to energy poverty in the context of EU-energy policy first appeared in 2009, and its framework was significantly reinforced in the 'Fit for 55' legislative package, presented in 2021. This package, which approves measures to reduce GHG emissions by at least 55% by 2030, presents a comprehensive approach to tackling the causes of energy poverty. The package introduces new initiatives prioritizing energy efficiency and structural renovation of the existing building stock, focusing on households affected by energy poverty.

In Portugal, the National Energy and Climate Plan 2030 defines combatting energy poverty and improving consumer protection instruments, particularly for economically vulnerable customers, as lines of action to fulfill the strategic objective of "guaranteeing a fair, democratic, and cohesive transition".

Energy poverty affects multiple dimensions associated with people's well-being and quality of life, with potential negative impacts for instance on health and academic performance (see, for example, Thomson *et al.* (2017); González-Eguino (2015); Nawaz (2021)). It can result from multiple factors, such as low household income, no or limites access to efficient and quality energy services, energy-inefficient housing stock, and low levels of energy literacy. Tackling energy poverty thus require integrated public policy responses.

The Long-Term National Strategy to Combat Energy Poverty 2023-2050 (ELPPE), approved by the Portuguese Government in January 2024, is based on integrated actions and coordination of efforts, including at the local level, prioritizing proximity responses. The Strategy foresees the preparation of an Action Plan by the recently created National Energy Poverty Observatory (*Observatório Nacional da Pobreza Energética*), with concrete action measures (see Section 3 for more information about the Strategy).

This paper characterizes energy poverty in Portugal and presents the public policy instruments implemented or in design stage to combat it.

2. Energy poverty in Portugal

The Directive (EU) 2023/1791 of the European Parliament and the Council of 13*th* of September on energy efficiency defines energy poverty 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".

This definition illustrates the multidimensionality of energy poverty, which a single indicator cannot characterize. The National Long-Term Strategy to Combat Energy Poverty considers five strategic indicators to determine the universe of people affected by energy poverty in Portugal. In line with the EU Recommendation 2020 on energy poverty, these indicators cover different dimensions:

i) income and housing conditions: population living in a dwelling with the presence of leak, damp, and rot; population unable to keep homes adequately warm; and population living in dwellings not comfortably cool in summertime;

ii) share of energy expenditure in income: households whose energy expenditure represents more than 10% of total income; and

(iii) energy efficiency: share of residential buildings with energy class C or lower).[1]

According to the Statistics on Income and Living Conditions (SILC) collected by Statistics Portugal (Instituto Nacional de Estatística —INE) for 2023, 21% of the resident population in Portugal are unable to keep their homes adequately warm, an increase of 3 p.p. compared to 2022; 29% of the population live in dwellings with leaks, damp, or rot; and 38% of the population live in homes that are not comfortably cool during the summer.

Energy poverty particularly affects citizens aged 65 and older, with nine or fewer years of schooling, the unemployed population, and those with a temporary work contract (Carvalho *et al.* 2023); and is correlated with poverty *lato sensu*. The Portuguese regions with the highest percentage of households affected by energy poverty are the Madeira and Azores islands. The Algarve and the North areas are the most affected on the mainland.

Compared with other EU countries, Portugal is one of the countries with the highest prevalences of people who cannot keep their homes adequately warm, similar to Spain (Figure 1). In 2022, Portugal was one of the five EU-27 countries where this inability was highest, at 17.5%, almost double the European average of 9.3%. Nevertheless, the proportion of individuals persistently unable to keep their home adequately warm in Portugal decreased substantially between 2013 and 2020 (European Commission, 2024).

1. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020H1563.

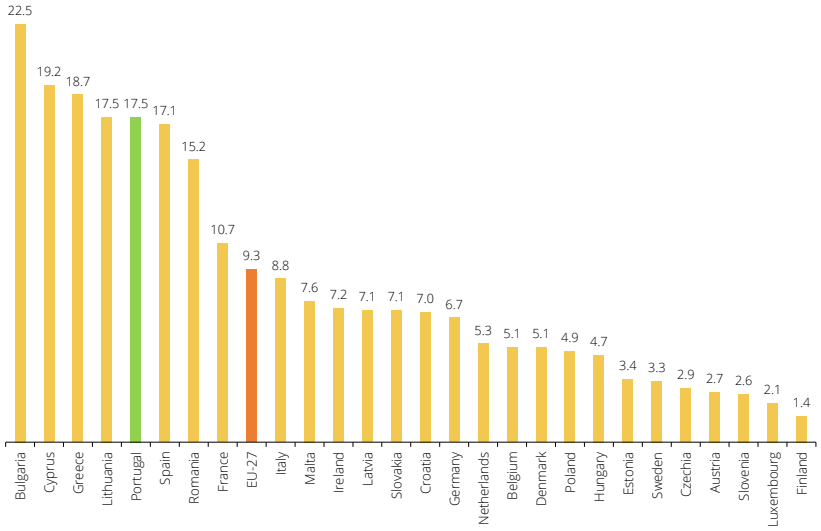

Figure 1: Population unable to keep the home adequately warm in 2022 | As a percentage of the resident population.

