European Commission

EU
ENERGY POVERTY
Observatory

Member State Reports on Energy Poverty 2019

Energy

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Introduction

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to support Member States in their efforts to alleviate energy poverty. Its principal mission is to engender transformational change in knowledge about the state of energy poverty in Europe, and innovative policies and practices to reduce it. The creation of EPOV is part of the European Commission's policy efforts to address energy poverty across the EU Member States.

The EPOV's Member State Reports summarise the key aspects of the energy poverty situation in each EU Member State, based on the key indicators, policies and publications we have gathered and published on the EPOV website. The indicators used in the reports are based on data collected by EUROSTAT. The definition of terms used in the reports, further information on policies, organisations and publications and further statistics can be found on the EPOV website (www.energypoverty.eu).

As the reports have been completed in February 2020, the impacts of the Corona crisis on energy poverty are not reflected in the reports.

Member State Report
Austria

DATA & STATISTICS

This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Austria at a glance. With key indicators, policies and publications, it offers an understanding of the key aspects of energy poverty in Austria.

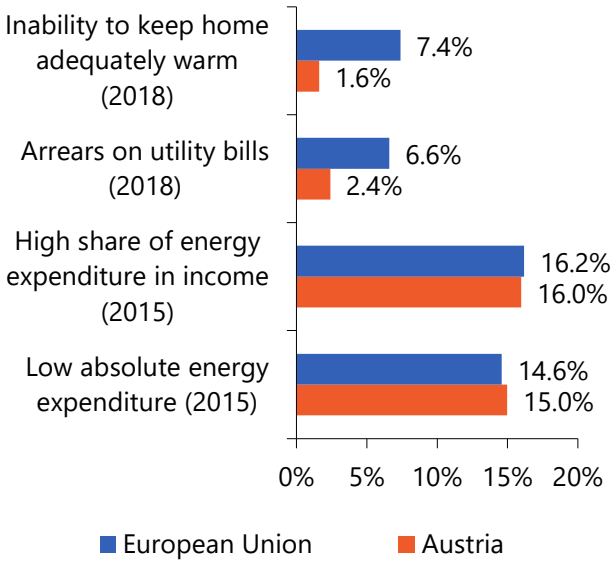
Austria performs much better than the EU average on the population-reported indicators. In a 2018 survey, 1.6% (less than a quarter of the EU average) of the population indicated that they were unable to keep the home adequately warm, and 2.4% (about a third of the EU average) were in arrears on utility bills.

However, Austria's performance in the expenditure-based indicators is close to the EU average; 16.2% of households spend a high share of their income on energy expenditure. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

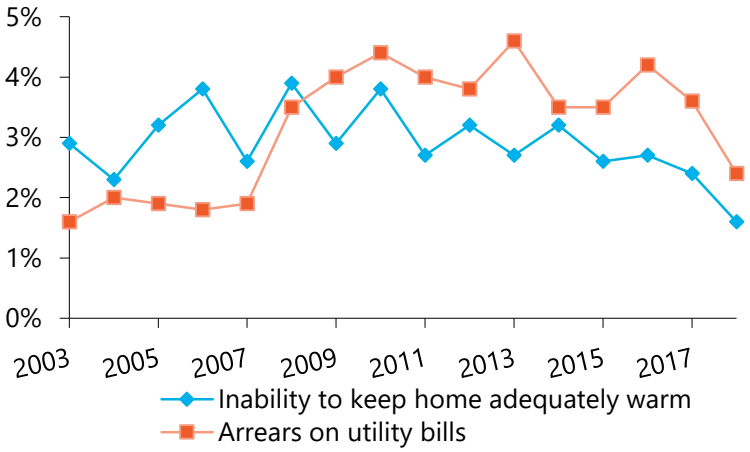
The energy expenditure of 15.0% of households is unusually low. These households might restrict their energy spending below what is necessary to meet their needs.

The drivers behind each of the indicators are investigated on the second page of this report.

Performance relative to EU average*



Performance over time*



Energy poverty has been fairly stable in Austria. The percentage of people unable to afford adequate warmth has stayed between 2.3% and 3.9% between 2003 and 2017. It declined to 1.6% in 2018.

The number of people who live in households with arrears on utility bills increased from around 2 % from 2003 to 2007 to around 4 % since 2009, and has been fairly stable since. This increase might be attributed to the financial crisis.

Since 2016 both indicators show a decline of energy poverty.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

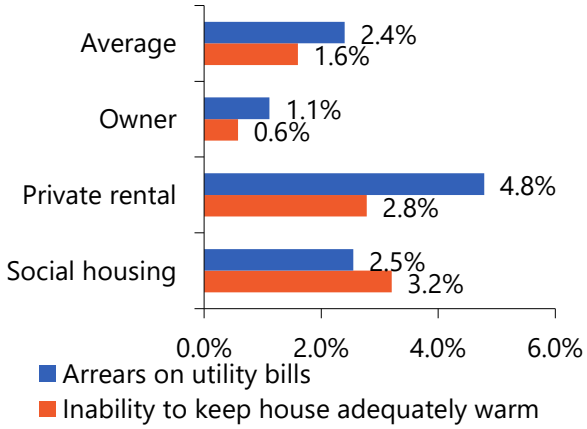
Member State Report
Austria

DATA & STATISTICS

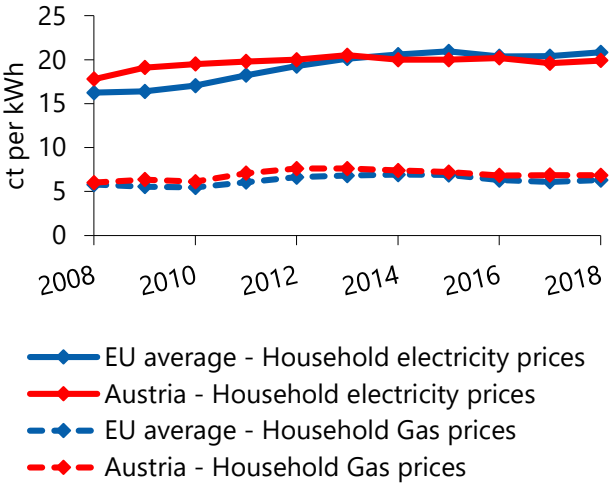
Disaggregated data of the household-reported indicators suggest that the 55% of the Austrian population that live in their own houses are unlikely to be affected by energy poverty. People living in social housing (15% of the population) and rent privately (30%) have a higher chance of having arrears on utility bills at 2.5% and 4.8% respectively and of being unable to keep their home warm at 3.2% and 2.8%.

In addition, disaggregated data indicates that energy poverty is mostly an urban problem in Austria, where the fraction of people who are unable to keep their home adequately warm are between 2 and 3 times higher than in rural or intermediately populated areas.

Inability to keep home adequately warm (2017)*



Household energy costs over time*

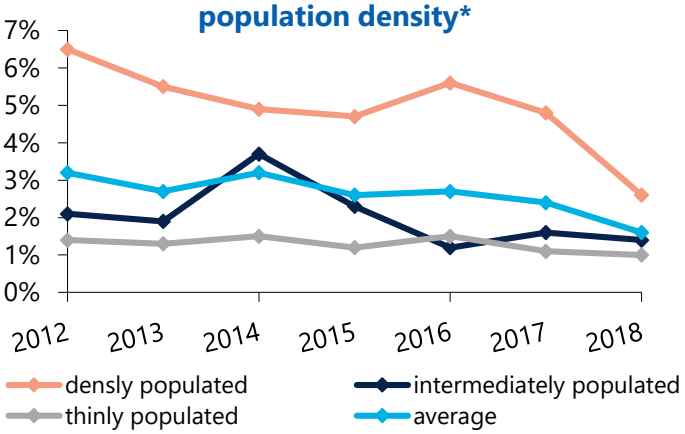


The household electricity prices in Austria have been fairly stable over the last decade. While the EU-average for household electricity prices increased by 28% from 2008 to 2018 the household electricity prices in Austria increased only by 12% in the same time frame.

The Austrian household shows a similar development as the EU-average and has increased by only 13% between 2008 and 2018.

The recent decline in energy poverty can be mainly attributed to improvements in urban areas from 5.6% in 2016 to 2.6% in 2018 (decline by 55%). Energy poverty has been fairly stable in thinly populated areas since 2012 at values between 1% and 1.5%. The inability to keep the home adequately warm peaked for intermediately populated areas at 2014 at 3.7% and declined to a value of 1.4% in 2018.

Inability to keep home adequately by population density*



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Member State Report
Austria

POLICIES & MEASURES

In Austria, energy poverty has been a topic of discussion in recent years. The media has given the issue considerable attention and in-depth studies have been conducted on the topic. E-Control Austria has carried out several studies focused on the assessment of and measures against energy poverty.

E-Contro developed a definition and measurement of energy poverty in 2013: A household is considered energy poor if its income is below the at-risk-of-poverty threshold and its energy costs are above-average. The paper, which is available online, had undergone an extensive consultation process among stakeholders, including Austrian social care/support organisations such as Caritas Österreich and Volkshilfe Österreich, consumer organisations (Arbeiterkammer Wien, Austrian labour union–ÖGB), energy advice companies and academic experts. In 2019, this definition was used in the Austrian national energy and climate plan.

In 2018, a study carried out by the Vienna University of Economics and Business commissioned by the Ministry for Social Affairs developed a new definition of energy poverty that slightly varies from the definition established in 2013. In light of that and with a view to the implementation of Electricity Directive 2019/944, existing approaches concerning energy poverty will be reviewed by the government for the purpose of establishing an official definition of energy poverty. If indicated, further or other criteria for monitoring energy poverty will be used. The Ministry for Climate Action, E-Control and the Ministry for Social Affairs will be in charge of this process.

Nonetheless, a national energy poverty strategy is absent. Energy poverty measures have mostly relied on social policies that provide minimum incomes to households. In addition, some Austrian regions offer a *heating allowance* during the winter period.

The NGO Caritas also operates a national *electricity help fund*, which provides households with energy audits to improve energy efficiency, as well as support with the replacement of household appliances. The measure also provides energy bill support in dire situations.

The Ministry for Sustainability has carried out several projects that provided grants for renovations focused on energy efficiency and replacing oil heating systems. However, these are not targeted specifically at energy poor households and require significant investments from the households themselves.

There has been numerous local projects aimed at reducing energy poverty, and most of these projects have been completed. Such projects include those providing households with financing for energy-efficient appliances and advice on energy use in order to improve energy efficiency. Another project supplied households with wood pellet ovens and pellet supplies. However, most of these pilot projects have not been followed up with large-scale implementation of energy poverty measures.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Electricity help fund	Energy audits, Household appliances, Energy bill support	NGO	Low-income households	2009	The measure supports 400 to 500 households per year.
Heating allowance	Energy bill support	Regional government	Low-income households		Financial support to cover costs of heating, eligibility requirements and size of support differ from region to region.
Energy consultations for low income households	Energy audits, Household appliances	Regional government	Low income households	2011	991 consultations were carried out in low-income household from 2011 to 2014.
Prepayment electricity and gas meters for indebted households	Disconnection protection	Regional government	Indebted households		365 households use prepaid-meters for electricity and/or gas in 2011.
Out of Oil Premium	Heating System	National Government	households in semi-detached or detached houses	2019	Households can receive a grant of up to €5000 to replace their oil heating system.
Renovation Check 2018	Building Insulation, Heating System	National Government	No specific target group	2018	Households can receive a grant of up to €6000 to support investments into energy efficiency.

Member State Report
Austria

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Austria and presents publications on energy poverty in Austria.

Organisation

Name: E-Control
Organisation type: National government
Description:
E-Control is the national regulatory authority for the Austrian electricity market. It monitors the situation of energy poverty and informs the public debate by publishing regular reports on the status of energy poverty. It played a key role in investigating different options and deciding on the energy poverty definition used by the Austrian government.

Organisation

Name: Federal Ministry for Sustainability and Tourism
Organisation type: National government
Description: The Ministry for Sustainability has carried out several projects that provided grants for renovations focused on energy efficiency. Future projects could specifically focus on energy poor households that would otherwise not be able to afford investments in energy efficiency.

Publication

Title: Initial Energy poverty in Austria from a socio-technological perspective
Authors: Berger, T.
Year: 2016
Description:
This publication gives an overview of the process how energy poverty was defined in Austria and the situation and discussions regarding energy poverty in Austria. The effects of different policies (such as liberalisation) and technologies (such as the pre-payment meter) on energy poverty is assessed, and energy poverty is discussed from the perspective of environmental justice.

Publication

Title: Study to investigate a definition on energy poverty in Austria from a socio-economic and energy-economic perspective
Authors: Vienna University of Economics and Business
Year: 2018
Description:
This study was commissioned by the Ministry for Social Affairs. It carried out expert interviews and desk research to investigate options for the definition of energy poverty and suggested a new definition that is currently under review for the purpose of establishing an official governmental definition of energy poverty.

Other selected publications

- Brunner, K.-M., Spitzer, M., and Christanell, A. (2011) Sustainable energy consumption and lifestyles in poor and vulnerable households *(in German)*
- Brunner, K-M., Spitzer, M. and Christanell, A. (2012) Experiencing fuel poverty. Coping strategies of low-income households in Vienna/Austria
- E-Control Austria (2013) Energy poverty in Austria. Definitions and indicators *(in German)*
- E-Control Austria, Statistik Austria (2017) Household energy and income with special focus on energy poverty *(in German)*
- E-Control Austria, Statistik Austria (2019) Energy Poverty in Austria *(in German)*

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Belgium

DATA & STATISTICS

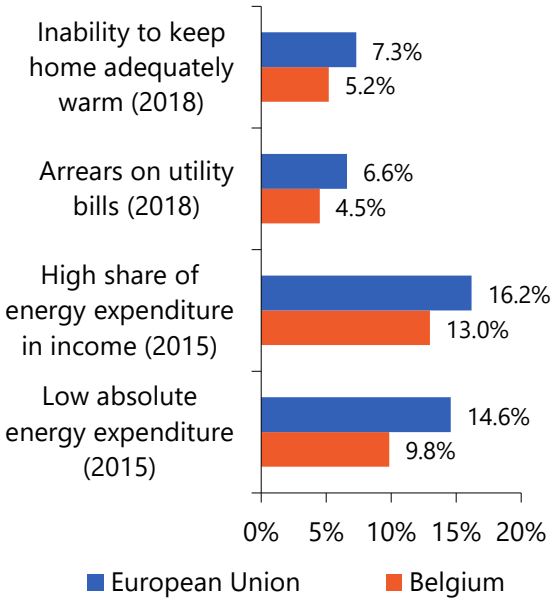
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Belgium at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Belgium.

Belgium has a higher performance than the EU average on the population-reported indicators. In 2018, 5.2% of Belgians reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 4.5% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

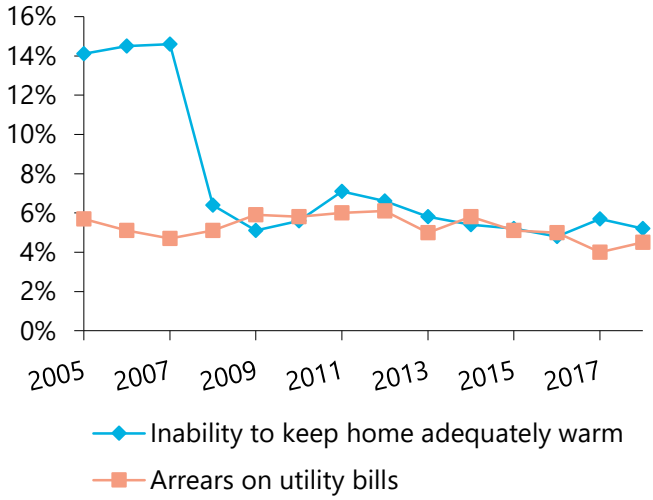
Belgium's performance in the expenditure-based indicators is better compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 13.0% which is lower than the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency in non-urban areas where there is more heat dissipation.

Conversely, at 9.8% Belgium has a lower number of households spending a low share of their income on energy expenditure than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Belgium, the percentage of households that are unable to keep the home adequately warm decreased from 14% in 2001 to 5% in 2018. The notable decrease in 2008 can be explained by a change in indicator measurement or data gathering. Meanwhile households in arrears on utility bill slowly decreased from 6% in 2005 to 4.5% in 2018, without notable fluctuations between years.

Arrears on utility bills show a relatively constant path over time, as few policies exist to tackle this issue. Moreover, around 8% of the Belgian households receive a social tariff for energy consumption, which partly explains the constant percentage.

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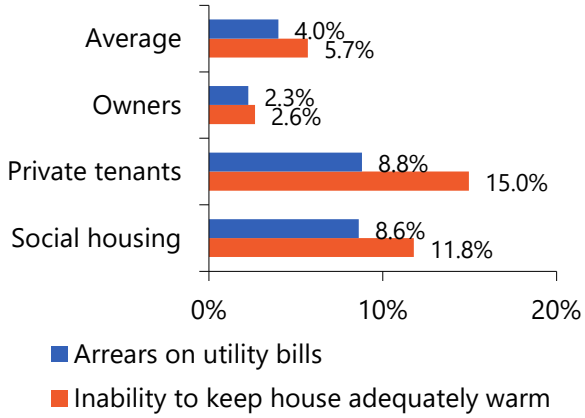
Member State Report
Belgium

DATA & STATISTICS

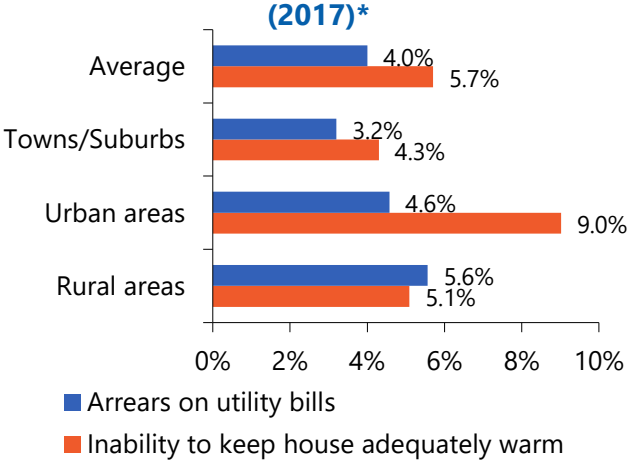
The disaggregated data of the household-reported indicators suggest that energy poverty in Belgium is highest for the private tenants sector in 2017, at 15% for inability to keep the house warm and 8.8% for arrears on utility bills. The private tenant sector, which is most vulnerable to these indicators, accounts for 19% of the population in Belgium.

The data also indicates households in detached and semi-detached houses as the most vulnerable to these indicators, noting that 78% of the population lives in these two types of dwelling.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*



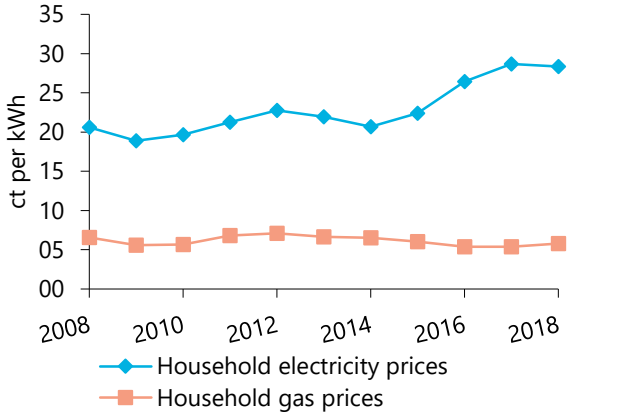
In Belgium, urban areas have the lowest performance for the ability to keep the house adequately warm and having arrears on utility bills, closely followed by rural areas. This may be due to the higher costs of living in urban areas and the relatively high share of poor populations living in cities. Urban areas account for 27% of the Belgian population, with 55% of the population living in suburbs.

Urban areas are notably unable to keep their house adequately warm while arrears on utility bills tend to be more in rural areas. This may be attributed to the dwelling type most prevalent in rural areas and by having lower building density which increases heat dissipation. The rural area accounts for 18% of the Belgian population.

Belgian household energy costs over time

The household energy cost over time in Belgium has gradually increased to reach a peak in 2017 with electricity at 29.0 €ct/kWh and gas at 5.81 €ct/kWh. There is a sharp increase in electricity price between 2014 and 2018. This can be partly explained by lower electricity generation capacities.

Notably, gas prices remained relatively stable over time. Despite the higher cost of electricity, no sharp increase can be observed in arrears on utility bills.



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Member State Report
Belgium

POLICIES & MEASURES

Belgium is one of the most active countries in terms of research, policies and activities in the field of energy poverty. The first major study on energy poverty in Belgium was published in 2011 (Huybrechs, Meyer and Vranken). Since then, multiple other studies on the issue have been published. In 2015, the King Baudouin Foundation initiated an annual publication called the Energy Poverty Barometer, which produces energy poverty statistics and analyses for Belgium.