Source: Eurostat (2022).

Additionally, statistics from 2020 indicate that the quality of the residential buildings stock is lower in Portugal than in most EU countries (Figure 2). When performing international comparisons, one must also consider the differences in the severity of winter climate across countries, as they impact the intensity of energy poverty consequences. In any case, these indicators emphasize the need for public policies to increase energy performance, improve thermal comfort, and promote renovating the buildings' stock.

In terms of the ability to pay utility bills on time, in 2022, Portugal registered a value below the EU-27 average (4.7% vs. 6.9%), and half of that recorded in Spain (9.2%) (Figure 3).

Another important set of indicators relates to the persistence of energy poverty. A family enduring more years of energy poverty is more likely to be negatively impacted in terms of health and well-being, with long-lasting effects. By developing a methodology to assess the persistence of energy poverty at individual level, European Commission (2024) shows that close to 50% of energy-poor individuals were persistently energy-poor in 2020, although with large variation across countries (Table 1).

Among the energy poor, Portugal shows one of the lowest rates of persistency on the indicator related to arrears on utility bills, with a share that is almost half of the EU one. However, the performance is worse than the EU average for those

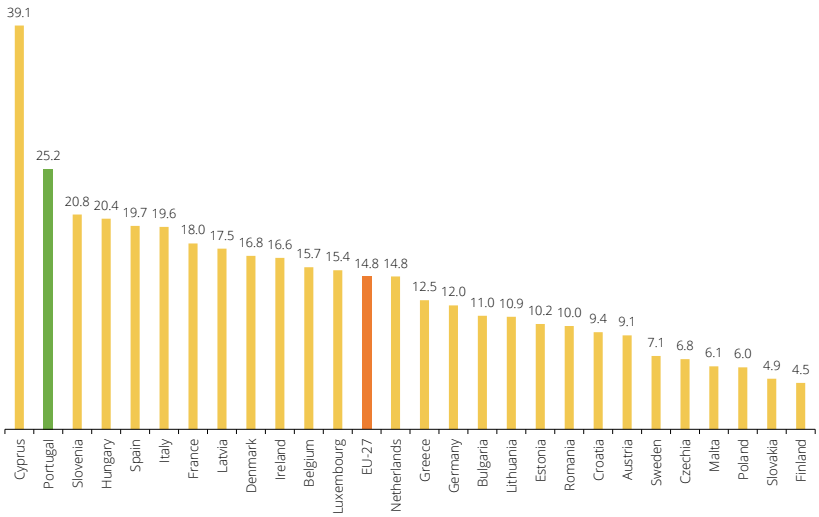

Figure 2: Population living in homes with the presence of leak, damp, and rot in 2020 | As a percentage of the resident population.

Source: Eurostat (2020).

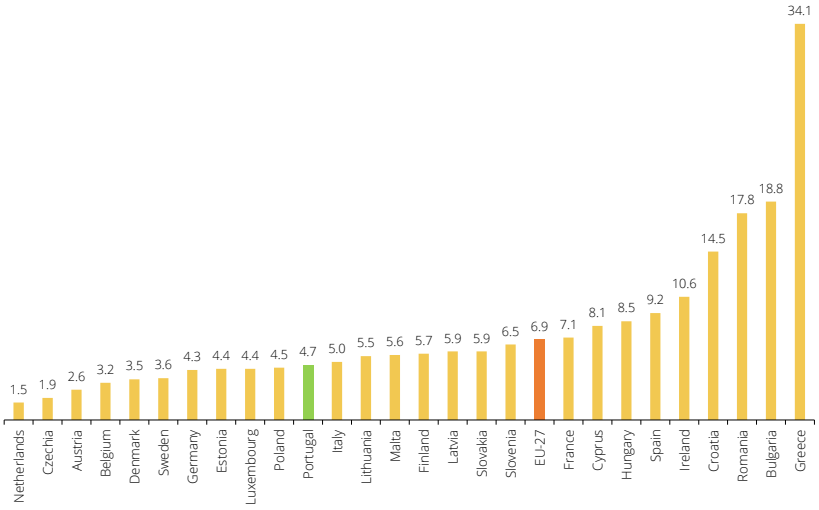

Figure 3: Households with arrears on utility bills in 2022 | As a percentage of the resident households.

Source: Eurostat (2022).

	Unable to keep home adequately warm	Having arrears on utility bills	Having leak/damp/rot in dwellings
Portugal	49.9	26.7	55.4
EU-27	46.8	48.2	46.9
Max.	95.0	77.5	95.2
Min.	4.7	19.1	25.1

Table 1. Proportion of individuals persistently energy-poor within the total energy-poor population in the last year of the 4-year period by energy poverty indicator, 2020 (%).

Source: European Commission (2024). Notes: Max. (Min.) denotes the maximum (minimum) figure in the EU-27 countries.

unable to keep their homes adequately warm and for those having leak, damp, or rot in dwellings, again highlighting the need for interventions at the dwelling level.

Carvalho *et al.* (2023) present a Municipal Energy Vulnerability Index (MEVI), calculated using a regression model that combines data from Statistics Portugal (including SILC and *Censos*) and the Portuguese General-Directorate of Energy and Geology (DGEG), and conclude that municipalities in the Madeira and Azores islands have the highest prevalence of energy vulnerability, with MEVI values above 25%. In the mainland, energy poverty is concentrated in the northern regions, especially in Minho, Trás-os-Montes, and Beira Alta. The analysis of the relationship between the MEVI and the proportion of individuals that benefit from the social energy tariff in each municipality shows that the social tariff is more common in municipalities with higher energy vulnerabilities, suggesting that the policy is well-targeted.

Gouveia *et al.* (2019) calculate an energy poverty vulnerability index at the parish level. This index combines the socioeconomic characteristics of the population with the energy performance, construction characteristics, and energy consumption levels of residential buildings. The results show that the higher energy vulnerability indices are associated with rural parishes in the inland region of mainland Portugal, explained by higher unemployment rates, lower incomes, older populations, lower education levels, and a more severe winter climate.

Low consumer energy literacy is also an important dimension of energy poverty. In 2020, the Portuguese Energy Services Regulatory Authority (*Entidade Reguladora dos Serviços Energéticos* - ERSE) developed a study to assess the literacy levels of consumers regarding the energy market (ERSE 2020). According to the index presented, which varies between 0 (unaware of all aspects) and 100 (aware of all aspects), the literacy level of private consumers in Portugal is only 43 points.[2] Widely disseminating clear and easily accessible information - providing

2. The study also shows that, for private consumers, the energy literacy rate is higher for males, people aged between 36 and 55 years, with more than 10 years of schooling, higher average

advice regarding technical assistance on energy efficiency, how to read an energy bill and good energy-saving practices - is thus critical to increasing citizens' awareness of available administrative, technical, and financial possibilities and solutions.

Energy poverty is an urgent, complex, and multidimensional issue, requiring multisectoral, multilevel, and integrated public policies. In Portugal, the social energy tariffs (detailed in Section 4) were, for several years, the single instrument in place at a national level to combat energy poverty.

Even though social energy tariffs have an essential and immediate impact on the most vulnerable consumers' energy bills, the response to energy poverty requires a structural approach with long-term policies, such as reducing the energy needs of buildings, replacing old and inefficient appliances with modern and more efficient alternatives, as well as promoting the take-up of renewable energy - for example, promoting the installation of solar systems and fostering the development of renewable energy communities including families in energy poverty, and increasing citizens' education and awareness, which contribute to informed decisions and long-term behavioral changes in energy consumption.

The presence of regional asymmetries and the low levels of energy literacy of the most vulnerable citizens illustrate the need for measures designed and implemented at a local level, in close cooperation with the existing local institutions, benefiting from the relationships of trust already created. This facilitates the identification of the most vulnerable citizens to energy poverty, engaging with them in a structural, long-term manner.

The Portuguese Recovery and Resilience Plan (RRP), including the new RePowerEU chapter — which emerged in the context of the energy crisis and was presented in May 2022 — leveraged and triggered the design of investments and reforms aimed at boosting buildings' energy performance, improving energy efficiency, promoting decentralized production of renewable energy, and raising citizens' energy literacy.

3. The Portuguese Long-Term National Strategy to Combat Energy Poverty

The Long-Term National Strategy to Combat Energy Poverty 2023-2050 (ELPPE) was published on 8*th* of January, 2024, as a result of a consultation process that involved the National Association of Portuguese Municipalities (*Associação Nacional de Municípios Portugueses* - ANMP), the National Association of Parishes (*Associação Nacional de Freguesias* - ANAFRE), the Energy Services Regulatory Authority (*Entidade Reguladora dos Serviços Energéticos* - ERSE) and the Association of Energy and Environmental Agencies (*Associação das Agências*

monthly expenses, and responsible for contracting the energy supplier. The study is available at https://www.erse.pt/media/y23jkwk5/estudo-literacia-consumidores-energia.pdf.

de Ambiente e Energia - RNAE), as well as two public consultations, in 2021 and 2023.[3]

The Strategy's main objective is to "eradicate energy poverty in Portugal by 2050, protecting vulnerable consumers and actively integrating them into the energy and climate transition, which is intended to be fair, democratic, and cohesive.". It is linked to a broader national strategy to address poverty, the Portuguese National Strategy to Combat Poverty 2021-2030, approved by Resolution of the Council of Ministers no. 184/2021, of December 29.

The Strategy determines the achievement of the following strategic targets within the 2030-2050 time horizon:

- Reduce the share of population not able to keep their home adequately warm from 17.5% in 2020 to less than 1% in 2050, with intermediate objectives of 10% in 2030 and 5% in 2040;
- Reduce the share of population living in non-comfortably cool homes during the summertime from 35.7% in 2012 to less than 5% in 2050, with intermediate targets of 20% in 2030 and 10% in 2040;
- Reduce the share of the total population living in homes with the presence of a leak, dampness, and rot from 25.2% in 2020 to less than 5% in 2050, with intermediate objectives of 20% in 2030 and 10% in 2040;
- Eradicate situations in which the share of energy expenditure in income represents more than 10% (in 2016, the last year with available information, 1,202,567 households were in this situation).