A wide range of energy poverty policies have been implemented in Belgium. On the federal level, a *social tariff for natural gas and electricity* exists, which aims to help certain vulnerable consumers afford sufficient energy. The measure is funded through general levies on electricity and natural gas prices. The federal tariff has been extended in certain regions to encompass additional socio-economic groups.

All three regions (Brussels, Flanders and Wallonia) have some type of *disconnection protection during winter* to prevent indebted households from being exposed to cold temperatures. Some regional utilities have provisions to install prepayment meters or power limiters that aim to reduce debt accumulation. All regions also provide *energy and renovation grants* to facilitate the improvement of domestic energy efficiency.

Local social services provide multiple services to households experiencing energy poverty. Financial aid is available for paying the electricity and natural gas bills, as well as for households that use heating oil, kerosene or propane gas to heat their home (*electricity and gas fund, social heating fund)*. In addition, they also help households negotiate payment plans and in some cases assist to improve energy efficiency. There are also a significant number of initiatives targeting energy poverty, such as the *Energy Savers*, the Platform against energy poverty, and Revert. The most recent example of this is the Dampoort Renovates! programme in which low-income households are supported to enhance the EPC score. This programme in the city of Gent specifically targets low-income households who own an energy-inefficient dwelling.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Disconnection protection during winter (Brussels, Flanders and Wallonia)	Disconnection protection	Regional government	Indebted households	Unknown	Economically vulnerable households cannot be disconnected from the grid in the months October – March.
Electricity and gas fund and Social heating fund	Social support	National government, Local government	Indebted households	2001	The number of cases needing financial support has decreased from 52,184 in 2008 to 28,895 in 2015. Besides bill support, this long-term success is thanks to the additional measures in terms of energy efficiency and energy audits.
Energy Savers	Energy audits, Building insulation	NGO	Vulnerable households, Indebted households,	2007	21,400 energy checks were implemented and over 1,200 roofs were insulated in 2010.
Energy and renovation grants (Brussels, Flanders and Wallonia)	Building insulation, Heating system	Regional government	No specific target group	2004	146,000 energy grants were disbursed between 2004 and 2012 adding up to €90 million. In 2012, most grants were allocated for improving windows and household appliances.
Grants for social insulation projects for rental buildings	Building insulation	Regional government, Grid operator	Vulnerable households, Private tenants, Social housing	2016	Unknown
Social tariff for natural gas and electricity	Social tariff	National government	Vulnerable households	2004	In 2016, 8.5% of all Belgian households (460,000 contract) received the social tariff automatically.
Dampoort renovates!	Building insulation, Heating system	Local government	Low-income household	2014	The buildings that participated improved from an EPC-score of 519 kWh/m2 to 244 kWh/m2.

Member State Report
Belgium

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in Belgium and presents organisations working on energy poverty in Belgium

Organisation

Name: 2GENDERS
Organization type: Research & Consultancy
Description: The 2GENDERS project focuses on energy poverty in Belgium. The project will describe the phenomenon and the populations affected, ascertain the wider associations, if any, between energy poverty and social relations, mobility and self-reported health, and design and deliberate possible interventions with a range of important stakeholders including the energy poor.

Organisation

Name: Community building (Samenlevingsopbouw)
Organization type: NGO
Description: This NGO is active in the fight against exclusion and deprivation, by engaging with people in socially vulnerable situations to ensure that their needs are taken into account in the formulation of structural policy changes. Access to basic social rights is their priority, which includes also right to affordable energy and energy-efficient housing.

Publication

Title: Vulnerable Consumers Market Segmentation Report
Authors: ASSIST Consortium
Year: 2018
Description: The market behavioral segmentation represents a key preparatory phase for the development of the national and local actions. It will lead to a complete understanding of the actual situation under different aspects: socio-demographic, economic and dwelling characteristics of consumers, but also consumers' degree of knowledge, common needs and priorities regarding energy. The final objective is to assign vulnerable consumers into market groups who share common characteristics.

Publication

Title: Energy poverty in Brussels: first results of a qualitative survey
Authors: Baudaux, A.
Year: 2014
Description: This article presents the results of fieldwork among social workers dealing with energy poverty and beneficiaries of social help in Brussels. In-depth interviews were conducted with people for whom gaining access to energy in the home is a problem. This article analyses energy poverty through three main topics – health, social recognition and social support – and explores whether they are interrelated or not. Results show that energy poverty is associated with social life and mental health.

Other selected publications

- Huybrechs, F., Meyer, S., and Vranken J. (2011) Energy poverty in Belgium *(in Dutch and French)*
- Storms, E., and Meyer, S. (2012) An introduction to energy poverty in Belgium
- Bartiaux, F., Van der Linden, M., Debast, N. & Baudaux, A. (2014) Energy poverty *(in French)*
- Baudaux, A. (2014) Energy poverty in Brussels: first results of a qualitative survey
- Delbeke, B., and Meyer, S. (2015, 2016, 2017) The energy poverty barometer (2017 edition)
- Lahaye W., Bartiaux F., and Sibeni A. (2016) Living in energy vulnerability: continuous mental arithmetic and limited possibilities *(in Dutch)*
- Goedemé, T. et al. (eds.) (2017) Poverty, energy and living: creative ideas for a future without energy poverty *(in Dutch)*
- ASSIST Consortium (2018) Vulnerable Consumers Market Segmentation Report

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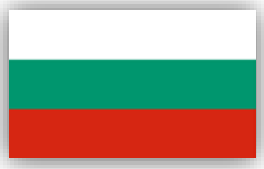


Member State Report
Bulgaria

DATA & STATISTICS

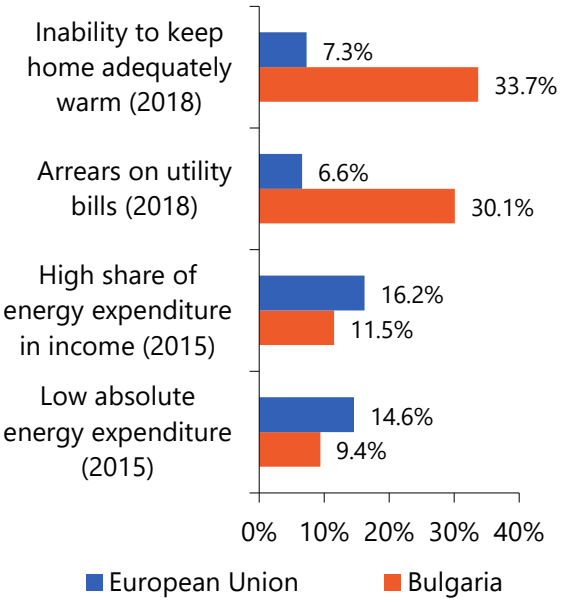
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Bulgaria at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Bulgaria.

Bulgaria has a lower performance than the EU average on the population-reported indicators. In 2018, 33.7% of the Bulgarian people reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 30.1% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

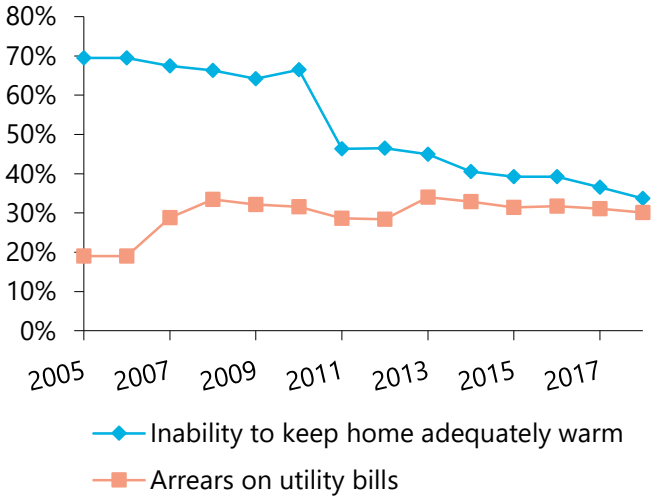
However, Bulgaria's performance in the expenditure-based indicators is better than the EU average. The share of households that spend an unusually high share of their income on energy expenditure is 11.5% which is lower than the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency.

Moreover, at 9.4% Bulgaria has a lower share of households spending an unusually low share of their income on energy expenditure as the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Bulgaria, the percentage of households that are unable to keep the home adequately warm gradually decreased from 70% in 2005 to 34% in 2018. The notable decrease between 2010 and 2011 may be attributed to sample size differences, explaining the steep drop, yet the trend remains similar over time as a result of consistent measures and a policy focus on lowering the inability to keep the home adequately warm.

Meanwhile households in arrears on utility bills follow a different trajectory and increased notably between 2005 and 2018 from 19% to 30%. This can possibly be explained by the consequences of the financial crisis, especially in terms of employment and income loss.

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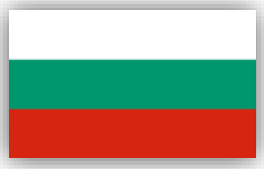


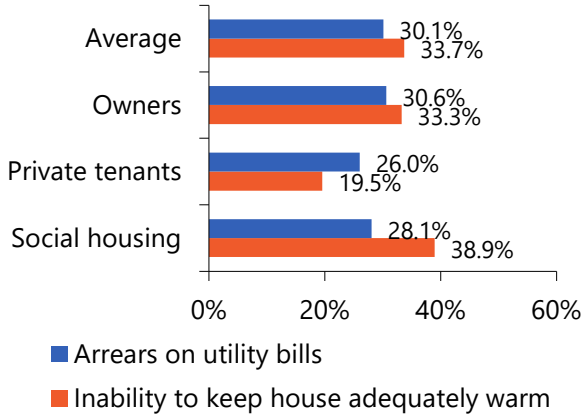
Member State Report
Bulgaria

DATA & STATISTICS

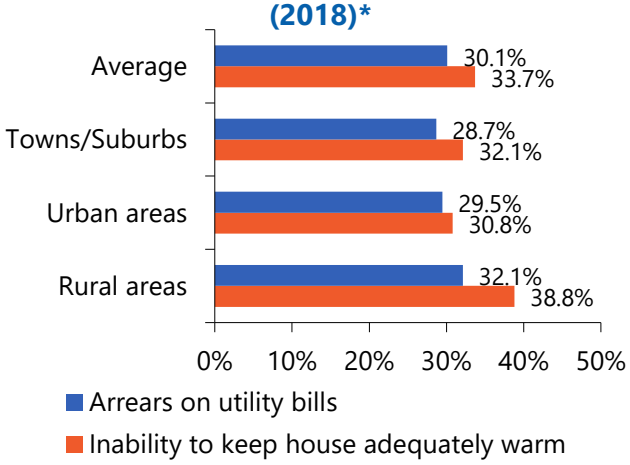
The disaggregated data of the household-reported indicators show that the inability to keep home is highest for people who live in social housing, at 38.9% in 2018. The social housing sector accounts for 14% of the population in Bulgaria. However the 84% people who own their dwellings are most likely to have arrears on utility bills.

The data also indicates that apartment type dwellings are the most vulnerable to these indicators, noting that 46% of the population live in this dwelling type. Followed by detached type dwellings in which 42% of the population resides.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2018)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2018)*

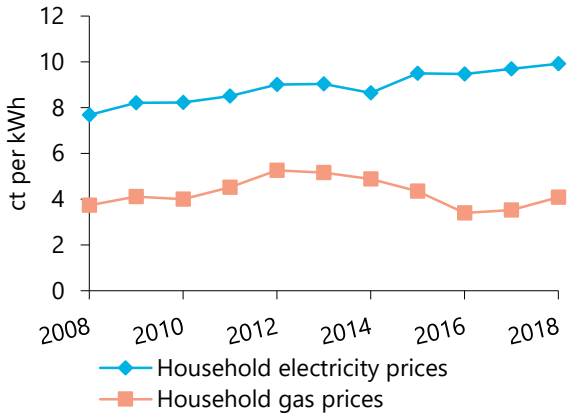


In Bulgaria rural areas have the lowest performance for the ability to keep the house adequately warm and having arrears on utility bills. This may be explained by the most prevalent building type as most dwellings are (semi) detached which requires more heating and is located in areas with higher heat dissipation. 32% of the Bulgarian population lives in rural areas.

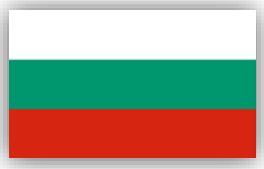
The slightly higher percentage of the population in arrears on utility bills in rural areas can be explained by the general tendency to have lower disposable incomes, hence triggering arrears. The location does not seem to be decisive due to nation wide price controls on energy prices.

The household energy cost over time in Bulgaria has gradually increased to reach a peak in 2018 with electricity at 9.9 €ct/kWh and gas at 4.08 €ct/kWh. Household electricity prices showed a slight and consistent incline over the past decade. Simultaneously, household gas prices fluctuated according to global wholesale gas prices. When compared to the EU prices, Bulgaria is characterised by relatively cheap electricity and gas prices. Bulgaria is one of the EU Member States with heavily regulated energy prices, which contributes to the relative stability of these prices.

Bulgarian household energy costs over time



**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*



Member State Report
Bulgaria

POLICIES & MEASURES

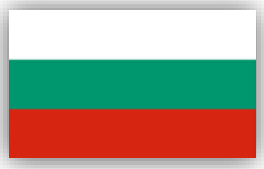
Energy poverty in Bulgaria continues to be a large issue even though research and policies on the topic are under development. The term energy poverty is not defined in Bulgarian legislation, as a result of which matters linked to the issue are often part of broader social policies. Regional studies of energy poverty in (South) Eastern Europe have included analyses of Bulgaria (Buzar 2007, and Bouzarovski et al. 2011), and a separate report on the national energy poverty situation in Bulgaria was produced in the *REACH project (Reduced Energy use and Change Habits*) in 2014 (Kisyov 2014).

Policies on energy poverty in Bulgaria have mainly focused on financial assistance or renovation. Within the category of financial assistance, general income support is provided to households with an income below a certain threshold. In addition, *heating aid* is provided to vulnerable households to cover their heating expenditures during winter (1 November–31 March). Moreover, *one time support* may be granted in exceptional circumstances in case of extra costs, which could include higher heating costs in winter or repairs/replacements for broken heating equipment. There are also discussions on the introduction of a *social tariff for electricity*.

In addition, multiple programmes exist that target the renovation of buildings, particularly apartment buildings, often funded through European programmes. The *REECL Programme* is a joint project of the Bulgarian national government, the European Bank for Reconstruction and Development, and the European Commission to provide loans and investment incentives for renovation through local banks. The *National programme for energy renovation* also relies on European structural funds.

A number of European Union projects linked to energy poverty have been partially carried out in Bulgaria. Within the REACH project, energy advisors carried out home visits to energy poor households. A similar service was also provided in the ACHIEVE project. Other projects include FIESTA (for families with children) and SAVES2 (for students).

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
REECL Programme	Building insulation, Heating system	National government, Business/Industry	Apartment buildings	2006	To date, the REECL Programme has committed to 2635 energy efficiency loans totaling 18 million Bulgarian leva and incentive grants amounting to 3 million Bulgarian leva.
National programme for energy renovation	Building insulation, Heating system	National government	Apartment buildings	2007	The estimated energy savings were 16.12 GWh per year with an investment of 63.50 million BGN. For the next period, 2,022 multifamily buildings received grants. The expected investment is around 280 million BGN.
Social tariff for electricity	Energy bill support	National government	Vulnerable households	in discussion	It is estimated that the measure will cover 1.1 million people.
Heating aid in winter	Energy bill support	National government	Low-income households	1999	Nearly 7% of the population is covered, which is about 500,000 people, or around 250,000 households per year.
Reduced Energy use And Change Habits (REACH)	Information and awareness, Energy audits	European Union	Vulnerable households	2014	In various countries, over 1.600 home visits were conducted whilst giving advice on energy efficiency
Monthly allowance	Social support	National government	Vulnerable households, Low-income households	1999	Aid is granted on a monthly basis to persons or families who meet multiple pre-defined conditions
One time support	Social support	National government	Vulnerable households, Low-income households	1999	One time financial support may be granted once a year in exceptional circumstances when there are extra costs, which could include higher heating costs in winter or broken heating equipment.



Member State Report
Bulgaria

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in Bulgaria and presents organisations working on energy poverty in Bulgaria.

Training Resource

Title: iDEA: Overall Report
Authors: DOOR, Focus, University of Cyprus, Energy Agency of Plovdiv
Year: 2018
Description: The report details analysis of existing tools, educational practices and methods relating to energy poverty in Bulgaria, Croatia, Cyprus and Slovenia. It establishes gaps in existing tools and training needs, this information will then be used to for the development of iDEA ICT tools which will be published on the website in the future.

Training Resource

Name: Energy saving advice for students
Organization type: Guidance/toolkit
Description: The SAVES 2 hub provides energy saving guidance for university students living in rented accommodation including: switching energy supplier, smart meters and the energy efficiency of the property. The resource can be accessed by students from across Europe and includes blogs and an international energy saving competition. The energy savings are given by local universities and knowledge institutes.

Publication

Title: Sustainable Energy Consumption and Energy Poverty: Challenges and Trends in Bulgaria
Authors: Hajdinjak, M., Asenova, D.
Year: 2019
Description: The chapter first looks at the main characteristics of the household energy consumption (energy mix, use of renewables, socio-material factors) and then summarises the relevant information about the Bulgarian energy system and energy policies. The conclusion of the chapter considers why Bulgarian households rarely take measures aimed at increasing their energy efficiency.

Publication

Title: Defining Energy Poverty in Implementing Energy Efficiency Policy in Bulgaria
Authors: Kulinska, E.
Year: 2017
Description: The lack of a clear common definition of energy poverty requires that a systematic and critical study is made of the basic theoretical concepts offered by Bulgarian and foreign researchers, as well as an overview of the problems pertaining to the energy poverty of households in Bulgaria and the possible measures to tackle this issue. Policy recommendations are given.

Other selected publications

- Buzar, S. (2007) Energy Poverty in Eastern Europe: Hidden Geographies of Deprivation
- Carper, M. and Staddon, C. (2009) Alternating currents: EU expansion, Bulgarian capitulation and disruptions in the electricity sector of South-east Europe
- Waddams Price, C. and Pham, K. (2009) The impact of electricity market reform on consumers
- Bouzarovski, S., Sarlamanov, R. and Petrova, S. (2011) The Governance of Energy Poverty in Southeastern Europe
- Hiteva, R. (2013) Fuel poverty and vulnerability in the EU low-carbon transition: the case of renewable electricity
- Kisyov, P. (2014) Report on national situation in the field of energy poverty – Bulgaria
- Schumacher, K. et al (2015) How to end Energy Poverty? Scrutiny of Current EU and Member States Instruments
- Lenz, N.V., and Grgurev, I. (2017) Assessment of Energy Poverty in New European Union Member States: The Case of Bulgaria, Croatia and Romania
- Kulinska, E. (2017) Defining Energy Poverty in Implementing Energy Efficiency Policy in Bulgaria
- Hajdinjak, M., and Asenova, D. (2019) Sustainable Energy Consumption and Energy Poverty: Challenges and Trends in Bulgaria

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Croatia

DATA & STATISTICS

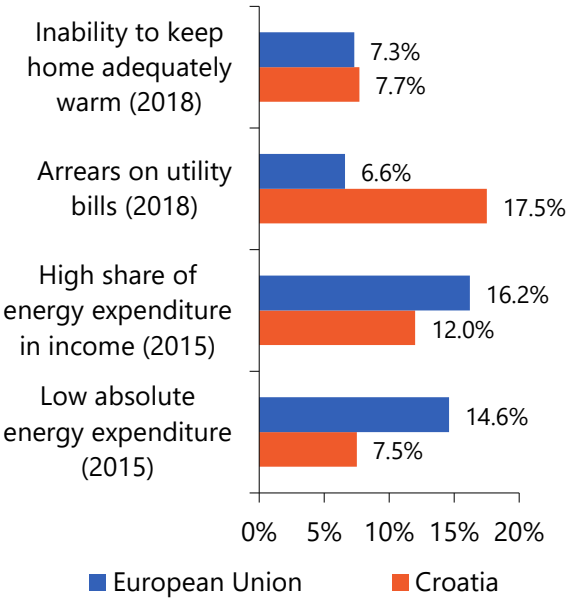
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Croatia at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in the Croatia.

Croatia has a lower performance than the EU average on the population-reported indicators. In 2018, 7.7% of the Croatian population reported that they were unable to keep the home adequately warm while the corresponding EU average is slightly lower at 7.3%. Moreover, for 2017, 17.5% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is notably lower at 6.6%.