To achieve these targets, the Strategy outlines four axes of strategic action: i) improve energy and environmental sustainability of residential buildings; ii) promote universal access to essential energy services; iii) promote integrated action throughout the territory; and iv) promote awareness and informed action. For each of these axes, the Strategy lays down the instruments of action, the current state of implementation, and the respective financing source.

In close coordination with local stakeholders and with the involvement of all relevant public policy areas, decentralized territorial action is essential to achieve the Strategy's targets. The National Energy Poverty Observatory (*Observatório Nacional da Pobreza Energética* - ONPE-PT), recently created in the context of the Strategy, coordinates this process.

The ONPE-PT's mission is to monitor the developments in energy poverty in Portugal, collect detailed information on energy poverty across the country, contribute to the design, implementation, and evaluation of public policies, ensure decentralized action, and increase energy literacy throughout the country. The ONPE-PT is also responsible for proposing ten-year action plans to combat energy poverty to the government, which include detailed measures, lines, and instruments of action. These Plans are reviewed every three years.

3. Approved by Resolution of the Council of Ministers no. 11 /2024, of January 8.

The ONPE-PT is led by the Portuguese General Directorate of Energy and Geology (DGEG) and operates with technical and operational assistance from the Portuguese Energy Agency ADENE. The Observatory also benefits from a Strategic Committee, including governmental representatives, and a Consultative Committee, including civil society representatives, ensuring territorial and sectoral representation. The Observatory was created on the date of approval of the Strategy, having drawn up the first Action Plan in March 2024. [4]

4. Public policy instruments to address energy poverty

This section presents the main instruments that are implemented or in the design stage to address energy poverty in Portugal.

4.1. Energy social tariffs

The existing social tariffs regime for electricity and natural gas was created in 2010 and 2011, respectively, and entered into force in 2011.[5] This regime translates into a discount on the electricity and natural gas bills for economically vulnerable families, determined annually by the member of the Government responsible for Energy. In 2024, the discount is 33.8% and 31.2%, respectively, for electricity and natural gas.[6] It applies to households both in the regulated and liberalized markets.

The eligibility criteria have been expanding over time. In the case of electricity, households where at least one member receives a minimum social benefit (such as the solidarity supplement for the elderly, social integration income, minimum old-age pension, social security disability pension, or complement of the social benefit for inclusion), child benefits, or unemployment benefits are eligible. Alternatively, eligibility is also based on an income condition: households with a total annual income equal to or less than 6272.64 euros, plus 50% for each household member who does not earn an income, are also eligible.[7]

The eligibility criteria for the social tariff of natural gas include households where at least one member benefits from the minimum social benefits listed above (except the Social Security disability pension), the first level of child benefits, or

4. See Order no. 1335/2024, February 2, for details on the composition and functioning of the ONPE-PT.

5. Decree-Law no. 138-A/2010, of 28 December.

6. For a more detailed presentation on how the discount is operationalized, see, for example, https://www.erse.pt/media/adfdjrvf/tarifa-social-eletricidade-2024.pdf..

7. The beneficiary must hold the electricity supply contract, intended exclusively for domestic use in permanent dwellings, at low voltage, with a contracted power not exceeding 6.9 kVA.

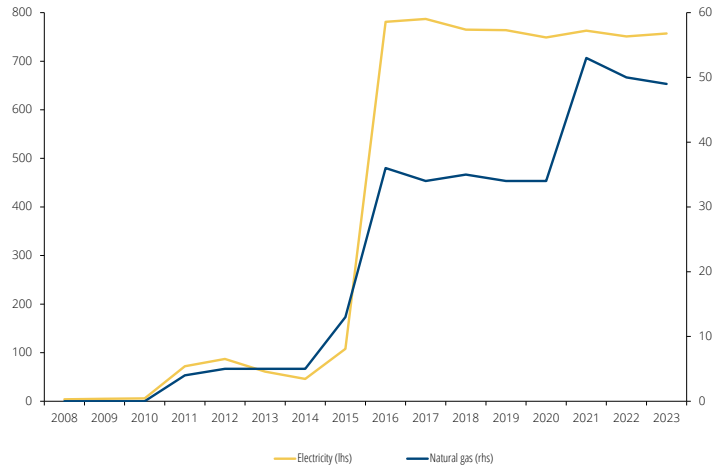

Figure 4: Number of beneficiaries of the social tariffs of electricity and gas | In thousands.
Source: DGEG and ERSE.

unemployment benefits.[8] The income condition does not apply in the case of the social tariff on gas.

In 2016, the granting of the social energy tariffs was automated, no longer requiring a demand for the eligible household, leading to a substantial increase in the number of beneficiaries (Figure 4). This change contributed to overcoming one of the main obstacles to the success of these interventions: the lack of awareness about the measures targeted at the most vulnerable citizens.[9]

At the end of 2018, beneficiaries of the social tariff of electricity represented around 14% of the total number of domestic electricity customers, compared to less than 2% before the automated process. Regarding the social tariff of gas, the percentage of beneficiaries increased from 1% to 3%.