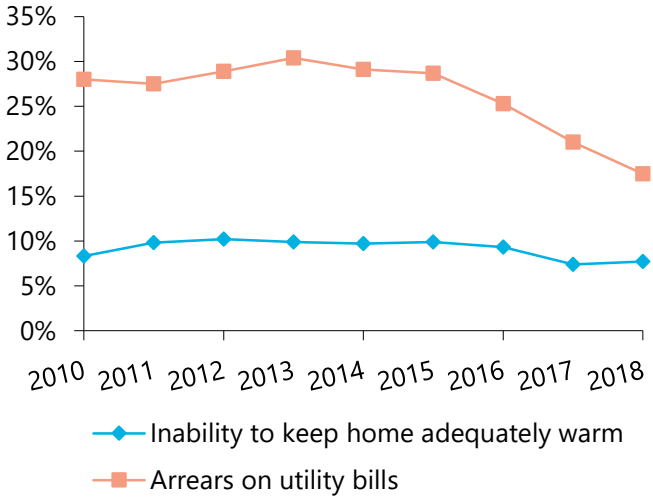
Croatia's performance in the expenditure-based indicators is better in comparison to the EU average. The share of households that spend a high share of their income on energy expenditure is 12.8% which is lower than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 7.5% Croatia has a lower number of households than the EU average that spend a low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Croatia, the percentage of the population that is unable to keep the home adequately warm was quite consistent between 2010 and 2016, being somewhat around 10%. The year 2017 saw a dip in this indicator to finally reach a value of 7.7% in 2018.

Meanwhile, the percentage of the population that is on arrears on utility bill consistently decreased since 2015, to reach a lower value of 17.5% in 2018.

The decrease in these indicators, particularly for arrears on utility bills, may be due to the number of social support schemes to assist with electricity, gas and household costs introduced by the national government in 2013. A number of subsidy schemes related to home renovations were also introduced in 2014.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

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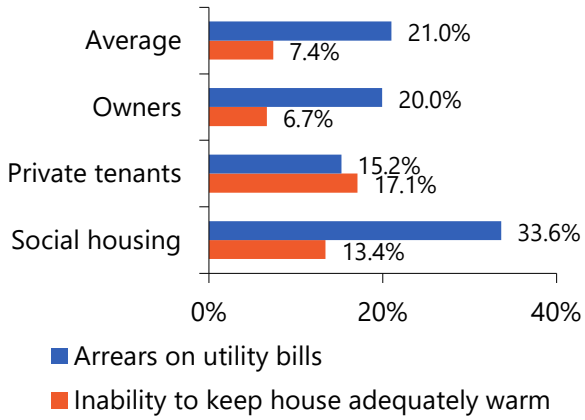
Member State Report
Croatia

DATA & STATISTICS

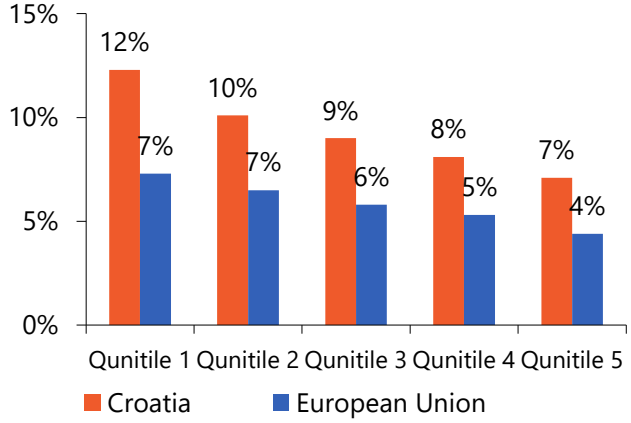
The disaggregated data of the population-reported indicators suggest that energy poverty in Croatia is highest for the social housing sector in 2017, particularly for arrears on unitality bills. This tenure type sees 33.6% of the population living in social housing having arrears on utility bills while 13.4% are unable to keep the house adequately warm. The second most vulnerable group is the private tenants tenure which have the highest indicator for inability to keep house adequately warm.

The percentage of the population living in social housing and private rental for 2017 is 8% and 2%, respectively.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Share of energy expenditure of income by quintile (2015)*

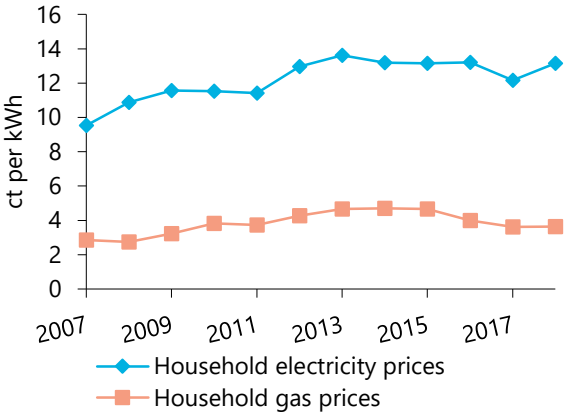


Croatia experiences cold climates which translates into a high energy usage for heating. Combined with a median income that is well below the EU median (less than half the EU median in 2015), this leads to notably larger share of income spent on energy expenditure in Croatia than in the corresponding EU average. In 2015, the poorest quintile spent 12% of their income on energy while the corresponding EU average is 7%. A similar pattern is observed for each quintile, whereby even the richest quintile in Croatia spends a notably higher percentage of its income on energy than the EU average. This indicates that the Croatian population, regardless of its income, is at a higher risk of being energy poor than the EU average.

Croatia household energy costs over time

The household energy cost over time in Croatia has increased gradually since 2007 to reach the highest price in 2013 for electricity at 13.6 €ct/kWh. Meanwhile the highest price per unit for gas was in 2014 at 4.6 €ct/kWh. The prices have dropped slightly since then to reach 13.2 €ct/kWh and 3.64 €ct/kWh in 2018 for electricity and gas, respectively.

The prices per unit for both electricity and gas observed for Croatia are lower than the corresponding EU average.



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Member State Report
Croatia

POLICIES & MEASURES

In Croatia, some attention is paid to energy poverty in publications and policies. An analysis of the national energy poverty situation in Croatia was carried out in 2016 in the context of the REACH project (Reduced Energy use and Change Habits) (Robić 2016). The most active NGO on the topic of energy poverty in Croatia, DOOR ('Society for Sustainable Development Design'), was involved in the production of these reports.

Energy poverty in Croatia is addressed primarily through direct financial assistance. The *Guaranteed Minimal Support* programme, started in 2013, provides financial assistance to households to meet their basic needs. Other allowances, such as the *Housing cost support* helps households cover their housing costs, including costs for electricity, gas and heating. In addition, more targeted financial support is available for energy costs. Vulnerable consumers are entitled to receive support for their electricity costs up to a certain limit via the *Electricity allowance for vulnerable consumers* scheme. Those who use wood for heating and receive social benefits can receive a *Firewood allowance*. This scheme can be claimed in cash once a year or the recipient is provided with firewood. Furthermore, *One time support* may be granted in exceptional circumstances when extra costs, such as higher heating costs in winter or repairs/replacements for heating equipment, are incurred by residents.

Croatia also has multiple subsidy schemes aimed at restoration of family houses, apartment buildings, increase in renewable energy use and replacement of heating systems or installation of a heat consumption meter. The majority of these schemes were started in 2014 and are organised by the national and local governments via the Programme of energy renovation of family homes. The aim of these schemes is to generate energy savings in each situation. For instance the *Subsidy for outer envelope restoration in family houses* provides financial support for investments in building insulation in family houses. The yearly energy savings are expected to be around 15 GWh and the yearly avoided CO_2 emissions are expected to be around 4,241 tonnes.

Selected measuresz	Type of measure	Organisation	Target groups	Start year	Result
Subsidy package for energy audits and integral restoration of residential apartment buildings	Building insulation, Energy audits, Information and Awareness	National government, Local government	No specific target group	2014	Yearly energy savings are expected to be around 101 GWh. Yearly avoided CO2 emissions are expected to be around 28,221 ton.
Electricity allowance for vulnerable consumers	Energy bill support	National government	Households on social benefits, Disabled	2015	
Firewood allowance	Energy bill support	National government, Local government	Households on social benefits, Low-income households	2013	
One time support	Social support	National government	Households on social benefits, Vulnerable households, Low-income households	2013	
Guaranteed Minimal Support (GMS)	Social support	National government, Local government	Low-income households	2013	
Housing cost support	Social support	National government, Local government	Households on social benefits, Vulnerable households, Low-income households	2013	
Subsidy for heating system replacement in family houses	Heating system	National government, Local government	No specific target group	2014	Yearly energy savings are expected to be around 27 GWh. Yearly avoided CO2 emissions are expected to be around 6,443 ton.
Subsidy for outer envelope restoration in family houses	Building insulation	National government, Local government	No specific target group	2014	Yearly energy savings are expected to be around 15 GWh. Yearly avoided CO2 emissions are expected to be around 4,241 ton.

Member State Report
Croatia

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Croatia and presents publications and training resource on energy poverty in Croatia.

Organisation

Name: Society for Sustainable Development Design (DOOR) (Društvo za oblikovanje održivog razvoja)
Organisation type: NGO
Description: A civil society organisation of experts devoted to the promotion of sustainable energy development. The projects range from climate change mitigation to alleviating energy poverty and improving education on renewable energy sources.

Organisation

Name: Reduced Energy use And Change Habits (REACH)
Organisation type: Research & Consultancy
Description: This project contributed to energy poverty abatement at the practical and structural level by empowering energy poor households to take actions to save energy and change their habits, and by establishing energy poverty as an issue that demands structural solutions.

Publication

Title: Energy Poverty in Croatia: results of field research from Sisak-Moslavina County
Authors: Robić, S.
Year: 2016
Description: This report analyses the results of field research on energy poverty conducted in Sisak-Moslavina County. The report gives an overview of the Croatian legislation on energy poverty, recommendations for possible legislative improvements, and suggestions of the first steps to be taken to combat energy poverty

Training Resource

Title: Innovative Direction in Energy Advising (IDEA)
Authors: University of Cyprus, Focus, društvo za sonaraven razvoj, DOOR, Energy Agency of Plovid (EAP)
Year: 2018
Description: The goals are to raise awareness on energy poverty, improve educational practices, develop high quality education approaches, establish firm and competent international network of energy advisors and relevant stakeholders and develop innovative ICT tool for education in energy poverty.

Other selected publications

- Ruggeri Laderchi, C., Olivier, A., and Trimble, C. (2013) Balancing Act: Cutting Energy Subsidies While Protecting Affordability
- Robić, S. (2016) Energy Poverty in South East Europe: Surviving the Cold
- Robić, S., Rogulj, I., and Ančić, B. (2017) Energy poverty in the Western Balkans: adjusting policy responses to socio-economic drivers, in Energy Poverty and Vulnerability: A Global Perspective
- Simcock, N.; Thomson, H.; Bouzarovski, S.; Petrova, S. (eds.) Energy Poverty and Vulnerability: A Global Perspective
- Lenz, N.V., Grgurev, I. (2017) Assessment of Energy Poverty in New European Union Member States: The Case of Bulgaria, Croatia and Romania
- Ecoserveis Association (2018) Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review

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This report was completed in February 2020.

Member State Report
Cyprus

DATA & STATISTICS

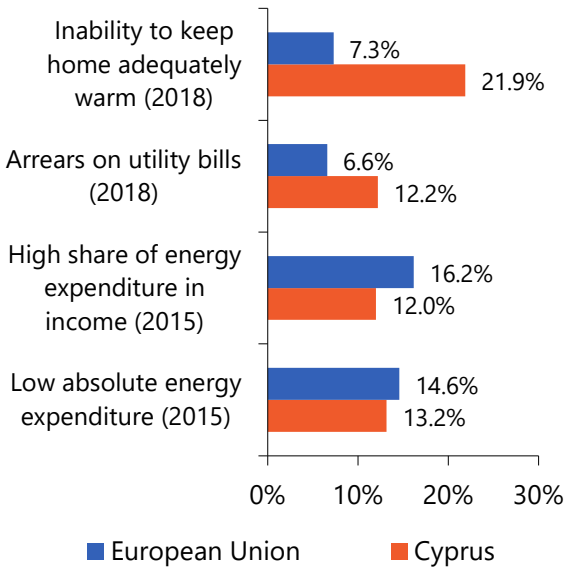
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Cyprus at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Cyprus.

Cyprus has a lower performance than the EU average on the population-reported indicators. In 2018, 21.9% of the population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 12.2% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

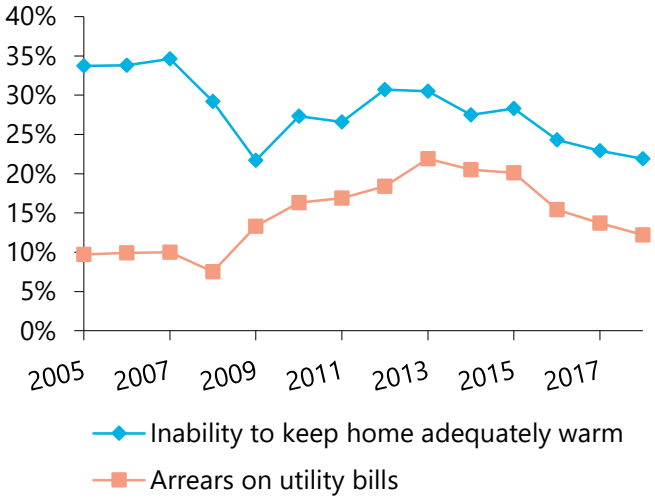
Cyprus' performance in the expenditure-based indicators is better compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 12.0% which is lower than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 13.2% Cyprus has a slightly lower number of households that spend a low share of their income on energy expenditure than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Cyprus, the percentage of the population that is unable to keep the home adequately notably decreased between 2007 and 2009, but gradually increased again by 2012. This may be due to the financial crisis. This has since decreased to 21.9% in 2018, at levels lower than the 2005 value.

Meanwhile the percentage of the population on arrears on utility bill increased steadily from 2008 to reach a peak in 2013. This has gradually decreased to 12.2% in 2018.

It is noted that between the year 2009 and 2012 the electricity price per unit increased considerably. This may have contributed to the rise of inability to keep the home warm and arrears on utility bills.

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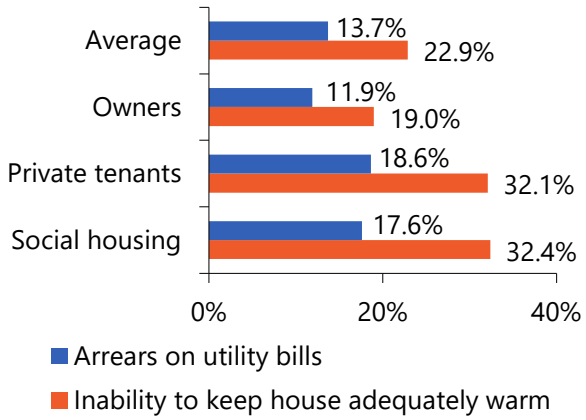
Member State Report
Cyprus

DATA & STATISTICS

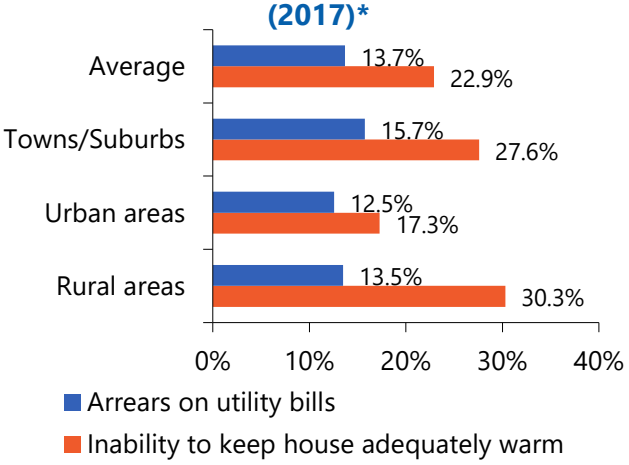
The disaggregated data of the population-reported indicators suggest that energy poverty in Cyprus is highest for the social housing and private tenant sectors in 2017, at 32.4% and 32.1% for inability to keep the house warm and 17.6% and 18.6% for arrears on utility bills, for each sector respectively. The social housing and private tenant sector, account for 15% and 14% of the population in Cyprus, respectively, for 2017.

The data also indicate that energy poverty in Cyprus is not particularly sensitive to dwelling type and is distributed somewhat evenly across all dwelling types for 2017.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*

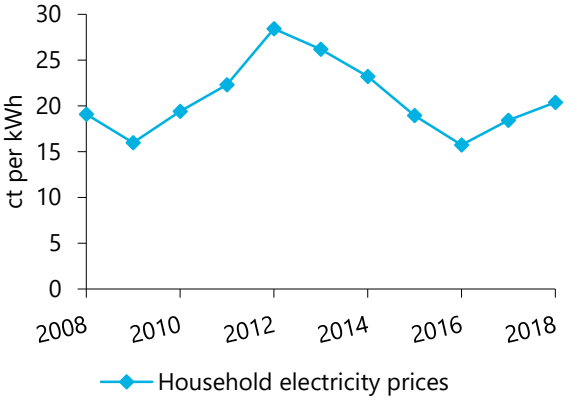


In Cyprus, rural areas have the lowest performance for the ability to keep the house adequately warm and having arrears on utility bills, closely followed by town/suburb areas. Rural and town/suburb areas account for 30.3% and 27.6% of the total population in Cyprus, respectively, for the year 2017.

In contrast to other EU countries, Cyprus has the lowest energy poverty in urban areas which account for 17.3% of the population in 2017.

Cyprus household energy costs over time

The household energy cost over time in Cyprus has increased drastically from 16 €ct/kWh in 2009 to reach a maximum of 28.5 €ct/kWh in 2012. This could partly explain the increase in energy poverty in these years.
The price of electricity per unit decreased gradually to reach a minimum of 15.7 €ct/kWh in 2016. It has since increased again slightly to 20.4€ct/kWh in 2018.



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Member State Report
Cyprus

POLICIES & MEASURES

Cyprus is one of the first countries in the European Union to have official definitions for vulnerable consumers and energy poverty. The definition of vulnerable consumers includes large households with children, households on social benefits, and persons with certain disabilities and illnesses. These vulnerable households are eligible to receive a reduced electricity tariff. This *special tariff* is financed through a general electricity levy on electricity prices. In addition, vulnerable households also receive protection from disconnection in certain critical periods.

Furthermore, there are multiple programmes that provide financial assistance to households to improve the energy efficiency of their dwellings. In some cases, these programmes include additional provisions to facilitate the participation of vulnerable households. In the *Saving Energy – Upgrading of Households* programme, vulnerable households can receive 25% more funding than regular households for deep renovation of their dwellings (75% investment coverage compared to 50%). Moreover, implementation of individual energy saving measures for vulnerable households are also funded by the scheme. In another programme (*Energy production from renewable sources for self-consumption*), vulnerable households receive an extra financial aid to install a photovoltaic system of €900/kWp, with a maximum of €3,600.

There is relatively little research on energy poverty in Cyprus. Some studies on thermal comfort of low income households have been conducted, but overall reports assessing the energy poverty situation in Cyprus are lacking. In addition, there are few NGOs working on the topic. However, EU-funded programmes that cover Cyprus and address energy poverty-related topics include ELIH-MED, FIESTA, SAVES2 and ENERFUND.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Imposing a reduced VAT rate (5%) on the renovation and repair of private dwellings	Building insulation	National government	No specific target group	2015	
Saving Energy – Upgrading of Households	Building insulation, Cooling system, Heating system, Renewable energy, Energy audits, Household appliances	National government	Households on social benefits, Households with children, Vulnerable households, Low-income households, Disabled	2015	The total budget for the first call (8 million EUR) was distributed to 1,000 beneficiaries during 2015-2016. The total budget for the second call starting in 2018 is also 8 million EUR.
Disconnection protection for vulnerable consumers in critical periods	Disconnection protection	National government, Regulator, EAC	Households on social benefits, Vulnerable households, Low-income households, Disabled	2015	
Support scheme for installation or replacement of solar water heating systems for houses	Heating system, Renewable energy	National government	Owner-occupants	2017	The available budget is 600,000 EUR.
Energy production from renewable sources for self-consumption	Renewable energy	National government	Households on social benefits, Households with children, Vulnerable households, Low-income households, Disabled	2013	The budget is approximately 1,000,000 EUR per year.
Special tariff for vulnerable customers	Social tariff	National government, Regulator, EAC	Households on social benefits, Vulnerable households, Low-income households, Disabled	2006	

Member State Report
Cyprus

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Cyprus and presents publications and training resource on energy poverty in Cyprus.

Organisation

Name: Family Intelligent Energy Saving Target Action (FIESTA)
Organisation type: Research & Consultancy
Description: It aims to help families with children save energy at home, acting on their electricity consumption behaviour and appliance-purchasing decisions through a comprehensive programme, including an energy audit tool and energy efficiency guide for households.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organisation type: Association
Description: It involves nine countries in the EU, one of which is Cyprus. The objective is to alleviate energy poverty by encouraging behavioural change and low-cost energy efficiency solutions among consumers in/at risk of energy poverty through trust, tailored advice.