8. The beneficiary must hold a natural gas supply contract, intended exclusively for domestic use in permanent dwellings, at low pressure, with annual consumption not exceeding $500m^3$ (article no. 5 of Decree-Law no. 101/2011).

9. With the entry into force on July 1, 2016, of the amendments to Decree-Law nº 138-A/2010 and Decree-Law nº 101/ 2011, effected by Law No. 7-A/2016, of March 30 (State Budget for 2016), article 121, access to the social tariffs for electricity and gas is through a mechanism of automatic recognition.

In March 2024, the social tariff of electricity supported 758,766 households and the social tariff of gas reached 48,655 families. In other words, beneficiaries of the social tariff of electricity and gas represented, respectively, around 12% and 3% of the universe of relevant domestic consumers.

The social tariff of electricity will cost 136.5 million euros in 2024 and has been financed, since November 2023, by producers and retail electricity suppliers. Previously, producers provided financing for the cost of the social tariff. The need to guarantee an equitable treatment of all market agents, as foreseen in the European framework, led to the change in the distribution of the financing of the costs of the social tariff, including not only producers but also suppliers. In most European countries with an energy social tariff, financing is provided by the State Budget and, therefore, by taxpayers.

The financing of the costs of the social tariff of natural gas is provided by the transport and distribution operators and retail suppliers in proportion to the amount of natural gas sold in the previous year. In the year gas 2023-2024, which goes from October 2023 to September 2024, the costs with the social tariff of natural gas amount to 2.4 million euros.[10]

Considering an example presented by ERSE, a couple with no children, with an annual consumption of 1900 kWh, a contracted power of 3.45 kVA, and eligible for the social tariff of electricity, benefits from yearly savings of 162 euros compared to what they would pay in the absence of the eletricity social tariff (monthly bill of 37.92 euros, a discount of 13.50 euros, which results in an effective monthly payment of 24.42 euros).

In the case of natural gas, a couple with no children, with an annual consumption of 1610 kWh, 138 m^3, in the first consumption bracket, saves 78 euros per year compared to what they would pay without the gas social tariff discount (monthly bill of 14.71 euros, a discount of 6.04 euros per month, which results in an effective payment of 8.67 euros per month).

Altogether, the savings for this couple amount to 240 euros per year.

4.2. Solidarity Bottled Gas Program (Programa Bilha Solidária)

The *Bilha Solidária* Program consists of financial support for acquiring bottled liquefied petroleum gas (LPG) targeted at economically vulnerable consumers. This Program was originally implemented in 2022, in the context of the energy crisis, worsened by Russia's invasion of Ukraine.

The support is provided for households that live in dwellings that are not connected to the natural gas network - or that opt for bottled LPG, for instance as a means to better control monthly expenses - and, therefore, cannot benefit from the social tariff of natural gas or from the possibility of returning to the regulated

10. Natural gas tariffs and prices for the year gas 2023-2024 and parameters for the 2024-2027 regulatory period, ERSE. Available at https://www.erse.pt/media/h2qlqoc0/tarifas-g-2023-2024.pdf.

tariff of natural gas (a measure also implemented by the Portuguese Government during the energy crisis and available to all families, not only the economically vulnerable). The program is therefore an important measure to reach economically vulnerable households that would otherwise be excluded from support on their gas bills.

According to the Survey on Households Energy Consumption conducted by Statistics Portugal, in 2020 more than 2.1 million dwellings — 53% of homes in Portugal — used bottled LPG for domestic use, mainly for heating water and cooking.

The financial support, which started in April 2022, is intended for domestic consumers with an electricity supply contract who benefit from the social tariff of electricity or receiving minimum social benefits. The discount amounts to 10 euros per bottle, with a limit of one monthly unit per beneficiary.[11] The Program is financed by the State Budget, with an initial allocation of 4 million euros. In its first phase (between April 2022 and June 2022), the support reached around 8,000 households.

In the context of continued instability in the global energy sector, in September 2022 the Portuguese Government extended the Program until the end of the year. To reach the targeted households more effectively, the Government reformulated the operational model, involving the National Association of Parishes (ANAFRE). This proximity model, operated by Parish Councils, facilitates the proactive identification of potential beneficiaries and ensures a broader and more effective dissemination of information. The support was renewed in the 2023 State Budget and extended again in 2024, remaining in place until 2025.

The Parish Councils and the Union of Parish Councils that joined the Program are responsible for assisting in the application process and processing the payment to eligible beneficiaries in that location. In the beginning of 2024, 1,750 Parish Councils (out of 2,882 in mainland Portugal) participate in the Program, highlighting the local government's involvement capacity and the importance of the measure for households. Following this change, the universe of supported households increased to around 75,000 in 2023, reaching a cost of 850,000 euros that year.

4.3. Efficiency Voucher Program

Within the Portuguese Recovery and Resilience Plan (RRP), the Portuguese Government designed the "Efficiency Voucher" Program (*Programa Vale Eficiência* - PVE), an instrument to combat energy poverty of economically vulnerable households, whose income does not allow them to invest in improving the energy efficiency of their homes.