Publication

Title: Analysis of the indoor thermal quality in low income Cypriot households during winter
Authors: G. Pignatta, C. Chatzinikola, G. Artopoulos, C.N. Papanicolas, D.K. Serghides, M. Santamouris
Year: 2017
Description: This study examines the extent to which the economic crisis in the Republic of Cyprus has affected low income households socially and in terms of health, as a result of significantly decreased amounts of heating energy consumption during winters.

Training Resource

Title: iDEA: Overall Report
Authors: DOOR, Focus, University of Cyprus, Energy Agency of Plovdiv
Year: 2018
Description: The report details analysis of existing tools, educational practices and methods relating to energy poverty in Bulgaria, Croatia, Cyprus and Slovenia. It establishes gaps in existing tools and training needs, this information will then be used to for the development of iDEA ICT tools which will be published on the website in the future.

Other selected publications

- C.K. Chatzinikola, G. Pignatta, M. Santamouris and D.K. Serghides (2016) Winter Indoor Thermal Comfort in Low Income Households in Cyprus
- Pignatta G.,Chatzinikola C., Artopoulos G., Papanicolas C.N., Serghides D.K., Santamouris M. (2016) Winter survey on the indoor environmental quality in low and very low income households in Cyprus.
- SAVES2 Project (2018) Analysis of current trends in the rental accommodation market for students
- Kyprianou, I., Serghides, D., Varo, A., Gouveia, J.P. Kopeva, D., Murauskaite, L. (2019) Energy Poverty Policies and Measures in 5 EU Countries: A Comparative Study.

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Czech Republic

DATA & STATISTICS

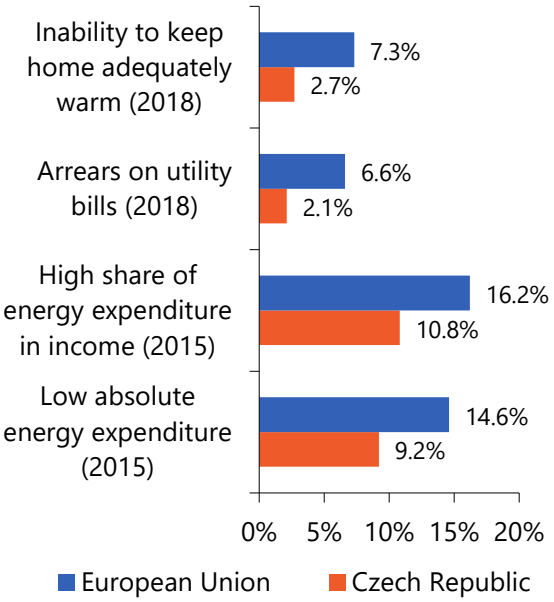
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in the Czech Republic at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in the Czech Republic.

The Czech Republic has a higher performance than the EU average on the population-reported indicators. In 2018, 2.7% of the Czech people reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 2.1% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

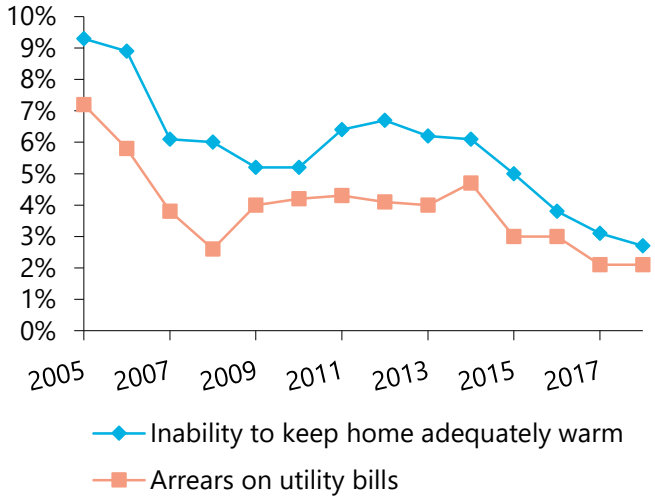
The Czech Republic's performance in the expenditure-based indicators is better compared to the EU average. The share of households that spend more than twice the median share of their income on energy expenditure is 10.8% which is lower than the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency.

Moreover, at 9.2% the Czech Republic has a lower number of households that spend less than half of the median value. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In the Czech Republic, the percentage of households that are unable to keep the home adequately warm gradually decreased from 9% in 2005 to 3% in 2018. The notable increase between 2010 and 2012 may be attributed to the financial crisis. Afterwards a gradual descent was visible until 2018.

Meanwhile households in arrears on utility bills follow a similar trajectory and decreased notably between 2005 and 2018 from 7% to 2%. It increased from 2008 to 2009.

A spike is visible in 2014 at 5% which, given the trend, might be explained by variations in the sample population.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

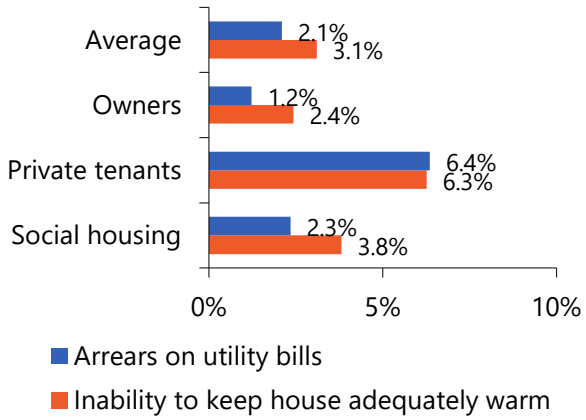
Member State Report
Czech Republic

DATA & STATISTICS

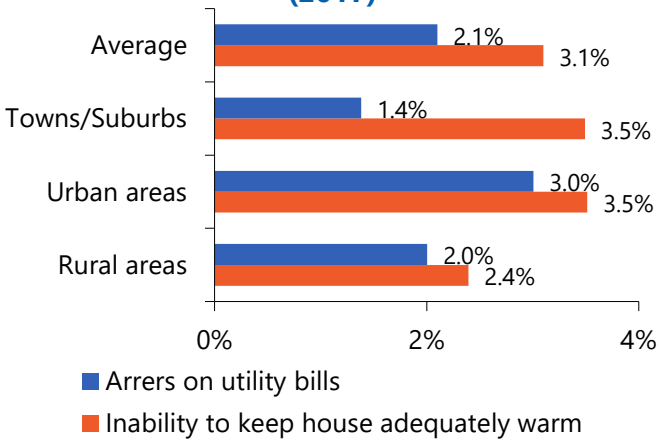
The disaggregated data of the household-reported indicators suggest that energy poverty in the Czech Republic is highest for the private tenants sector in 2017, at 6.3% for inability to keep the house warm and 6.4% for arrears on utility bills. The private tenants sector, which is most vulnerable to these indicators, accounts for 16% of the population in the Czech Republic.

The data also indicates that apartment and semi-detached type dwellings are the most vulnerable to these indicators, noting that 61% of the population live in these dwelling types.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*

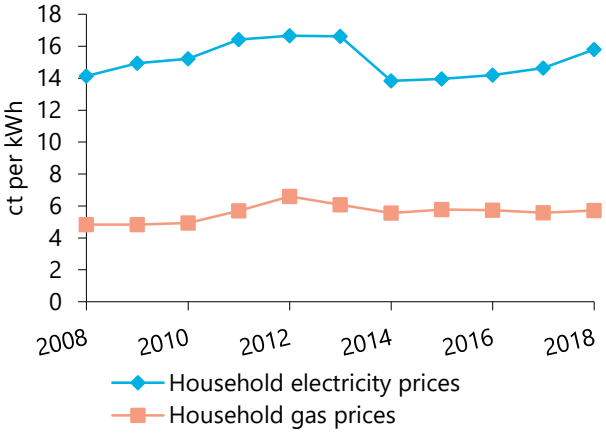


In the Czech Republic, urban areas and towns/suburbs have the lowest performance for ability to keep the house adequately warm and having arrears on utility bills, closely followed by rural areas. This may be due to the higher costs of living in urban areas and the relatively high proportion of poor populations living in cities. Urban areas and towns/suburbs account for 65% of the Czech population.

Urban areas are notably unable to keep their house adequately warm with values similar to towns/suburbs, often due to higher heat dissipation triggered by lower building density. Moreover, urban areas tend to have the oldest building stock. Urban areas show the highest arrear on utility bills, due to the relatively large poor population living in cities.

The household energy cost over time in the Czech Republic has gradually increased to reach a peak in 2012 with electricity at 16.7 €ct/kWh and gas at 6.60 €ct/kWh.
These increases were offset by a two year decline to reach the lowest points after the turn of the decade in 2014. In 2018, household energy costs had increased again to 15.8 €ct/kWh for electricity and 5.72 €ct/kWh for gas.

Czech household energy costs over time



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Member State Report
Czech Republic

POLICIES & MEASURES

Interest in energy poverty in the Czech Republic has grown recently. The Czech Republic was included in a regional analysis of energy poverty in Eastern Europe in 2007 (Buzar 2007), but additional research focused on the Czech Republic was only published in 2018. This research specifically addresses energy poverty, its drivers and possible solutions for further improvement of the studied indicators (Karásek & Pojar 2018). Furthermore, there is little activity by NGOs on the topic of energy poverty.

This is also the case in regards to policies and measures that address energy poverty. Long-running energy efficiency programmes are generally targeted at all households instead of specific vulnerable households. These programmes, such as the *Integrated Regional Operational Programme*, the *New Green Savings*, and the *Operational Programme Environment*, provide financial assistance to households for energy savings, renovations and improved heating systems. Some of the programmes are financed by the European Union through, for example, the Fund for Regional Development.

Energy poverty in the Czech Republic is primarily addressed through social policies. The *Living Allowance* provides financial assistance to low-income households to cover their living expenses. The *Housing Allowance* and the *Housing Supplement* provide (additional) financial assistance to low-income households to cover their housing expenses, including energy and heating costs.

There are also some general information campaigns and support mechanisms in the Czech Republic that could potentially benefit energy poor households. The *EFEKT programme* aims to promote energy efficiency in the Czech Republic, mainly through raising awareness and providing education on energy savings. The Czech Energy Regulatory Office provides links to energy price comparison tools.

Czechia's National Energy and Climate Plan contains plans and targets for the reduction of energy poverty. After addressing energy poverty via social welfare policies, the Czech Republic now has put plans into place to target specific vulnerable consumer groups.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
New Green Savings	Building insulation, Heating system, Renewable energy	National government	No specific target group	2009	Between 2014 and 2016, the programme approved 18,357 projects with a total amount of 4.16 billion CZK
EFEKT	Energy audits, information and awareness	National government	No specific target group	2000	This policy aims to promote energy efficiency in the Czech Republic, mainly through raising awareness and providing education on energy savings. The first EFEKT program started in 2000
Operational Programme Environment	Heating system, Renewable energy	National government, Regional government	No specific target group	2015	The goal is to exchange 100,000 solid fuel boilers until 2020
Housing Supplement	Social support	National government	Low-income households, Households on social benefits, Vulnerable households	Unknown	This measure provides additional financial assistance to low-income households to cover their housing expenses, including energy and heating expenses, which are not sufficiently covered under the basic Housing Allowance measure
Living Allowance	Social support	National government	Low-income households	Unknown	This measure provides financial assistance to low-income households to cover their living expenses
Housing Allowance	Social support	National government	Low-income households	Unknown	This measure provides financial assistance to low-income households to cover their housing expenses, including energy and heating expenses

Member State Report
Czech Republic

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in the Czech Republic and presents organisations working on energy poverty in the Czech Republic.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organization type: Research & Consultancy
Description: STEP provides training resources and publications to address energy poverty in various EU Member States, including the Czech Republic. STEP's overall objective is to alleviate energy poverty by encouraging behavioural change and low-cost energy efficiency solutions among consumers in or at risk of energy poverty through trusted, tailored advice.

Organisation

Name:
Organization type: National Government
Description: This measure provides financial assistance for energy savings in the housing sector. The programme has been running for a longer time (currently at call nr. 37). The measure applies for the whole Czech Republic except Prague, where specific support is run through the New Green Savings programme. The measure is partly financed through the EU Fund for Regional Development.

Publication

Title: Programme to reduce energy poverty in the Czech Republic
Authors: Karásek, J. and Pojar, J.
Year: 2018
Description: The main goal of the paper is to examine existing approaches to energy poverty including energy poverty indicators and to compare system of support for energy poor households in the Czech Republic and in the United Kingdom. Another goal is to describe the most endangered types of households needing government support and to draft possible measures and programme to minimise the impact of energy poverty.
Existing support programmes were examined to determine their potential use. The main conclusion of the paper involves appropriate next steps and future programmes designed to reduce energy poverty in the Czech Republic.

Measure

Name: Calculators for price offer comparisons of electricity and gas suppliers
Organisation: Regulator
Description: The calculators for price offer comparisons of electricity and gas suppliers offers a comparison website and tool for all energy consumers in the Czech Republic. With this tool they can compare energy costs and providers and thereby opt for the lowest cost electricity and gas. This helps to reduce energy poverty by enhancing the information availability and level of choice.

Other selected publications

- Buzar, S. (2007) The 'hidden' geographies of energy poverty in post-socialism: between institutions and households
- Buzar, S. (2007) Energy Poverty in Eastern Europe: Hidden Geographies of Deprivation
- Karásek, J. and Pojar, J. (2018) Programme to reduce energy poverty in the Czech Republic

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This report was completed in February 2020.

Member State Report
Denmark

DATA & STATISTICS

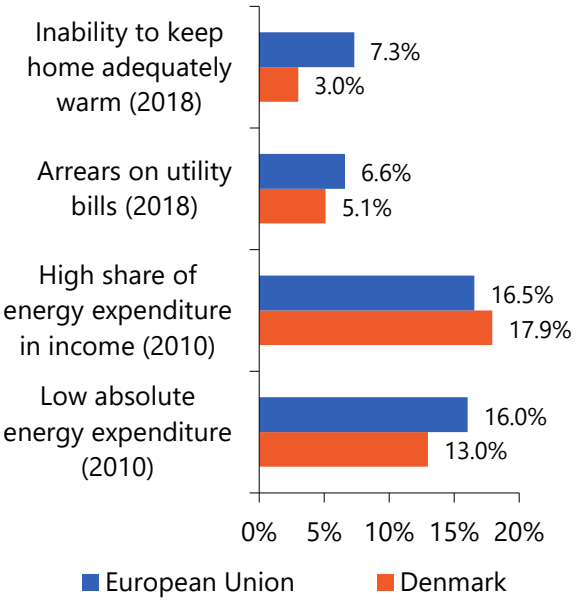
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Denmark at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Denmark.

Denmark has a higher performance than the EU average on the population-reported indicators. In 2018, 3.0% of the Danish people reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 5.1% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

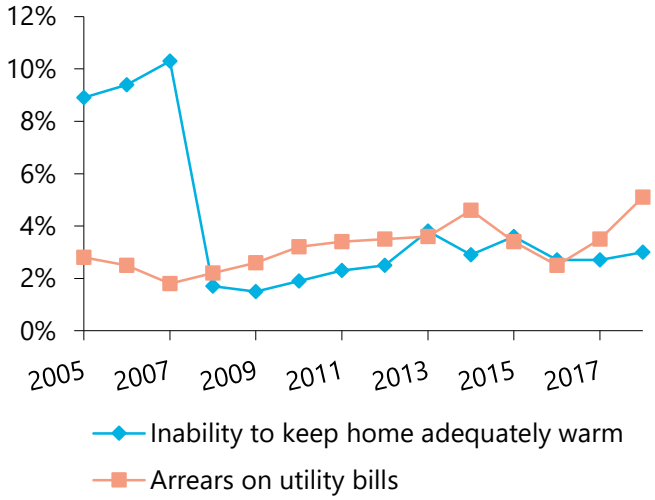
Denmark's performance in the expenditure-based indicators is mixed compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 17.9% which is higher than the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency and could have relatively lower disposable incomes.

Conversely, at 13.0% Denmark has a lower number of households spending a low share of their income on energy expenditure than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Denmark, the percentage of households that are unable to keep the home adequately warm decreased consistently from 9% in 2005 to 3% in 2018. The notable decrease around 2008 can be attributed to a combination of targeted socio-economic policies and thermal efficiency improvement programmes as well as changes in indicator measurement and data gathering. After the steep decline in 2008, the percentage remained stable around 3%.

Meanwhile households in arrears on utility bills follow a different trajectory and increased slightly between 2007 and 2018 from 3% to 5%.

Gradually higher energy prices might have contributed to this increase. This may have resulted in a gradual poorer performance of indicators from 2008 onwards.

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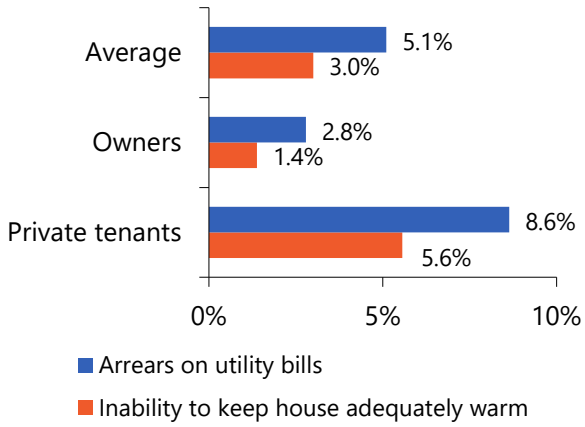
Member State Report
Denmark

DATA & STATISTICS

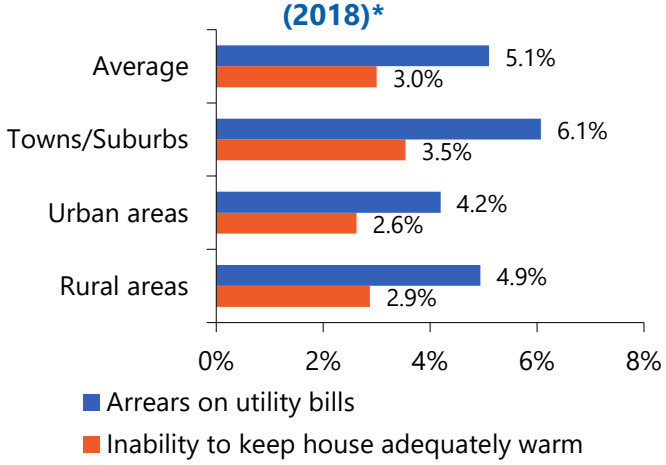
The disaggregated data of the household-reported indicators suggest that energy poverty in Denmark is highest for the private rental sector, at 5.6% for the inability to keep the house warm and 8.6% for the arrears on utility bills. The private rental sector, accounts for 39% of the population in Denmark. 2.8% and 1.4% of the people who own their homes have arrears on utility bills and are unable to keep their home adequately warm and respectively.

The data also indicates that 33% of the Danish population living in apartments are more vulnerable to these indicators than people living in (semi) detached houses.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2018)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2018)*



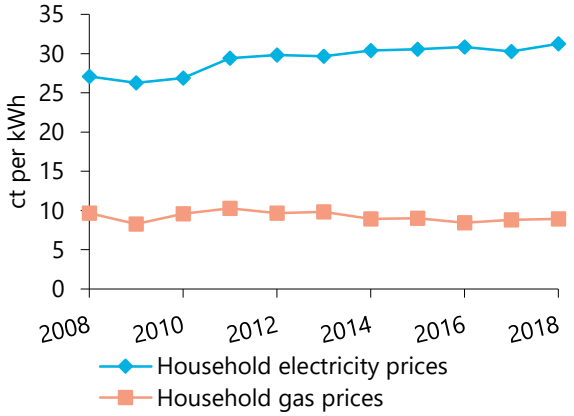
In 2018, towns and suburban areas have the lowest performance on the inability to keep the house adequately warm at 3.5% and the most arrears on utility bills at 6.1%. People living in cities are least affected by energy poverty.

The Danish population is equally divided over rural, towns and urban areas with 33%, 34% and 33% respectively. In general, Danish statistics show a high performance on energy poverty and a structural addressing of the parameters leading to surges in specific subsectors.

The household energy cost over time in Denmark has gradually increased to reach a peak in 2018 with electricity at 31.2 €ct/kWh and gas at 8.93 €ct/kWh. Over time, electricity prices showed a slight increase while the gas prices remained relatively stable.

The stable gas price is remarkable as various EU Member States showed increases in household gas prices over time. The increases electricity price could be partly explained by the push for domestic renewable energy production.

DK household energy costs over time



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Member State Report
Denmark

POLICIES & MEASURES

In Denmark, energy poverty is mainly addressed through social policies. Households in a difficult economic situation may apply for financial assistance from municipalities as part of the Danish social security system. In addition, in the case of disconnection it is common practice to inform the municipality, especially if there are children or animals in the house. However, targeted financial support is available for low-income pensioners to receive a reimbursement for heating-related expenses.