11. Order no. 12230/2022 presents the eligibility criteria.

This Program complements other existing financial support measures included in the Portuguese RRP, which also aim at promoting energy efficiency, such as the More Sustainable Buildings Program (*Programa Edifícios Mais Sustentáveis*), in which households make efficiency-improving investments and are, subsequently, reimbursed for part of the expenses. Noting that economically vulnerable households are financially constrained and therefore have no financial capacity to privately invest in energy efficiency, the "Efficiency Voucher" mechanism works by attributing a voucher in advance of the intervention, which is then exchanged for energy efficiency improvement services.

The Program's endowment of 130 million euros is distributed through vouchers with a unit value of 1,300 euros, plus VAT, which support investments in energy-efficient solutions, namely insulation, the replacement or acquisition of energy-efficient heating and cooling solutions and more efficient appliances, and the use of renewable energy.

The program's first phase, which took place between August 2021 and May 2023, supported 11,900 households and costed 17 million euros.

Based on the experience of the first phase and following a participated review process, the Portuguese Government reformulated the program to reach the universe of households in energy poverty more effectively. One of the improvements introduced in the Program was the expansion of the universe of eligible beneficiaries: in addition to households that benefit from the energy social tariffs - the single eligibility condition in the first phase, households with a member that benefits from minimum social benefits became also eligible. This is an essential change as households living in precarious dwellings without an energy contract in their name became eligible. Moreover, in addition to households owning their home, households renting their home also became eligible. These changes substantially increased the universe of eligible households, getting closer to the realities the measure intended to target.

To prevent the difficulties in access and the citizens' unawareness regarding the Program, the Portuguese Government fostered proximity solutions to facilitate the application process. The Parish Councils, RNAE - Association of Energy and Environment Agencies (*Associação das Agências de Energia e Ambiente*), and ADENE constituted a pool of "administrative facilitators" - persons responsible for actively identifying eligible households and verify the eligibility of the family - and of "technical facilitators" - persons advising households regarding the technical and financial possibilities and facilitating the contact between families and energy service providers. These administrative and technical facilitators work locally, closely engaging with eligible households and designing adequate individual solutions. By April 2024, around 420 Parish Councils assumed the role of administrative facilitator.

Additionally, in order to increase the attractiveness of the Program for energy service suppliers - as the high demand in the context of other programs led to reduced interest in what are usually smaller interventions - the Portuguese Government increased the financing amount, allowing the allocation of up to three

vouchers per household, with a maximum value of 3,900 euros (plus VAT). This change also allows for more meaningful interventions, promoting an effective impact on thermal comfort and energy efficiency outcomes. The vouchers can be used in one or more types of intervention. The payment terms for energy service suppliers were also improved, through a payment of 20% in advance.

The program's second phase, with an allocation of 104 million euros, has been in place since November 2023. Until March 2024, the Program received around 30,000 applications.

4.4. Collective self-consumption and renewable energy communities

The energy system is generally of centralized production, and consumers assume a passive role. Collective self-consumption regimes, which include renewable energy communities, change this paradigm, decentralizing production and allowing citizens, companies, and other public and private entities to produce, consume, share, store, and sell energy produced from renewable energy sources if they meet certain physical and electrical proximity criteria.

As the European Commission states in the report "Energy Sharing for Energy Communities - A Reference Guide", dated January 2024, "energy sharing is an emerging concept within the energy sector, which has the potential to play a vital role in the context of the energy transition".[12]

Portugal pioneered in creating a regulatory framework for Collective Self-Consumption (ACC) and Renewable Energy Communities in 2019, which was strengthened in 2022. The ACC and Renewable Energy Communities schemes allow citizens to actively participate in the energy transition and access clean and affordable energy, contributing to mitigating energy poverty.

For illustrative purposes, a company that installs solar systems to supply its electricity consumption can, on weekends, share that energy with families in the neighborhood; in the same vein, a municipality that decides to produce electricity through solar systems installed on City Hall buildings to supply the needs of the municipal swimming pool, can share the excess energy with a local social institution. In fact, given their ability to pool supply and demand from several consumers, municipalities are particularly relevant in promoting open and accessible self-consumption systems for the most vulnerable households.

At the beginning of 2024, 434 collective self-consumption and renewable energy communities were registered with the licensing entity (DGEG), 18 of which were already certified (ready to operate).

To stimulate and accelerate the development of the decentralized energy-sharing models, the Portuguese licensing entity - DGEG - has been streamlining procedures, in coordination with the electricity distribution network operator

12. Available at https://energy-communities-repository.ec.europa.eu/energy-sharing-energy-communities-reference-guide_en.

(E-Redes). Also, the Portuguese RRP includes financial support to promote energy production from renewable sources using self-consumption schemes. The Portuguese Environmental Fund (*Fundo Ambiental*) launched a new program with an allocation of 30 million euros to leverage the investment in renewable energy communities and collective self-consumption in residential, service, and central public administration buildings, individually or in combination. Of these, 10 million euros are allocated to residential beneficiaries. Fundo Ambiental received 172 applications in the context of this notice, currently being evaluated. An additional 75 million euros can be used to reinforce the program.