General energy policies and measures can also benefit energy poor households. A regulation for *simplified electricity bills* should facilitate transparency and provide consumers with a better understanding of their electricity bill. The Danish regulator also operates an *electricity price comparison website* where household consumers can compare electricity prices on the market.

In addition, multiple programmes exist to improve the energy efficiency of housing. The *Better Housing* scheme supports homeowners in the implementation of energy efficiency measures through a 'one-stop shop' concept, assisting home-owners in the renovation process from start to finish. The *energy subsidy* measure is born from a requirement for grid operators to realise a certain level of energy savings every year, which they implement by providing subsidies to consumers for energy efficiency measures. The *National Building Fund* offers interest-free loans to social housing associations for renovation works.

There have been some studies on energy poverty in Denmark, as well as research on related topics such as distributional effects of taxation and energy consumption patterns for different socio-economic groups. There is little activity from NGO's on the topic however.

Denmark currently addresses energy poverty related indicators via the overall system of social policies. The National Energy and Climate Plan lacks definitions, key indicators and targets to combat energy poverty. Nonetheless, Denmark lists amongst the best performers in terms of energy poverty in the EU.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
National Building Fund loans	Building insulation	National government, Local government	Social housing	1975	Supplying interest free loans for renovation works
Energy subsidy	Building insulation, Heating system	Grid operator	No specific target group	2009	Replacing oil-based heating systems with alternatives and focus on improved thermal insulation
Better Housing	Energy audits	National government, Business/Industry	Landlords, Owner-occupants	2014	Households that have received advice under the scheme carry out more renovations than households that are not under the scheme
Heating allowance for pensioners	Energy bill support	National government	Pensioners	Unknown	Reimbursement of excessive heating costs for low-income pensioners
Electricity price comparison website	Information and awareness	Regulator	No specific target group	2015	Enhanced transparency and ability to compare offers for consumers
Simplified electricity bill	Information and awareness	National government, Regulator	No specific target group	2015	Enhanced understanding of energy costs amongst consumers
Financial help from municipalities	Social support	Local government	Indebted households, Low-income households	Unknown	Part of the social security system to assist in financial requirement for energy expenditures

Member State Report
Denmark

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in Denmark and presents organisations working on energy poverty in Denmark

Organisation

Name: ENERFUND
Organization type: Research & Consultancy
Description: This project is developing a tool that will rate and score deep renovation opportunities – like a credit score used by banks to rate clients. The tool will be based on a set of parameters such as EPC data, number of certified installers, governmental schemes running, etc. When used by municipalities, this can be used e.g. to prioritise the most energy inefficient buildings for retrofitting.

Organisation

Name: COMBI
Organization type: Research & Consultancy
Description: The improvement of energy efficiency in Europe aims at reducing overall energy consumption. The implementation of energy efficiency measures can have other "non-energy" socio-economic and environmental effects such as effects on energy poverty, which will be quantified in this project. The main outcome will be a web based tool with statistics and graphical analysis of data in all member states.

Publication

Title: Are CO2 taxes regressive? Evidence from the Danish experience
Authors: Wier, M., Birr-Pedersen, K., Klinge Jacobsen, H. and Klok, J.
Year: 2005
Description: In this article, it is demonstrated that CO2 taxes imposed on energy consumption in households, as well as in industry, do in fact tend to be regressive, and therefore have undesirable distributional effects. This holds especially for taxes imposed directly on households. To analyze this, we apply national consumer survey statistics in combination with input–output tables.

Training Resource

Title: The SMERGYmeter
Authors: SMERGY
Year: 2017
Description: The SMERGYmeter is a web-based and user-friendly consumer guide for young adults.
This online guide allows the users to compare their own energy use with those of their peers and to simultaneously measure the energy and money savings they have achieved. It provides simple and personalized recommendations and day-to-day action plans for young adults.
The selected activities fit perfectly into the current living conditions of young adults.

Other selected publications

- Klinge Jacobsen, H., Birr-Pedersen, K., and Wier, M. (2003) Distributional implications of environmental taxation in Denmark
- Petersen, K., and Gram-Hanssen, K. (2005) Energy and water consumption of households *(in Danish)*
- Wier, M., Birr-Pedersen, K., Klinge Jacobsen, H. and Klok, J. (2005) Are CO2 taxes regressive? Evidence from the Danish experience
- Snodin, H. M. (2008) Fuel Poverty in Great Britain, Germany, Denmark and Spain - relation to grid charging and renewable energy
- Gram-Hanssen, K. (2010) Residential heat comfort practices: understanding users
- Ástmarsson, B., Jensen, P., and Maslesa, E. (2013) Sustainable renovation of residential buildings and the landlord/tenant dilemma
- Nierop, S.C.A. (2014) Energy poverty in Denmark?
- Buildings Performance Institute Europe (BPIE) (2015) Indoor air quality, thermal comfort and daylight
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health

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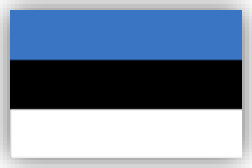


Member State Report
Estonia

DATA & STATISTICS

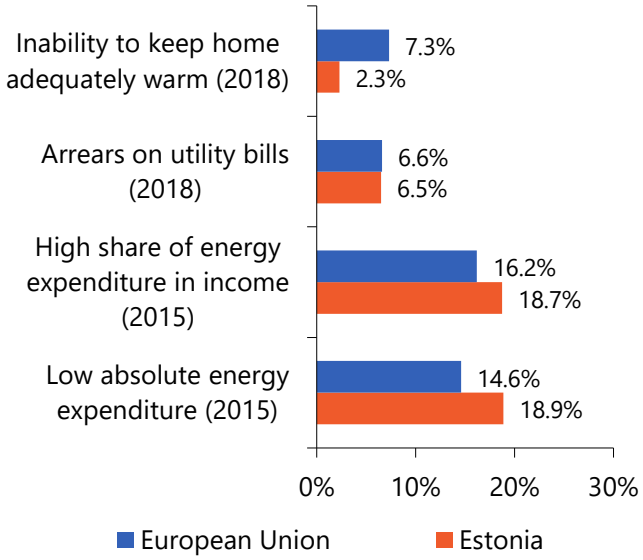
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Estonia at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Estonia.

In 2018, about as many people in Estonia (6.5%) as in the EU as a whole (6.6%) report that they have arrears on utility bills. Notably the fraction of the Estonian population that state that they are unable to keep their home warm is only about a third of the EU average. This can likely be explained by strong disconnection protections that are in place in Estonia (see p. 3).

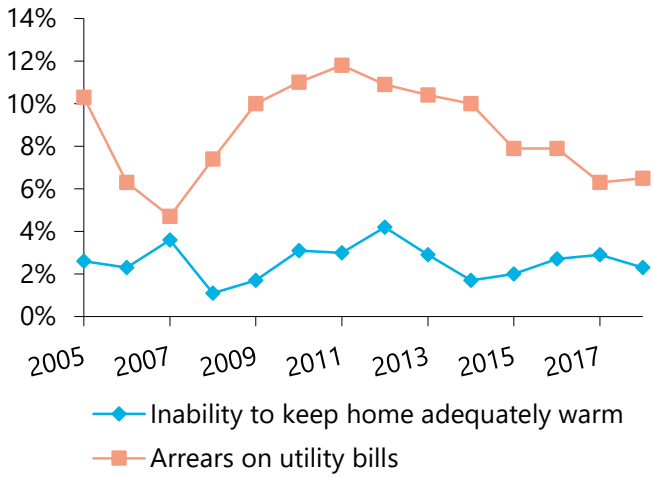
Estonia's performance in the expenditure-based indicators is slightly worse than the EU average. 18.7% of households spend an unusually high share of their income on energy expenditure. This is higher than the EU-average. The high energy expenditure is likely to put a strain on the household budget.

Moreover, at 18.9% Estonia has a slightly higher number of households that have an unusually low energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Estonia, the number of people with arrears on utility bills shows an increase between 2007 (4.7%) and 2011 (11.8%) followed by a decline (6.5% in 2018).

The indicator on the inability to keep the home adequately warm shows less of a clear trend. It fluctuated between 2005 and 2018 with a minimum at 1.1% in 2008, and a consequent rise to a maximum at 4.2% in 2012. Since then the value has stabilized around 2% to 3%.

Both developments might be attributed to the financial crisis. From 2008 onwards more people were unable to pay their utility bills. Likely due to the disconnection protection the effects on the inability to keep the home adequately warm was less pronounced and delayed by a year.

About the EU Energy Poverty Observatory

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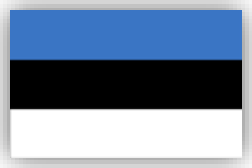
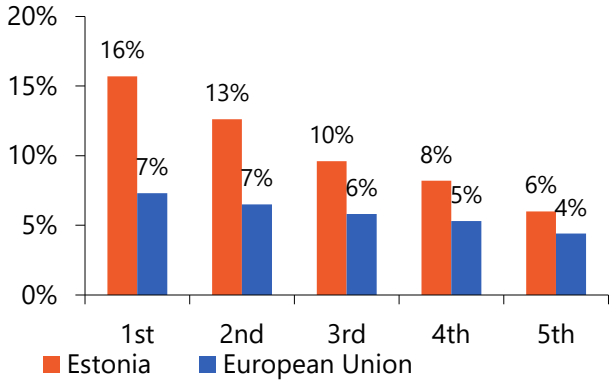


Member State Report
Estonia

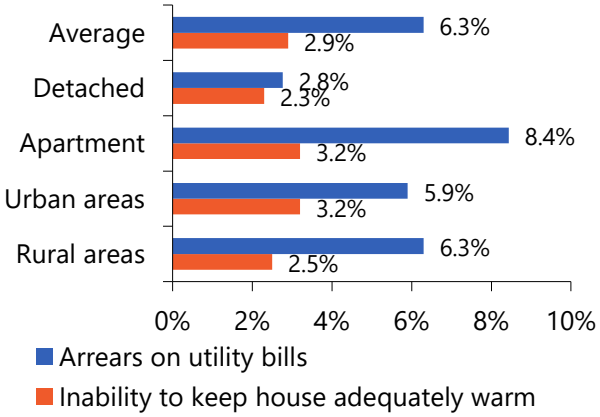
DATA & STATISTICS

Due to its cold climate, Estonians have a high energy usage for heating. Combined with a median income that is well below the EU median (less than half the EU median in 2015), this typically leads to a much larger share of energy expenditure of income in Estonia than in the EU average. In 2015, the poorest quintile spent 16% of their income on energy expenditure, compared to 7% in the European Union as a whole. This indicates that a relatively high share of the Estonian population is at risk of being energy poor.

Share of energy expenditure of income by quintile (2015)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density and housing type (2017)*

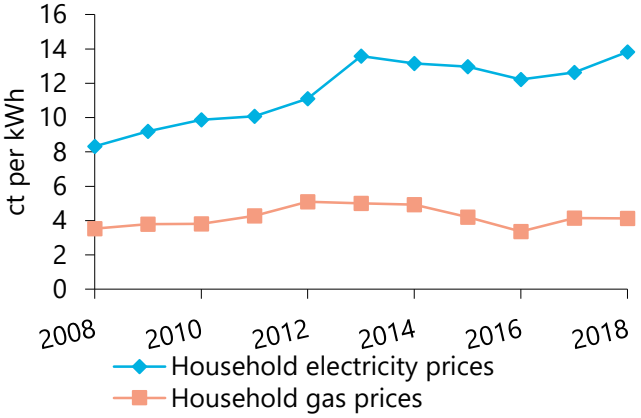


The disaggregated data shows that energy poverty affects particularly the 62% of the Estonian population who live in an apartment. The 33% of the Estonian population that live in a detached house are less likely to have arrears on utility bills and to be unable to keep their home adequately warm.

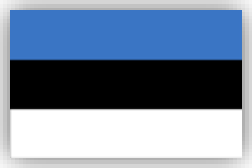
The disaggregated data paints a complicated picture on the question if the 41% of people living in rural areas are more or less strongly affected than the 44% of the population living in urban areas. While the inability to keep the home adequately warm is higher in urban areas, arrears on utility bills are higher in rural areas.

One of the factors that lowers the risk of energy poverty in Estonia are the relatively low energy costs. In 2018, the household cost for electricity were 34% and for gas 35% lower than the EU average. After an increase in the elctricity prices from 7.9 ct per kWh in 2007 to 13.6 ct in 2013 the electricty prices have been stable since 2013. This can be mainly attributed to new electricity power links from the Baltic region to Finland, Sweden and Poland in 2014 and 2015.
The gas prices have decreased from a value of about 5 ct per kWh in 2012 to 2014 to values around 4 ct per kWh in 2015 to 2018.

Household energy costs over time*



**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*



Member State Report
Estonia

POLICIES & MEASURES

The topic of energy poverty has not been widely discussed in Estonia. So far, research on energy poverty is limited and there are no NGOs active on the energy poverty topic. To address this, the Ministry of Economic Affairs and Communications is commissioning a study to analyse potential state level measures to tackle energy poverty. Together with the Ministry of Social Affairs it will use the study results to reduce energy poverty more effectively.

In Estonia, energy poverty is mainly addressed through social policies. People whose income is below a threshold can apply for subsistence benefits (so called financial assistance) to meet their living costs. The calculation of the subsistence benefits considers the household's energy costs. The goals to address poverty in general are included in the welfare development plan 2016 – 2023 and includes a commitment to decrease the absolute poverty rate to 5.8%.

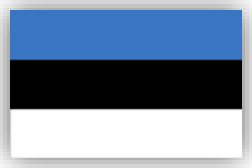
A policy that particularly targets energy poverty is a *disconnection protection* during the heating period. Between October and April utilities can only interrupt the energy supply to a household 90 days after they have issued a notice that the household is in arrears.

Estonia has programmes that aim to improve energy efficiency in households, but except for certain support measures for low income households these do not target specifically the energy poor households. From 2018 to 2021 the total volume support schemes for increasing the energy efficiency of residential buildings and modernising the heating sector is 80.9 million Euros and 60.9 million Euros respectively.

The *Reconstruction Support* programme is aimed at the renovation of apartment buildings. In another programme, financial support is provided for the replacement of liquid fuel boilers with heating equipment that uses renewable energy sources. Also, a *renewable energy subsidy* is provided to households for the production of electricity using renewable energy sources.

The *Scenery programme* targets one potentially vulnerable group, namely rural households. It provides financial assistance to households not connected to the electricity grid so that they can install decentralised power sources, such as solar panels and energy storage.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Reconstruction support	Building insulation, Energy audits, Heating system, Renewable energy	National government	Landlords, Social housing	2015	From 2018 to 2021 a total volume of 80.9 million Euros will be spend for measures increasing household energy efficiency.
Support for renovation of heating systems for small houses	Heating system	National government	Owner-occupants, Landlords	2014	From 2018 to 2021 a total volume of 60.0 million Euros will be spent.
Renewable energy subsidy	Renewable energy	National government	No specific target group		Housholds receive a subsidy if they produce renewable electricity.
Scenery programme	Renewable energy	National government	Rural households		Rural households that are not connected to the electricity grid are supported to install renewable energies.
Social support	Social support	National government	Disabled, Households with children, Pensioners		19 320 households received subsistence benefits In 2017.
Disconnection protection	Disconnection protection	National government	No specific target group		Between October and April households can only be disconnected, 90 days after receiving a notice.



Member State Report
Estonia

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Estonia and presents publications on energy poverty in Estonia.

Organisation

Name: Ministry of Social Affairs
Organisation type: National government
Description:
The objective of the Ministry of Social Affairs (Sotsiaalministeerium) is to increase social security. Currently it does not have a focus on measures that combat energy poverty, but is in charge of organising financial support to households in need.

Organisation

Name: SA Kredex
Organisation type: National government
Description:
SA Kredex is a financing institution set up in 2001 by the Ministry of Economic Affairs and Communications. If offers grants and loans to improve the energy situation in households, including renovations targeted at energy efficiency and replacing inefficient heating systems.

Publication

Title: Energy Union Factsheet Estonia
Authors: European Commission
Year: 2017
Description:
The Energy Union Factsheets are written for each of the 28 member states and give an overview of the countries' energy markets and policies. The factsheet for Estonia touches on energy poverty aspects when discussing energy affordability for people living at risk of poverty, household energy prices and energy efficiency.

Publication

Title: National Development Plan of the Energy Sector until 2030 (NDPES 2030)
Authors: Estonian Ministry of Economic Affairs
Year: 2017
Description:
The NDPES 2030 gives on overview over the planned activities in the energy sector, and discusses the results from past policies. While it does not discuss energy poverty explicitly, it does discuss policies that address energy poverty as part of plans on energy efficiency measures in the housing sector.

Other selected publications

- Buildings Performance Institute (2015) Renovation in practice
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health
- Ecoserveis Association (2018), Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review
- Agency for the Cooperation of Energy Regulators, Council of European Energy Regulators (2019) Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2018 – Consumer Empowerment Volume

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Finland

DATA & STATISTICS

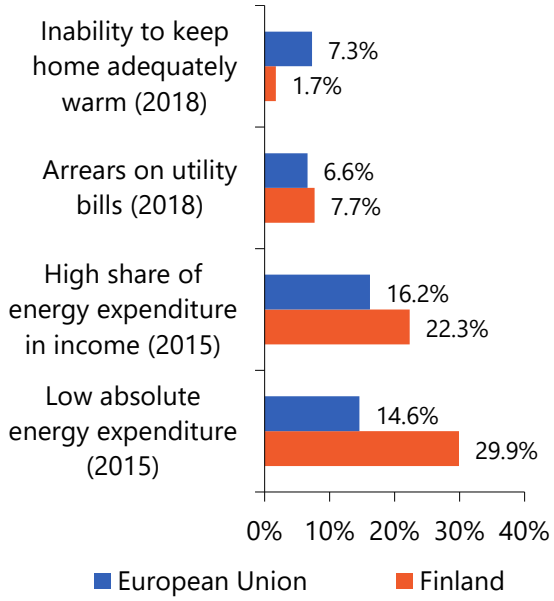
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Finland at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Finland.

Finland has few people who report to be unable to keep their home warm, but performs below EU-average on the other three indicators.

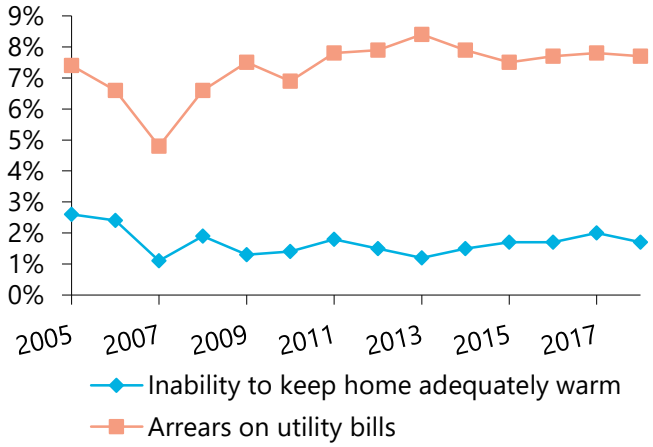
In 2018, 7.7 % of the Finnish population was unable to pay their utility bills on time due to financial difficulties, while only 1.7 % of Finns reported that they were unable to keep the home adequately. This huge difference can be explained by the disconnection protection in place that ensures that a missed payment does not automatically end up with a disconnection to the supply (see p. 3).

The share of households that spend an unusually high share of their income on energy expenditure is 22.3% which is higher than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building. Moreover, at 29.9% the proportion of households that have an unusually low energy expenditure in Finland is twice the EU-average. These households might restrict their energy spending below what is necessary to meet their needs. The reason for Finland's poor performance in these indicators might partly be explained by structural differences in energy expenditure between households (see discussion on page 2).

Performance relative to EU average*



Performance over time*



In Finland, the percentage of people who are unable to keep the home adequately warm stayed fairly constant at a low level between 1.1 % and 2.6 %.

The number of people who live in households with areas on utility bills have also stayed fairly constant at values between 6.6 % and 8.4 % with a notable exception of 4.8 % in 2007. As can be seen on page 2, this decrease is driven by the decrease of energy poverty among people who rent their homes.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

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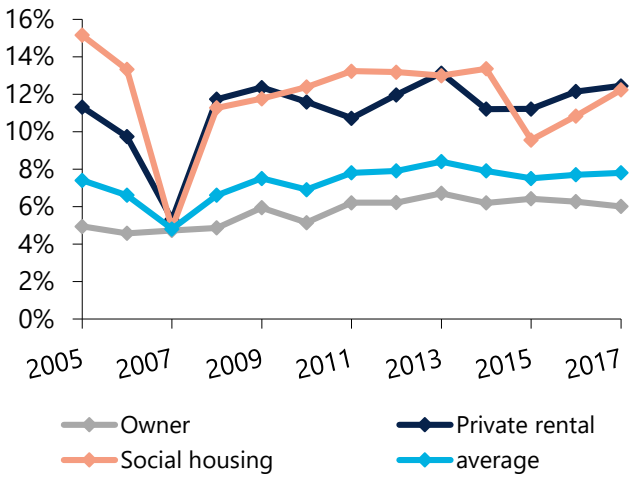
Member State Report
Finland

DATA & STATISTICS

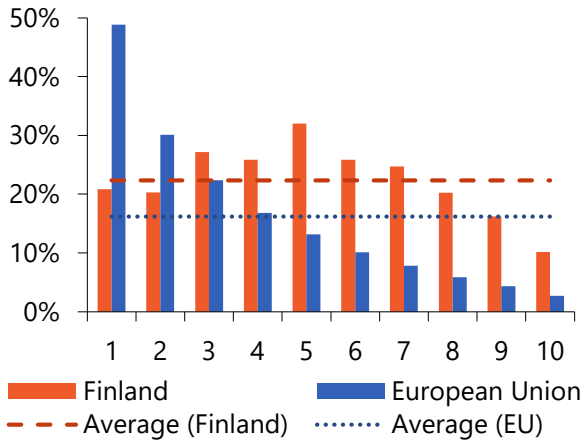
Disaggregated data of the population-reported indicators suggest that energy poverty in Finland is mostly a problem for tenants as opposed to the 71% of Finns who own their home. However, there are no clear dwelling types or urbanisation densities in which energy poverty is most prominent.

The fraction of people with arrears on utility bills for people who own their home has stayed fairly constant since 2005 at values between 4.6 % and 6.7 %. At the same time there were stronger variations for people who rent their homes, and it can be seen that they drive the development of the average around 2007. At the minimum at 2007 around 5% of people who rent their homes privately or through social housing had arrears on utility bills, while in all other years the value was above 10%.

Arrears on utility bills by tenure type*



High share of energy expenditure in income by income deciles (2010)*



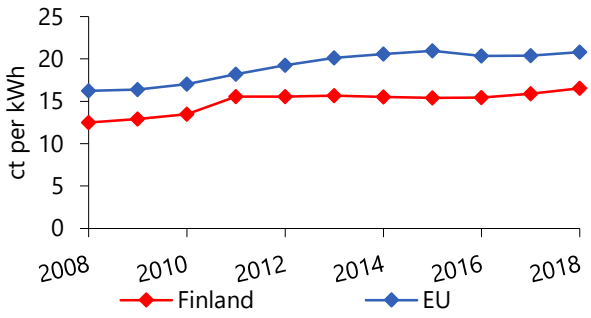
In 2015, the energy expenditure of 22.3% of households in Finland is unusually high compared to the national median. The EU average for this indicator is significantly lower at 16.2%. The distribution amongst income groups gives an insight to the cause of this.

In Finland the poorer income deciles are not more likely to have a high share of energy expenditure. In fact, the peak can be observed by the fifth income group.

This points to structural differences in the energy bills, where households do not pay separate energy bills, as they are included in rents, which lowers the median share of energy expenditure. In countries that are in such a situation, the expenditure-based indicators do not appropriately reflect energy poverty.

The household electricity cost in Finland has been below the EU average since 2008. It increased up to 2013 and since then has been fairly stable around 15 ct per kWh. More than half of the household electricity costs are grid charges. Stakeholders fear that these will increase in the near future due to the cost of a transition to a smart grid.

household electricity costs over time*



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Member State Report
Finland

POLICIES & MEASURES

Energy poverty has been researched extensively in Finland in the past years. The Finnish government has commissioned two studies on energy poverty that were published in 2013 and 2015. Additionally, as part of the ASSIST project further studies on energy poverty in Finland were carried out in 2018 and 2019.

Based on these studies, the government concluded that it does not need a specific strategy to address energy poverty, but that the comprehensive social support system in Finland sufficiently addresses the issue of energy poverty.

The social support system includes a *basic income support* that is provided to low income households to cover their necessary daily expenses such as food and clothing, as well as with housing-related expenses such as heating and electricity costs. In addition, low-income households are eligible for a *general housing allowance* to help with their housing costs, which include heating costs.

A measure that specifically addresses energy poverty is the *disconnection protection* that is in place between 1 October and 30 April. During this period households that have accumulated debt and that rely on electricity or natural gas to heat their homes cannot be disconnected from the supply.

The project *Support Network for Household Energy Saving (ASSIST*), that is funded by the European Union, is implemented in multiple European countries including Finland. ASSIST tackles energy poverty by creating specialised services through energy advisors. Selected energy advisors receive training, so that they can provide vulnerable consumers with advice and guidance on household energy efficiency, including efficient behavioural changes. 750 vulnerable consumers will be addressed in Finland with specific actions to reduce their energy consumption, and a number of additional vulnerable consumers will be given specific energy efficiency advice through the network's ICT platform. The project runs until 2020.

Additionally, there is an *energy subsidy* available for low-income households, that provides grants and tax credits for renovation measures increasing the efficiency measure of the building and for the replacement of the heating system with a renewable one.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Disconnection prohibition in winter	Disconnection protection	Energy suppliers	Indebted households		Households are protected from loosing their heat supply during the winter months.
Support Network for Household Energy Saving (ASSIST)	Information and awareness, Energy audits	European Union	Vulnerable households		750 households will be addressed with actions to reduce their energy consumption.
Basic income support	Social support	National government	Low-income households		All households are able to cover their basic needs including energy needs.
General housing allowance	Social support	National government	Low-income households		Households are able to get a tax credit for renovation measures.
Energy Subsidy by Households	Building insulation, Heating system	National government	Low-income households	2013	Energy savings are expected to reach 1.300 GWh annually by 2020.

Member State Report
Finland

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Finland and presents publications on energy poverty in Finland.

Organisation

Name: Support Network for Household Energy Saving (ASSIST)
Organisation type: Research & Consultancy
Description:
ASSIST is a project funded by the EU that is active in six Member States. It carries out research on energy poverty in these Member States. Furthermore it tackles energy poverty by creating specialised services through energy advisors. Selected energy advisors are given training, so that they can provide vulnerable consumers with advice and guidance on household energy efficiency, including efficient behavioural changes.

Organisation

Name: Ministry of Environment (Ympäristöministeriö)
Organisation type: National Government
Description:
The Ministry of the Environment has engaged in the debate on energy poverty by commissioned two studies on energy poverty. The result was that energy poverty can be sufficiently addressed through social policies. Nevertheless the Ministry of Environment is active in the field by financing the Energy Subsidies that support low income households to improve the energy efficiency of their homes and thus lower their energy bills.

Publication

Title: Draft of Finland's Integrated National Energy and Climate Plan (NECP)
Authors: Finnish Government
Year: 2018
Description:
Finland's NECP has a section on energy poverty that provides a good overview of research results on the situation of energy poverty in Finland. The Finnish government argues that energy poverty is appropriately addressed by Finland's social support system and a specific strategy for addressing energy poverty is unnecessary. The NECP gives examples of measures that can also be considered to address energy poverty (e.g. basic income support).

Publication

Title: Vulnerable Consumers and Fuel Poverty Report
Authors: ASSIST Consortium
Year: 2019
Description:
This study address the situation of energy poverty in six EU Member States including Finland. It analyses existing policies to battle energy poverty and support vulnerable consumers and presents the results from a survey on vulnerable consumers in each of the six Member States. The study discusses best practices for financial measures to support energy poverty. The study concludes that there is a comprehensive social support system in place in Finland.

Other selected publications

- Karjalainen, S. (2007) Gender differences in thermal comfort and use of thermostats in everyday thermal environments
- Laura Oja, Anu Vaahtera, Iivo Vehviläinen, Sanna Ahvenharju, Laura Hakala (2013) Report on energy poverty (*in Finnish)*
- Runsten, S., et al. (2015) Energy poverty of low-income home owners (*in Finnish)*
- Ecoserveis Association (2018) Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review
- ASSIST Consortium(2018) European market survey on vulnerable consumer needs
- ASSIST Consortium (2018) Vulnerable Consumers Market Segmentation Report

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Member State Report
France

DATA & STATISTICS

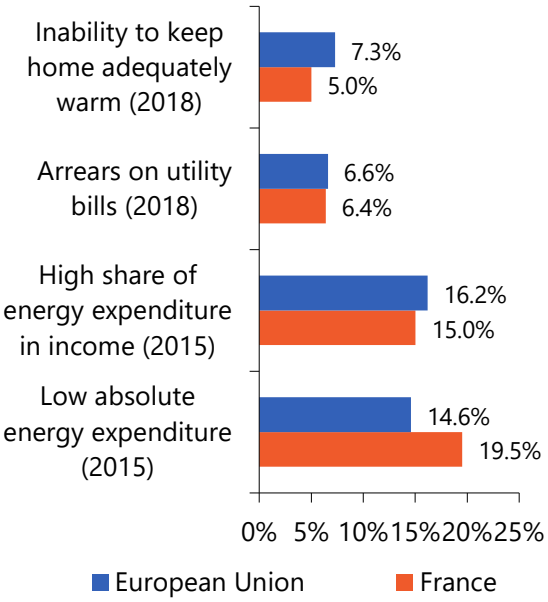
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in France at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in France.

France has a higher performance than the EU average on the population-reported indicators. In 2018, 5.0 of the French people reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 6.4% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

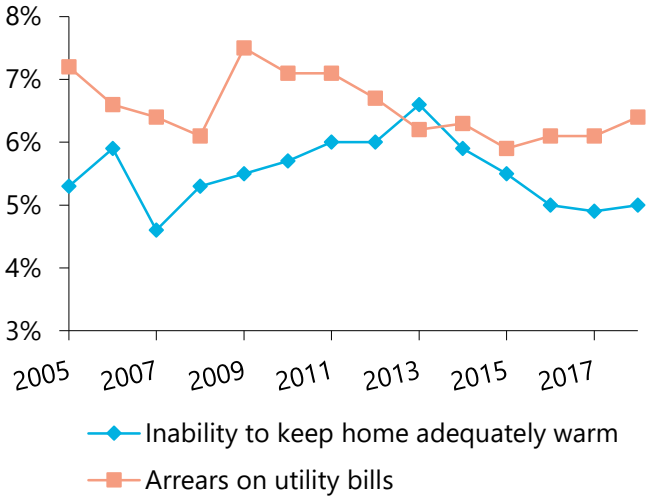
France's performance in the expenditure-based indicators is mixed compared to the EU average. The share of households that spend more than twice the median share of their income on energy expenditure is 15.0% which is lower than the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency.

Conversely, at 19.5% France has a significantly higher number of households that spend less than half of the median value. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In France, the percentage of households that are unable to keep the home adequately warm stayed consistent from 5% in 2006 to 5% in 2018.

The notable increase between 2012 and 2013 may be attributed to a particularly cold winter. It slowly decreased to the level of 6% in 2017 and 2018. Meanwhile, households on arrears on utility bill follow a different trajectory and decreased slightly between 2005 and 2018 from 6% to 5%.

The notable increase in 2009 concerning the arrears on utility bills can be explained by the financial crisis. Progressive policies introduced afterwards have lowered this parameter.

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Member State Report
France

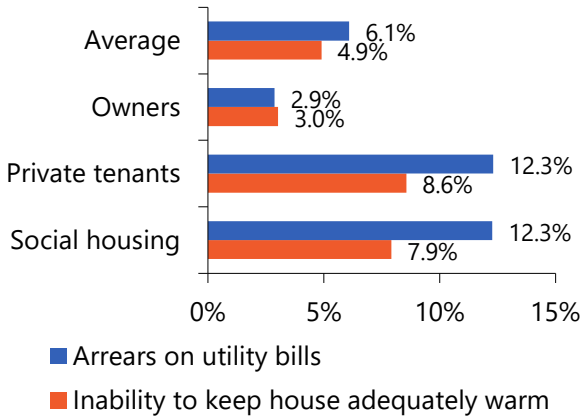
DATA & STATISTICS

The disaggregated data of the household-reported indicators suggest that energy poverty in France is highest for the social housing sector and private tenants alike in 2017, at 12.3% for inability to keep the house warm and in arrears on utility bills. 36% of the French population resides within these two categories.

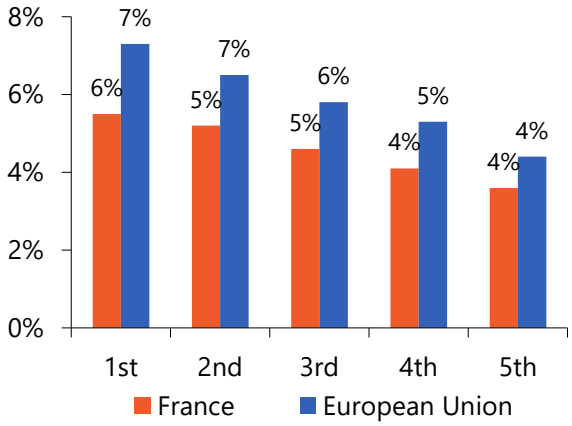
The social housing sector, which is most vulnerable for these indicators, accounts for 16% of the population in France.

The data also indicates that apartment type dwellings are the most vulnerable to these indicators, noting that 33% of the population lives in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Share of energy expenditure of income by quintile (2015)*

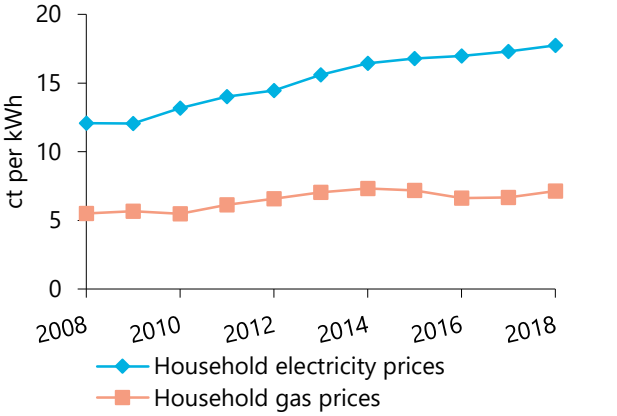


France has a lower share of energy expenditure of income by quintile than the EU average. The expenditure per quintile decreases similar to the EU quintile averages. The most notable discrepancy between French statistics and the EU average is the 1st quintile. As France has a mix of policy instruments for the poorest population to combat energy poverty, the first quintile performs well in comparison to other EU Member States. Furthermore, with a large population living in semi-detached houses, energy expenditures are relatively high when compared to the EU average, yet expenses remain high given the mild climate and overall poor energy efficiency rates of the building stock.

The household energy costs over time in France has gradually increased to reach a peak in 2018 with electricity at 17.7 €ct/kWh and gas at 7.14 €ct/kWh. Though the highest gas price was recorded in 2014 at 7.32 €ct/kWh.

The electricity price increase reflects a gradual increase of energy taxation for households, although it is unclear what the main driver behind the gradually increasing electricity price is. The household gas price shows developments in accordance with international market prices. Furthermore, the gas price appears to be relatively disconnected from winter temperature fluctuations.

France household energy costs over time



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Member State Report
France

POLICIES & MEASURES

France is one of the most active countries in terms of research and policies in the field of energy poverty. Studies on energy poverty in France starting to be published in 2008, and a French Energy Poverty Observatory facilitates the defining, monitoring and measuring of energy poverty in the country.

A wide range of energy poverty policies have been implemented in France. Multiple programmes involving various stakeholders aim to improve domestic energy efficiency. A significant number of funding programmes targeting energy poor households are implemented through national, regional and local governments, such as the *Social funds for energy renovation* and the *Living Better programme*. However, private funding is also available via the *white certificate scheme* which includes a specific obligation for energy suppliers to promote energy efficiency amongst energy poor households. Moreover, there are also a number of NGOs active in the field of energy poverty; for example, the *Roofs First programme* of the Abbé Pierre Foundation aims to accelerate the availability of social housing with high energy performance.

Energy audit programmes are also implemented by different stakeholders, such as NGOs, private actors and governments, in order to provide vulnerable households with energy saving advice. There are also multiple points where households can obtain more information on energy savings. The *Local Service for Energy Intervention* aims to coordinate actions against energy poverty on a local level.

France employs disconnection protection, which prohibits energy suppliers to disconnect households during the winter period (November–March) from electricity and natural gas provision. Energy bill support is available in the form of *energy vouchers*, which replaced the social tariffs that were previously in force.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
"Living better" programme	Building insulation, Heating system	National government	Low-income households	2007	40,875 renovations were carried out in 2019
Roofs first	Building insulation	NGO	Social housing	2012	3,400 housing units were financed in 5 years
Social funds for energy management	Building insulation, Heating system, Household appliances	Regional government	Vulnerable households	2009	16 funds of this type now exist. An evaluation has found that for some funds, approximately 1 euro of subsidy generates energy savings of 8.75 euros over 10 years
White certificate scheme - Energy poverty obligation	Building insulation, Household appliances, Heating system, Energy audits, Information and awareness	Energy suppliers, Social housing, National and Local governments	Low-income households	2016	This measure puts obligations on energy suppliers that require them to promote energy efficiency measures, including specific obligations to support energy poor households
Energy voucher	Energy bill support	National government	Low-income households	2018	This voucher can be used to pay for energy bills
Winter truce	Disconnection protection	Energy suppliers, National government	No specific target group	2014	Energy suppliers are not allowed to disconnect households during the winter period (November - March) from electricity or natural gas provision. However, reductions in delivered power are allowed to a certain limit
Renovation Voucher	Building insulation, heating system	National government	Low-income households	2020	This measure provides financial support for certain types of works linked energy efficiency to low-income households.
Financial help regarding arrears on energy bills	Energy bill support	Local government	Indebted households	Unknown	A household facing an energy debt can apply for exceptional financial support from the local social service

Member State Report
France

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in France and presents organisations working on energy poverty in France

Organisation

Name: French National Energy Poverty Observatory (ONPE)
Organisation type: National government
Description: ONPE monitors the social, energy, health and economic aspects of energy poverty. It aims to better define energy poverty, monitors and evaluates the energy poverty situation and provides decision-making tools to the government, national agencies, communities, energy providers, associations and professionals working in energy poverty.

Organisation

Name: RAPPEL
Organisation type: NGO
Description: At the initiative of ADEME, the Abbé Pierre Foundation and CLER - Network for the energy transition, the RAPPEL network was created in 2007 to respond to the findings and needs of professionals in the field, who were alerting to the growing number of households experiencing difficulties in accessing the energy necessary to live in dignity in their housing.

Publication

Title: The state of poor housing in France 2017
Authors: Foundation Abbé Pierre
Year: 2017
Description: The 22nd edition of the annual report on the state of poor housing of the Abbé Pierre Foundation draws the picture of a France fractured by the housing crisis. 4 million people are homeless, poorly housed or without personal accommodation. In addition to these most serious situations, 12.1 million people are affected to varying degrees by the housing crisis.

Publication

Title: Politics, problematisation, and policy: A comparative analysis of energy poverty in England, Ireland and France
Authors: Kerr, N., Gillard, R. & Middlemiss, L.
Year: 2019
Description: This article presents an analysis of three national approaches to energy poverty in Europe; England, Ireland and France. In comparing these cases, the authors show how each country defines and measures energy poverty differently and how this affects the selection and functioning of different policy solutions.

Other selected publications

- Mazet, P. (2008) Energy poverty, a secondary problem for the poorest consumers *(in French)*
- Plan Bâtiment Grenelle (2009) Working group - Energy poverty report *(in French)*
- Devalière, I. (2010) Identification of household energy poverty and analysis of interventions *(in French)*
- Agence Régionale de l'Environnement et des Nouvelles Énergies (2012) Fighting against energy poverty: Analyses of initiatives and needs in Île-de-France *(in French)*
- Dubois, U. (2012) From targeting to implementation: The role of identification of fuel poor households
- Dubois, U. (2015) Energy poverty in urban areas. Towards an analysis in terms of vulnerability *(in French)*
- Fondation Abbé Pierre (2017) The state of poor housing in France 2017 *(in French)*
- Ministry of Ecological and Solidarity Transition (2017) Thermal renovation works: important changes for households in energy poverty *(in French)*
- Deller, D. (2018) Energy affordability in the EU: The risks of metric driven policies
- Kerr, N., Gillard, R. & Middlemiss, L. (2019) Politics, problematisation, and policy: A comparative analysis of energy poverty in England, Ireland and France

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Germany

DATA & STATISTICS

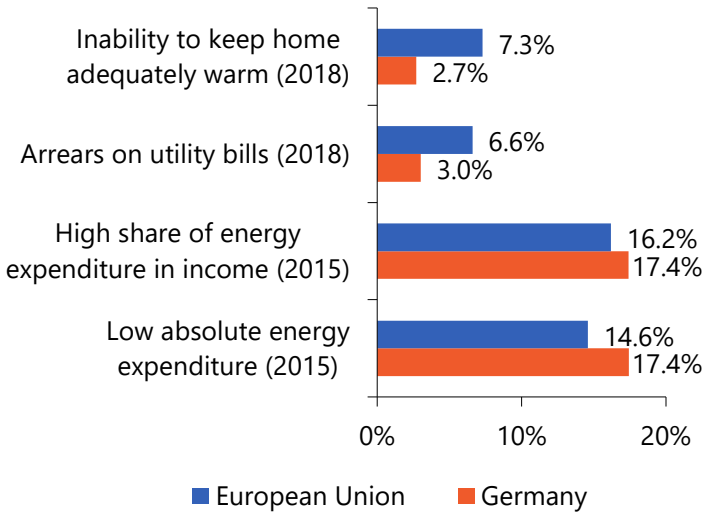
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Germany at a glance. With key indicators, policies and publications, it offers an understanding of the key aspects of energy poverty in Germany.