4.5. Energy one-stop shops - Espaços cidadão energia

The Portuguese experience with the energy social tariffs, the *Bilha Solidária* Program, and the Efficiency Voucher Program demonstrate that reaching the most vulnerable households is challenging, as they are often unaware of the financial support and incentives available. The automatic allocation of the social tariff of electricity and natural gas or the involvement of the Parish Councils in the *Bilha Solidária* and Efficiency Voucher Programs substantially improved these programs' performance, contributing to reaching the most vulnerable households more effectively.

In this context, within the scope of the Portuguese RRP, the Portuguese Government designed a reform that aims to reinforce local action to combat energy poverty in an integrated and sustained fashion over time. The reform envisages the creation of an integrated network of decentralized, local one-stop shops (*Estaços cidadão energia*). According to the ELPPE, the energy one-stop shops will provide "information, advice, and support services for the implementation of interventions and the adoption of sustainable energy practices, promoting the integration of the combat of energy poverty into local public policies, and removing barriers to the development of municipal renewable energy communities".

The Portuguese RRP text refers to these structures as a "proximity vehicle aimed at empowering citizens to effectively implement energy efficiency and renewable energy solutions, as well as to adopt energy-sustainable behaviors, through increased energy literacy.".

The energy one-stop shops will help the identification and engagement of households affected by energy poverty. The Portuguese energy agency ADENE, in cooperation with ANMP, ANAFRE, RNAE, and the National Confederation of Solidarity Institutions (CNIS) is responsible for the setup and implementation of the new decentralized model. Building on a benchmark analysis of existing projects at national and European level, ADENE will, during the current year, foster the development of an initial set of pilot projects. The Portuguese RRP entails the commitment to establish at least 50 energy one-stop-shops by the end of the first quarter of 2025.

This new measure intends to promote local energy one-stop-shops, combining multiple skills and services in a single space, close to end-users. The local units will

work in an integrated and coordinated manner, while ensuring the appropriate autonomy to adapt to local circumstances. The active involvement of local authorities is therefore paramount.

5. An international comparison

Combating energy poverty is a central priority on the agenda of the EU and its Member States. The European Commission and the national governments have been implementing public policies to protect the most vulnerable consumers, particularly in the energy crisis that resulted from the COVID-19 pandemic and the invasion of Ukraine.

The European Network of Energy Agencies (EnR) conducted a study in which energy agencies from 14 EU countries participated, including Portugal (EnR 2023).[13] Of these 14 countries, ten reported that they implemented measures to mitigate energy poverty.

The public policy measures entailed in the programs of the participating countries aim to mitigate energy poverty directly and indirectly. The authors of the study grouped the measures into four main types: consumer protection, i.e., measures to protect the most vulnerable consumers – which include special energy tariffs; financial interventions – including financial support from governments, banks, and other institutions (such as tax incentives, loans, and subsidies); energy-saving measures and renewable energy take-up – for example, promoting renewable energy communities; and measures to foster energy literacy - for example, awareness campaigns to inform citizens about the benefits of increased energy efficiency (Figure 5). Portugal reported the implementation of measures of the four types.

However, only five countries – Portugal, Spain, United Kingdom, France, and Greece – drafted a national strategy or plan against energy poverty. National strategies and plans are essential to address energy poverty, as they establish an integrated approach and allow for the coordination of efforts. Still, the complexity of the problem and the challenges in implementing the measures hinder a more substantial progress against energy poverty. The countries that participated in the study reported that the identification of the most vulnerable households to energy poverty and the lack of financial capacity for families to invest in energy-efficient solutions are the main barriers to the implementation of the national strategies and plans (Figure 6). The experience of Portugal in promoting take-up and in targeting economically vulnerable households can thus provide valuable insights.

13. In addition to Portugal, the following countries participated in the study: Austria, Bulgaria, Croatia, Slovakia, Spain, France, Greece, Italy, Lithuania, Luxembourg, Netherlands, Sweden, United Kingdom.

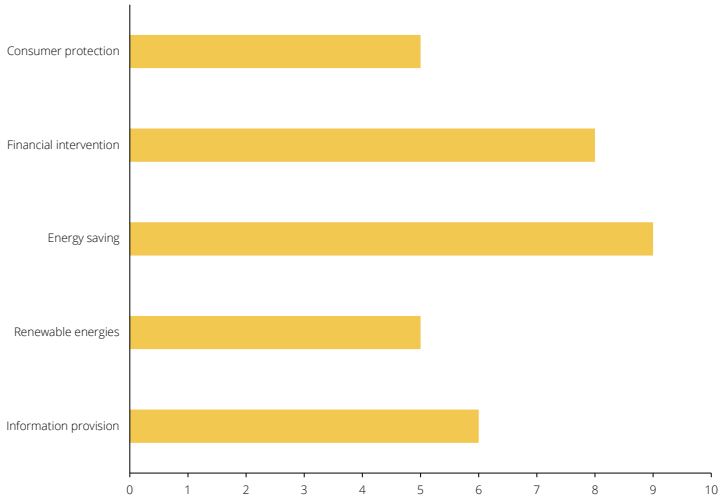

Figure 5: Types of energy poverty measures per country | Number of countries.