Germany performs better than the EU average on the population-reported indicators. A 2018 survey indicated that 2.7% of the population was unable to keep the home adequately warm and 3.0% were in arrears on utility bills.

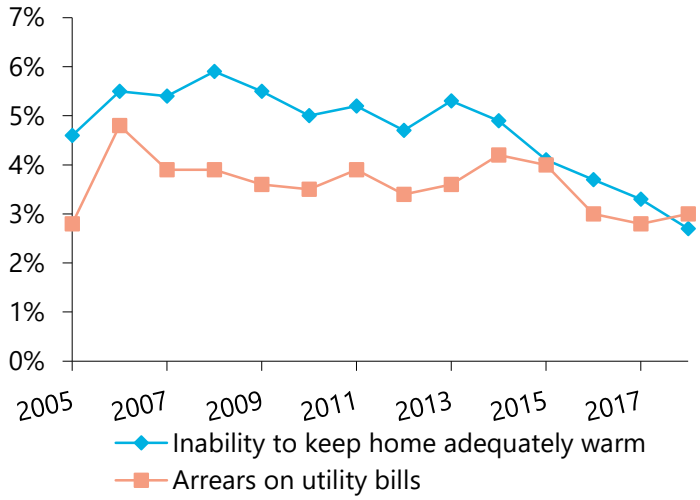
Germany's performance in the expenditure-based indicators is poorer than the EU average. In Germany, 17.4% of households spend a high share of their income on energy expenditure. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

The energy expenditure of 17.4% of households is unusually low. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



Both population-reported indicators show a decline in energy poverty in recent years.

The percentage of people that are unable to keep their home adequately decreased from 5.9% in 2008 to 5.0% in 2010 before increasing again to 5.3% in 2013. Since then it decreased to 2.7% in 2018.

The number of people that live in households with arrears on utility bills decreased from 4.8 % in 2006 to a minimum of 3.5 % in 2010 before peaking again at 4.2 % in 2014. Since then it decreased to 3.0 % in 2018.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

Member State Report
Germany

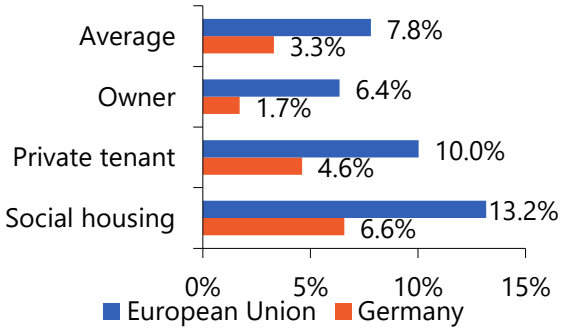
DATA & STATISTICS

Disaggregated data of the household-reported indicators suggest that energy poverty in Germany is primarily a problem for the 49% of the population that rent their dwellings, particularly for people living in social housing (9% of the population). This is in line with the EU average.

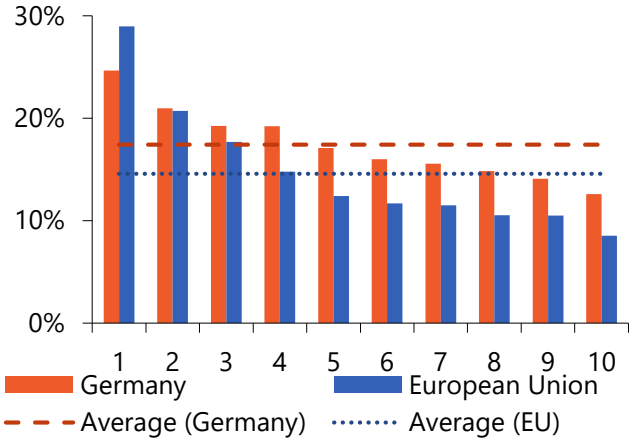
Further disaggregated data indicate that people living in apartments (57% of the population) are more susceptible to energy poverty.

Moreover, the data shows that the 37% of the population living in urban areas are slightly more likely to be unable to keep their home adequately warm.

Inability to keep home adequately warm (2017)*



Low absolute energy expenditure by income deciles (2015)*



The fraction of households that have a low absolute energy expenditure in Germany (17.4%) is above the EU average (14.6%). Moreover, the distribution among income groups differs drastically.

In Germany there is less variance between income deciles with 24.6% of the poorest and 12.6% of the richest income decile having a low energy expenditure. In the EU the variation is higher with 29.0% and 8.5% of the poorest and richest decile respectively having a low energy expenditure.

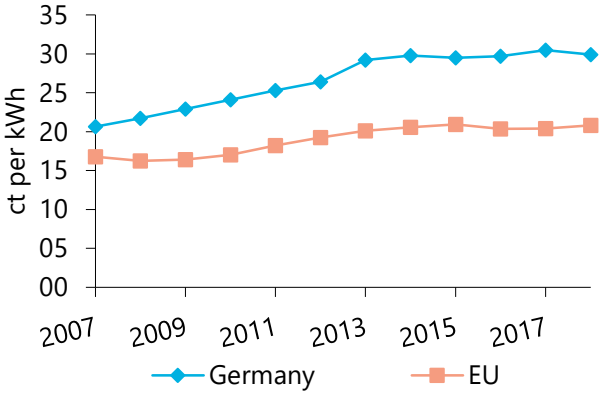
This indicates that Germany's below average performance on the expenditure-based indicators might partly be explained by varying energy needs across households due to differences in energy efficiency, rather than an inability to afford needed energy expenditure.

In 2007 the cost of electricity in Germany was 23% higher than the EU average. Since then the cost of electricity in Germany has risen disproportionally to a peak of 30.5 ct per kWh in 2017 (50% above the EU level).

The high electricity costs increase the risk of energy poverty if not mitigated by policy measures.

An important driver of the increase is the renewable energy surcharged that is used to pay for the feed-in-tariff. It has increased from below 1 ct per kWh in 2007 to 6.88 ct per kWh in 2017.

Household electricity costs over time*



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Member State Report
Germany

KNOWLEDGE & RESOURCES

Germany has an active research community in the field of energy poverty and related issues. First studies surrounding the topic were already published around the end of the 2000s, and in recent years there have been multiple studies on the impact of the German energy transition on energy poverty.

The national government treats energy poverty as part of comprehensive set of social policies that tackle poverty in general. Furthermore the energy affordability is part of the triad of goals of the German energy transition.

The national government has several policies in place, some directly targeting energy poverty. *Basic social support* considers all households' living expenses that are required for subsistence, including energy costs. In addition, government-backed loans can be provided for outstanding energy payments to avoid disconnection and in some cases, long-standing debt due to energy costs can be taken over by the government. Financial support is also available for energy efficiency improvements, but these are generally not targeted to energy poor households.

Many consumer advice centres of the German federal states support state governments in addressing energy poverty through targeted research, and by implementing energy poverty measures such as free advice on energy savings to low-income households.

On a local level there are multiple initiatives that address energy poverty, for instance by improving the energy efficiency of the dwellings. One common measure is to provide energy audits to households by volunteers and trained professionals. The *Caritas Electricity Savings Check* provides national support to local governments and organisations to set up an energy audit programme. There is a wide range of other examples of local initiatives. These include the provision of financial and legal support regarding energy bills and a social tariff by local energy suppliers, such as the *Care-Energy social tariff* in Hamburg. In some cities (e.g. Bielefeld), a premium for energy efficient households enables households that are on social benefits to rent energy efficient housing. In a pilot project in the city of Cologne power disconnections were avoided and power limitations through smart meters used instead.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Climate premium Bielefeld	Building insulation, Heating system	Local government	Households on social benefits,	2007	Households who are on social benefits to rent energy efficient housing
Loan for outstanding energy payments	Disconnection protection	National government, Regional government	Households on social benefits, Unemployed	2014	Households who are on social benefits receive loans for outstanding payments
Caritas Electricity saving check	Energy audits, Household appliances	National government, NGO	Households on social benefits	2008	Households could save 130 EUR on average per year on energy costs. Over the lifespan of the provided equipment around 440,000 tons of CO_2 and 275 million EUR can be saved.
Social funding for energy bills Hannover	Energy bill support	Local government	Households on social benefits, Low-income households	2011	5,000 disconnections prevented by the measure from 2011 to 2016.
NRW combats energy poverty	Information and awareness, Disconnection protection	Regional government, NGO, Energy suppliers	No specific target group	2012	2,703 households received advice.
Basic social support	Social support	National government, Regional government	Low-income households, Unemployed		Funding for basic needs, including energy costs is covered.
Care-Energy social tariff Hamburg	Social tariff	Energy suppliers	Low-income households	2012	Energy bills for low-income households capped at a maximum of 8% of household income.
Power limiters instead of disconnection in Cologne	Disconnection protection	Local government, NGO, Energy suppliers	Indebted households	2013	660 households had power supply limited instead of disconnected

Member State Report
Germany

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Germany and presents publications on energy poverty in Germany.

Organisation

Name: Caritas
Organisation type: NGO
Description:
The German Caritas is a catholic organisation that was founded in 1987 to support people in need. It works on different topics related to poverty including energy and carries out the project electricity saving check that provides support to local governments to set up an energy audit programme (see page 3).

Organisation

Name: Verbraucherzentrale NRW
Organisation type: Regional government
Description:
The Verbraucherzentrale NRW is the consumer advice centre for the region of North Rhine-Westphalia (NRW). Consumers can ask for support in case of problems e.g. with their energy provider. It participates in political discussions voicing the needs of consumers. It is carring out the project NRW combats energy poverty**.**

Publication

Title: Energy and social inequality. The social dimension of the energy transition in Germany and Europe
Authors: Luschei, F., Bleckmann, L., and Schreiner, N.
Year: 2017
Description:
This publication evaluates the reasons for energy poverty in Germany such as low income, low energy efficiency and a lack of information. It then carries out an empirical analysis of the extent of energy poverty in Germany and the different causes. Finally, this analysis is used to evaluate different measures to support energy poor households.

Publication

Title: Common ways out of energy poverty: experiences and successes from North Rhine-Westphalia
Authors: Verbraucherzentrale Nordrhein-Westfalen
Year: 2015
Description:
This publication summarizes the results of the project "NRW combats energy poverty" which was a comprehensive information and consultation campaign in a region of Germany. The publication discusses definitions of energy poverty, the impact of energy poverty and means to address energy poverty.

Other selected Publications

- Deutsche Caritasverband (2013) Energy poverty - enabling participation: cornerstones and position of the DCV to fight energy poverty (*in German)*
- Heindl, P. (2013) Measuring fuel poverty: General Considerations and Application to German Household Data
- Kopatz, M. (2013) Energy transition. But fair! How the energy future can be made socially sustainable (*in German*)
- Tews, K. (2014) Fuel Poverty in Germany: From a Buzzword to a Definition (*in German*)
- Luschei, F., Bleckmann, L., and Schreiner, N. (2016) Is energy poverty a new social risk? An empirical analysis as a basis for social policy (*in German*)
- Bundesministerium für Wirtschaft und Energie (2019), Response to inquiry on extent and consequences of energy poverty (*in German*)

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This report was completed in February 2020.

Member State Report
Greece

DATA & STATISTICS

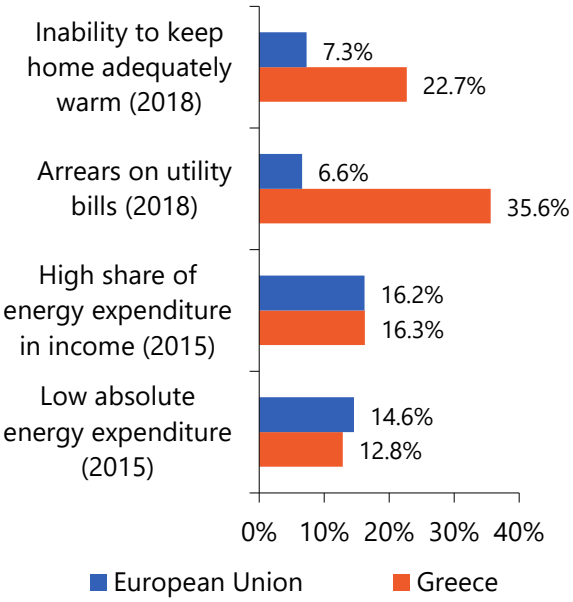
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Greece at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Greece.

Greece has a significantly lower performance than the EU average on the population-reported indicators. In 2018, 22.7% of the population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 35.6% were unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

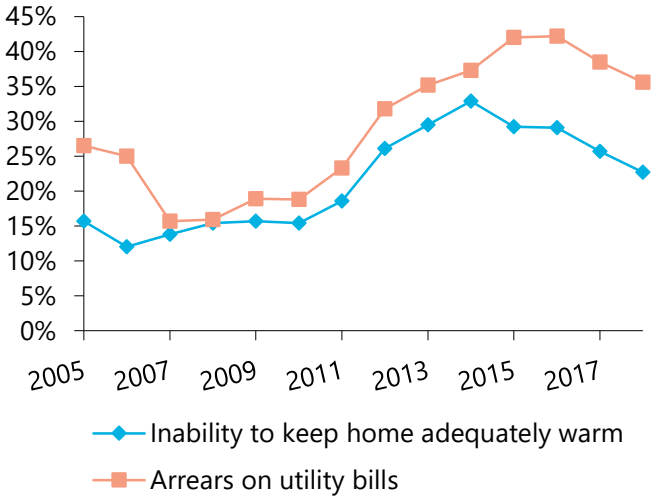
Greece's performance in the expenditure-based indicators is similar to the EU average. The share of households that spend an unusually high share of their income on energy expenditure is 16.3% which is about the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

At 12.8% Greece has a lower number of households that spend an unusually low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Greece, the percentage of the population that is unable to keep the home adequately warm gradually increased significantly from 15% in 2010 to 32.9% in 2014. The notable increase between 2010 and 2014 may be attributed to the financial crisis that Greece has undergone and is still currently struggling with. The indicator has decreased in the past couple of years to 22.7% in 2018.

Meanwhile the percentage of the population that is on arrears on utility bill follows a similar trajectory and increased notably between 2010 and 2016 from 18.8% to 42.2%. By the year 2018, the share of population that is on arrears on utility bills decreased to 35.6%. This is still notably higher than the corresponding EU average.

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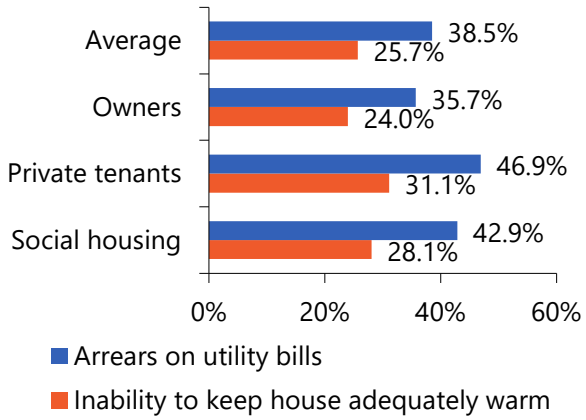
Member State Report
Greece

DATA & STATISTICS

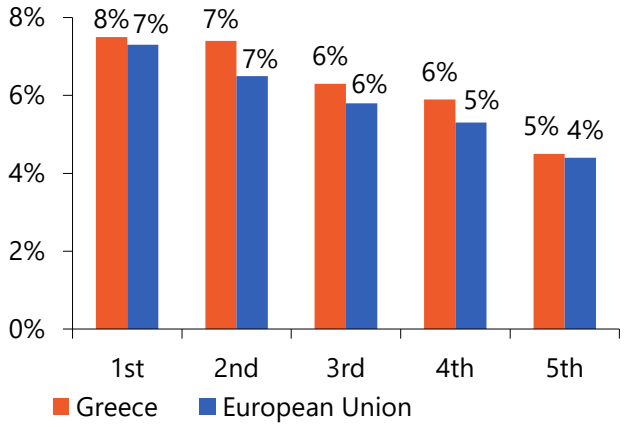
The disaggregated data of the population-reported indicators suggest that energy poverty in Greece is highest for the private tenant sector in 2017, at 31.1% for inability to keep the house warm and 46.9% for arrears on utility bills. The private tenant sector which is the most vulnerable to energy poverty, accounts for 21% of the population in Greece. The social housing sectors is the next most vulnerable sector and accounts for 6% of the population.

The data also indicates that detached and semi-detached type dwellings are the most vulnerable to these indicators, noting that 40% of the population live in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Share of energy expenditure of income by quintile (2015)*



Greece has a percentage of energy expenditure by income that compares well with the corresponding EU values.

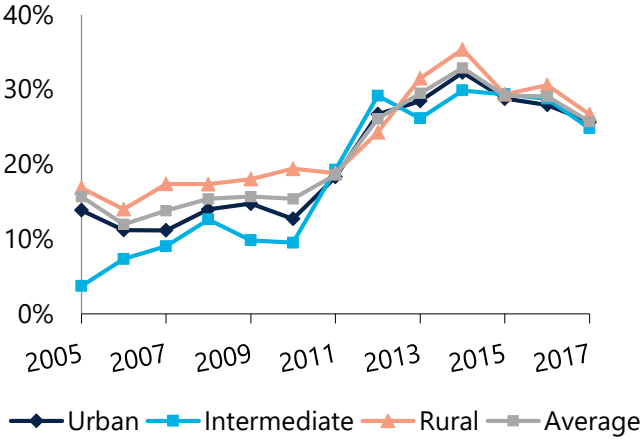
In 2015, the poorest quintile spent 7.5% of their income on energy expenditure, compared to 7.3% in the European Union as a whole. Meanwhile, the richest quintile spent 4.5% of their income on energy expenditure while the European Union value is 4.4%.

This suggests that despite having population based indicators showing high level of energy poverty in Greece, this is not strictly sensitive to income.

Inability to keep house adequately warm by population density *

Greece has a sharp increase in the inability to keep house adequately warm between 2010 and 2012, most probably due to the financial crisis. It can be observed that the intermediately populated areas have had the sharpest increase in this indicator, although all urban densities exhibit similar behaviour. All urban densities have the highest levels of energy poverty in 2014.

All urban densities exhibit a slow decrease of this indicator from 2014 onward, although 2017 values have not yet reached the lowest values exhibited in 2005 and 2006.



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Member State Report
Greece

POLICIES & MEASURES

Greece has an active research community in the field of energy poverty and related issues. Initial studies on the topic were published around 2008, and in recent years there have been multiple studies on the impact of the financial crisis on energy poverty in Greece. A Greek Energy Poverty Observatory was also set up that aims to inform the public and policymakers about the level of energy poverty in Greece.

The national government facilitates financial support to households to pay their energy bills. A social tariff has been instated, which is provided by all power suppliers. The social tariff targets low-income households and vulnerable households, such as the disabled and chronically diseased. Furthermore, the *heating oil allowance* covers the heating oil costs of low-income households during in the winter months (October–April). The heating oil allowance was disbursed to 380,000 beneficiaries between mid-October 2016 and mid-January 2017. A set amount of electricity was provided to indebted households after the financial crisis for free as a temporary measure.

In addition, national and regional programmes have been developed to improve the energy efficiency of housing in low-income households, such as the *replacement of existing heating oil boilers* with natural gas boilers. The *Building the Future* program aims to facilitate the improvement of energy efficiency of housing by ensuring more affordable prices for energy efficiency interventions. Meanwhile the *Energy Efficiency at Household Buildings Programme*, started in 2011, provides financial assistance to improve the energy efficiency of housing. In June 2016, the State renewed and modified the programme in order to increase the number of beneficiaries.

Finally, a recently implemented *Law on energy communities* facilitates the set up of energy communities, which are organisations that aim to promote solidarity and innovation in the energy sector, including for energy poverty measures.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Energy Efficiency at Household Buildings Programme	Building insulation, Heating system	National government	Low-income households,	2011	In the period 2014-2016, EUR 548 million were secured for the implementation of energy efficiency upgrading interventions in residential buildings. By October 2013, EUR 406 million had been provided to approximately 40,000 beneficiaries.
Law on Energy communities	Building insulation, Heating system, Renewable energy, Transport	National government, NGO	Vulnerable households	2018	
Heating oil allowance	Energy bill support	National government	Low-income households	2013	Around 106 million EUR of heating oil allowance was distributed to 380,000 beneficiaries between October 2016 and January 2017.
Replacement of heating oil boilers with natural gas boilers in buildings	Heating system	National government	Low-income households	2015	
Building the Future	Information and awareness	National government	No specific target group		
Social Residential Tariff	Social Tariff	National government, Energy suppliers, Regulator	Vulnerable households, Low-income households		

Member State Report
Greece

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Greece and presents publications and training resource on energy poverty in Greece.