Source: European Energy Network (2023). 14 EU countries participated in the study: Austria, Bulgaria, Croatia, Slovakia, Spain, France, Greece, Italy, Lithuania, Luxembourg, Netherlands, Portugal, Sweden, United Kingdom.

6. Final remarks

Addressing energy poverty has assumed an increasingly central role in national and European public policies due to its impact on citizens' quality of life in multiple dimensions and its contribution to achieving the ambitious decarbonization targets in a socially fair and just manner.

As the Portuguese experience shows, the success of measures implemented to fight energy poverty is intrinsically correlated with the capacity to reach the target audience. Automaticity, whenever possible, and involvement of local authorities, which work closely with citizens, are crucial in combating energy poverty. The automaticity introduced in energy social tariffs was responsible for a sixfold increase in take-up of the electricity social tariff and a close to threefold increase in the case of gas, showing the relevance of such mechanisms.

The proximity model adopted in the Bilha Solidária Program, with the direct involvement of Parish Councils in the operationalization of the financial support, and, more recently, in the second phase of the Efficiency Voucher Program, the participation of Parish Councils as administrative facilitators, assisted by technical facilitators from local Energy and Environment Agencies, available to advise and

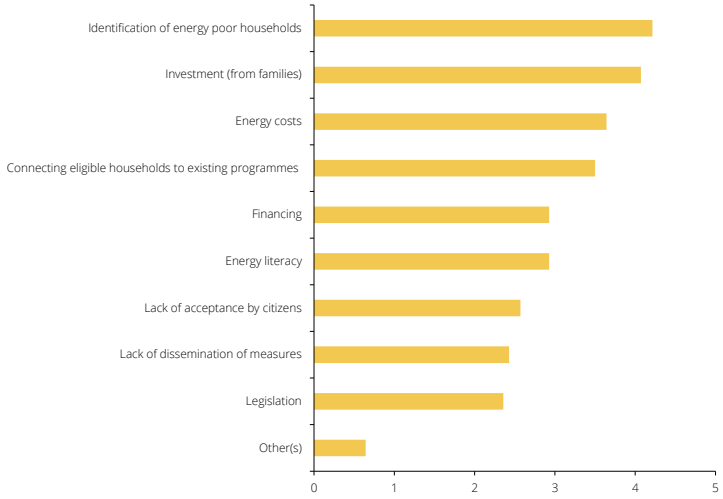

Figure 6: Main barriers to implement the national strategy or energy poverty plan to mitigate energy poverty per country | Number of countries.

Source: European Energy Network (2023). 14 EU countries participated in the study: Austria, Bulgaria, Croatia, Slovakia, Spain, France, Greece, Italy, Lithuania, Luxembourg, Netherlands, Portugal, Sweden, United Kingdom.

guide citizens throughout the application process proactively, demonstrate the importance of local implementation.

The creation of energy one-stop shops, *Espaços Cidadão Energia*, at the local level will follow-up this proximity work of proactive identification and engagement with households affected by energy poverty, considering local and household specificities. The reform is intrinsically related to promoting energy literacy and providing information about the causes and possible solutions to the problem of energy poverty.

The availability of granular qualitative and quantitative information, territorially disaggregated and with adequate frequency, which allows for the characterization of energy poverty throughout the territory and informs the design of public policies is crucial in combating energy poverty. The mission of the recently created National Energy Poverty Observatory is to monitor energy poverty in Portugal, including by developing and improving relevant existing indicators and data sets in collaboration with Statistics Portugal and integrating already existing data sources (ADENE, ERSE, and DGEG).

Detailed statistical information is also essential to assess the (direct and indirect) impacts of public policy measures and reforms, ensuring their effectiveness and continuous improvement. The reformulation of the Efficiency Voucher Program, through a participatory approach to evaluation and improvement, demonstrates the importance of guaranteeing additional flexibility in the design

and implementation of public policies, adapting the measures to the realities they address.

The availability of detailed and timely information will, therefore, be crucial to accelerate the pressing fight against energy poverty: improve the initial design of the policies, increase their effectiveness, and accelerate the evaluation process and necessary improvements.

References

Carvalho, Bruno P., Miguel Fonseca, and Susana Peralta (2023). "Pobreza energética em Portugal: uma análise municipal." Tech. rep., Portugal, Balanço Social 2023.

EnR (2023). "Energy Poverty mitigation in Europe - Potential role for renewable energy communities." Tech. rep.

ERSE (2020). "Estudo de literacia dos consumidores na área da energia." Tech. rep.

European Commission, Ozdemir, E., and Koukoufikis, G. (2024). "The persistence of energy poverty in the EU." *Publications Office of the European Union, Luxembourg*. JRC138409.

González-Eguino, Mikel (2015). "Energy poverty: An overview." *Renewable and sustainable energy reviews*, 47, 377–385.

Gouveia, João Pedro, Pedro Palma, and Sofia G Simoes (2019). "Energy poverty vulnerability index: A multidimensional tool to identify hotspots for local action." *Energy Reports*, 5, 187–201.

Nawaz, Saima (2021). "Energy poverty, climate shocks, and health deprivations." *Energy Economics*, 100, 105338.

Thomson, Harriet, Carolyn Snell, and Stefan Bouzarovski (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.

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