Organisation

Name: Greek Energy Poverty Observatory (Παρατηρητήριο ενεργειακής φτώχειας)
Organisation type: Research & Consultancy
Description: It was developed by the Center for Renewable Sources and Energy Saving and informs policymakers and the public on the level of energy poverty in Greece. In the economic downturn, energy poverty is becoming increasingly prevalent, especially in low- and middle-income households.

Organisation

Name: Social innovation to tackle fuel poverty (Ashoka/Schneider Electric Foundation)
Organisation type: Social support
Description: It offers financial support to the most innovative social entrepreneurs in to help entire communities tackle fuel poverty and move towards sustainable energy. It aims to identify, engage and support to scale-up 15-20 innovative organisations.

Publication

Title: Energy Poverty in Greece: Social Innovation Recommendations to tackle the phenomenon
Authors: Corovessi, A., Touloupaki, E., Chrysogelos, N., and Metaxa, K.
Year: 2017
Description: The study presents the factors that drive energy poverty as well as its social, economic and environmental impacts. It provides a series of recommendations about tackling energy poverty in Greece indicating the way towards which energy poverty policies should shift.

Training Resource

Title: Energy saving advice for students
Authors: SAVES2
Year: 2018
Description: It provides energy saving guidance for university students living in rented accommodation including: switching energy supplier, smart meters, and the energy efficiency of the property. The resource can be accessed by students from across Europe and includes blogs and an international energy saving competition. Specific energy savings resources have also been adapted by universities from Greece.

Other selected publications

- Panas E. (2012) Research on energy poverty in Greece (*in Greek)*
- Santamouris, M. et al (2013) Financial crisis and energy consumption: A household survey in Greece
- Dagoumas, K., and Kitsios, F. (2014) Assessing the impact of the economic crisis on energy poverty in Greece
- Atsalis, A. et al. (2016) Fuel poverty in Greece: Quantitative analysis and implications for policy
- Papada, L., Kaliampakos, D. (2016) Measuring energy poverty in Greece
- Boemi, S., Avdimiotis, S., Papadopoulos, A. (2017) Domestic energy deprivation in Greece: A field study
- Boemi, S., Panaras, G., Papadopoulos, A. (2017) Residential Heating under Energy Poverty Conditions: A Field Study A.
- Papada, L., Kaliampakos, D. (2017) Energy poverty in Greek mountainous areas: a comparative study

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Member State Report
Hungary

DATA & STATISTICS

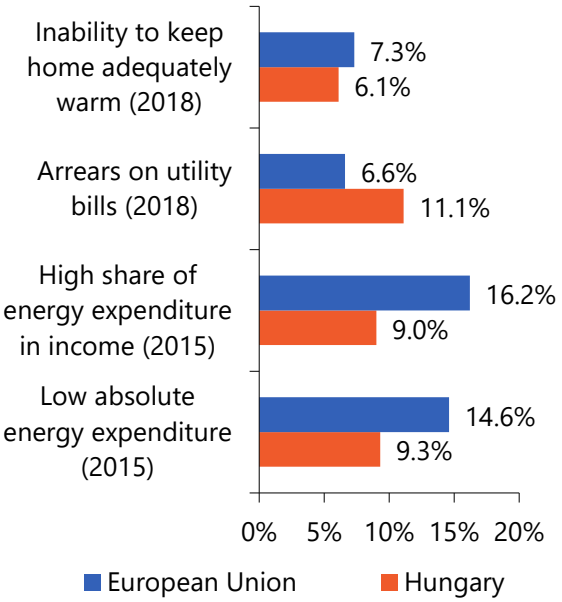
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Hungary at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Hungary.

Hungary has a mixed performance in comparison to the EU average on the population-reported indicators. In 2018, 6.1% of the Hungarian population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 11.1% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

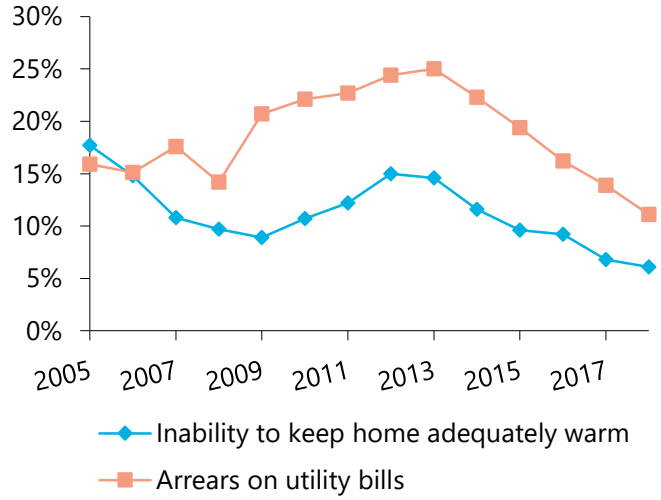
Hungary's performance in the expenditure-based indicators is better than the EU average. The share of households that spend a high share of their income on energy expenditure is 9.0%, which is lower than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 9.3% Hungary has a lower number of households than the EU average that have an unusually low energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Hungary, the percentage of the population that is unable to keep the home adequately warm saw an increase between 2009 and 2012. This may be due to the financial crisis. It has since steadily decreased to a value of 6.1% in 2018. Meanwhile the percentage of the population on arrears on utility bill follows a similar trajectory. and has decreased notably since the peak value of 25.0% in 2012 to 11.1% in 2018.

The decrease in price of electricity per unit since 2012 due to national policies may have been a contributing factor to the decrease of these indicators in recent years.

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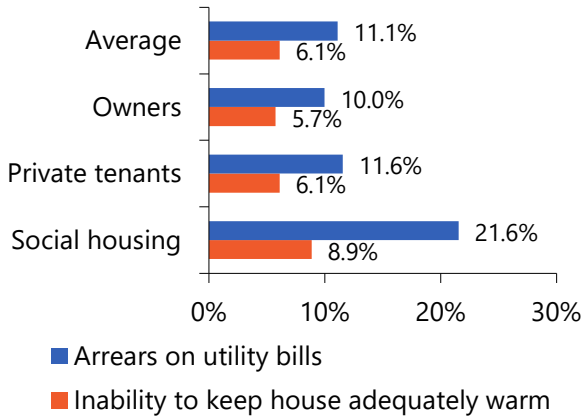
Member State Report
Hungary

DATA & STATISTICS

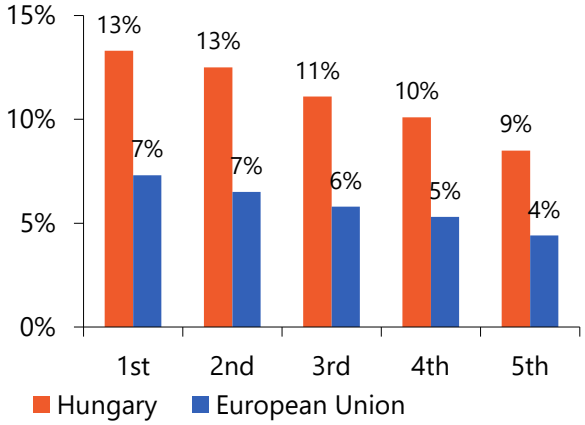
The disaggregated data of the population-reported indicators suggest that energy poverty in Hungary is highest for the social housing sector in 2018, at 8.9% for inability to keep the house warm and 21.6% for arrears on utility bills. The second most vulnerable tenure type is the private tenant sector. The social housing and private tenants sectors account for only 9% and 5% of the population in Hungary, respectively, for the year 2018.

The data for 2018 also indicate that rural areas are the most vulnerable to these indicators.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2018)*



Share of energy expenditure of income by quintile (2015)*

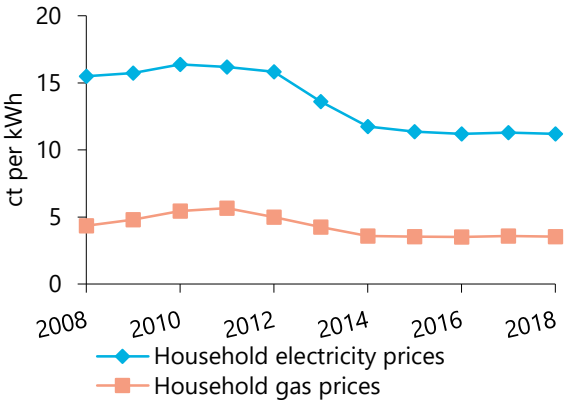


Hungary experiences cold climates in winter which translates into a high energy usage for heating. Combined with a median income that is well below the EU median (less than half the EU median in 2015), this leads to a notably larger share of income spent on energy expenditure in Hungary than in the corresponding EU average. In 2015, the poorest quintile spent 13% of their income on energy while the corresponding EU average is 7%. A similar pattern is observed for each quintile, whereby even the richest quintile in Hungary spends a notably higher percentage of its income on energy than the EU average. This indicates that the Hungarian population is at a higher risk of being energy poor than the EU average.

The household energy cost over time in Hungary was fairly stable for electricity between 2008 and 2012. It decreased steadily between 2012 and 2014 and has remained fairly stable since. This can be attributed to national policies regulating energy prices.

The price per unit for electricity was 11.2 €ct/kWh in 2018, which is lower than the corresponding EU average. Meanwhile the price per unit for gas increased slightly between 2008 and 2011 too, then decreased again by 2014. It has remained somewhat stable since and was at 3.53 €ct/kWh in 2018. The household energy costs for Hungary are some of the lowest in the EU.

Hungary household energy costs over time



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Member State Report
Hungary

POLICIES & MEASURES

Initial research on energy poverty in Hungary was conducted in 2010 by Tirado Herrero and Ürge-Vorsatz who have since produced a number of other studies on the topic. Besides research interest in Hungary, the NGO Energiaklub has been active on the topic of energy poverty. In fact in 2012, Energiaklub proposed a national definition for energy poverty based on analysis of energy poverty in Hungary (Fellegi & Fülöp 2012).

The national government has developed measures that provide *Protection for vulnerable consumers* whereby such consumers who are vulnerable, pensioners or on social benefits, receive some protection against disconnection. They can first request a delay of payment on their electricity bill or pay in instalments. Second, they can choose to get a prepayment meter installed. Meanwhile, disabled consumers may not be disconnected from supply in case of late payment or non-payment via the scheme called *Protection for disabled consumers*. They also receive additional assistance by allowing the measurement and payment of the bill to occur at the place of use, as well as the possibility to receive additional, detailed information on the bill.

Furthermore, the national government provides favourable financial conditions on instruments (such as loans or savings accounts) to allow housing renovation, including insulation and the replacement of heating systems. This measure is called *Financing options for energy efficiency*. Another measure initiated by the national government is the *Rules on renewable production by households* where rules exist that allow households to only subtract the energy they produce from the energy costs they pay.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Financing options for energy efficiency	Building insulation, Heating system	National government	No specific target group		
Protection for disabled consumers	Disconnection protection	National government	Disabled		
Protection for indigent consumers	Disconnection protection	National government	Households on social benefits,		
Rules on renewable production by households	Renewable energy	National government	No specific target group		

Member State Report
Hungary

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Hungary and presents publications and training resource on energy poverty in Hungary.

Organisation

Name: Energiaklub
Organisation type: NGO
Description:
The aim is to make energy producers, users and perhaps even political decision-makers regard energy in a different way. Rational use of dwindling resources, an economy based on diverse local resources, a changing energy-wasting consumer habits; these are all part of the solutions offered.

Organisation

Name: Apro'tech
Organisation type: NGO
Description:
This is a social enterprise that stands for small scale appropriate technology solutions. They develop and build clean-burning, efficient masonry heaters from natural materials for people living in poverty.

Publication

Title: Fuel poverty alleviation as a co-benefit of climate investments: evidence from Hungary
Authors: Tirado-Herrero, S., Ürge-Vorsatz, Petrichenko, K.
Year: 2013
Description: By taking Hungary as a case study, it emphasises the importance of co-benefits as policy drivers for implementation of advanced residential energy efficiency solutions in countries with moderate levels of commitment to global climate goals and high or increasing fuel poverty rates.

Training Resource

Title: Energiaklub
Authors: Energiaklub
Year: 2017
Description: A range of resources including tutorials, posters, infographics, videos all relating to issues around energy and the environment. Energiaklub states that it was the first to study and model fuel poverty in Hungary in detail, analysing statistical and technical data. It provides an overview, analysis and evidence on fuel poverty in Hungary.

Other selected publications

- Tirado Herrero, S. and Ürge-Vorsatz, D. (2010) Fuel Poverty in Hungary: A first assessment
- Dénes Fellegi, Orsolya Fülöp (2012) Poverty or Fuel Poverty? Defining fuel poverty in Europe and Hungary. Executive Summary
- Tirado Herrero, S. and Ürge-Vorsatz, D. (2012) Trapped in the heat: A post-communist type of fuel poverty
- Bouzarovski, S., Tirado Herrero, S., Petrova, S., and Ürge-Vorsatz, D. (2015) Unpacking the spaces and politics of energy poverty: path-dependencies, deprivation and fuel switching in post-communist Hungary
- Bafoil, F., Fodor, F., and Le-Roux, D. (2014) Access to energy in Europe. The invisible energy poor
- Ecoserveis Association (2018) Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Ireland

DATA & STATISTICS

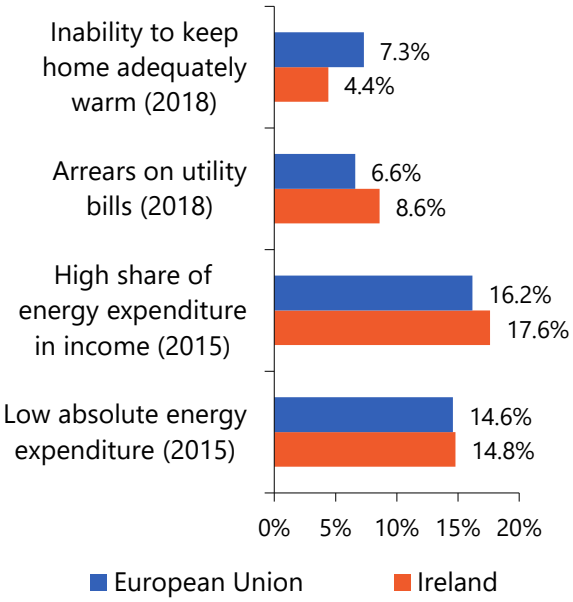
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Ireland at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Ireland.

Ireland has a mixed performance in comparison to the EU average on the population-reported indicators. In 2018, 4.4% of the Irish population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 8.6% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%. As a large number of homes use oil and solid fuels for heating, which are paid up-front and not through a utility bill, this indicator is likely to underestimate the extent of energy poverty in Ireland.

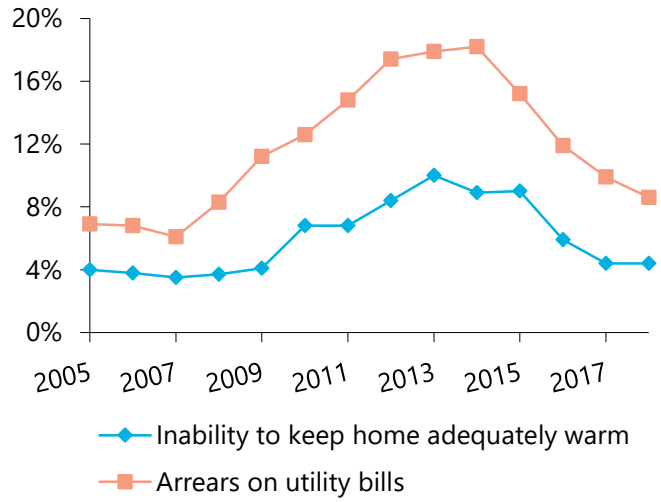
Ireland's performance in the expenditure-based indicators is mixed compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 17.6%, which is higher than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Conversely, at 14.8% Ireland has a slightly lower number of households that spend a low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Ireland, the percentage of the population that is unable to keep the home adequately warm increased from 4.1% in 2009 to 10.0% in 2013. This indicator gradually decreased to 4.4% by 2018.

Meanwhile, households with arrears on utility bills follow a similar trajectory and increased consistently from 6.1% in 2007 to reach a peak of 18.2% in 2014. By the year 2018, the arrears on utility bills decreased to 8.6%.

The notable increase in energy poverty between 2007 and 2012 may be attributed to the financial crisis leading to a general increase of poverty in Ireland.

About the EU Energy Poverty Observatory

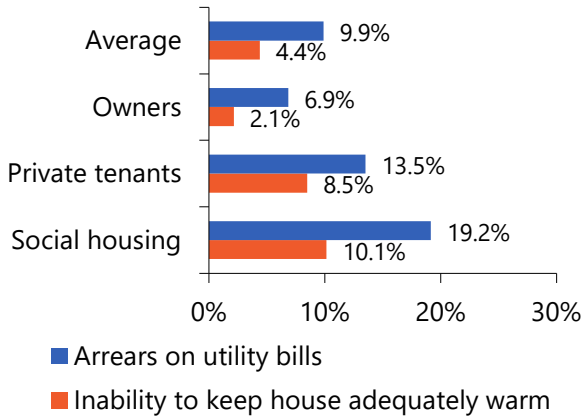
The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

Member State Report
Ireland

DATA & STATISTICS

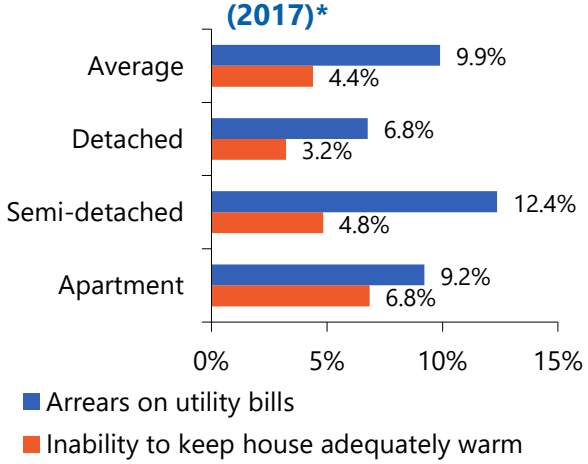
Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



The disaggregation by tenure type of the population-reported indicators suggests that energy poverty in Ireland is highest for the social housing sector in 2017, at 10.1% for inability to keep the house warm and 19.2% for arrears on utility bills. The social housing sector accounts for 18% of the population in Ireland.

70% of the Irish population are home owners. Only 2.1% of them are unable to keep their home warm and 6.9% have arrears on utility bills.

Inability to keep home warm and Arrears on utility bills disaggregated by dwelling type (2017)*

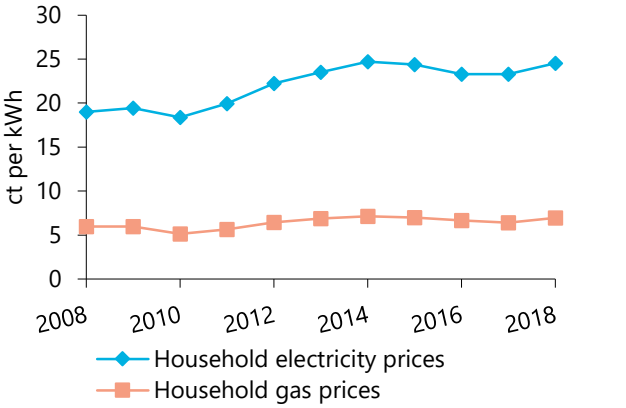


The disaggregation of the population-reported indicators by dwelling type shows that the 52% of the Irish population that live in semi-detached or terraced houses perform more poorly on both indicators than the 40% of the population living in detached houses. 12.4% of the people living in semi-detached houses have arrears on utility bills and 4.8% are unable to keep their home warm.

People living in apartments, accounting for 8% of the population, have the highest inability to keep warm at 6.8% but are less likely to have arrears on utility bills than people living in semi-detached or terraced houses.

A more detailed discussion on which households are most impacted by energy poverty can be found in DCENR (2015).

Ireland household energy costs over time



The household energy cost over time in Ireland has gradually increased from 2010 to reach a peak in 2014. The most notable variation in price per unit for electricity which went from 18.4 €ct/kWh in 2010 to 24.7 €ct/kWh in 2014. The price in 2018 stood at 24.5 €ct/kWh. Meanwhile the price for gas remained more consistent although it also exhibits a very slight increase and reached a value of 7.13 €ct/kWh by 2014. By 2018, the price of gas reduced slightly to 6.97 €ct/kWh.

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Member State Report
Ireland

POLICIES & MEASURES

Research on energy poverty has a long tradition in Ireland. Analyses of energy poverty were conducted as early as 2003 (Healy 2003, Healy and Clinch 2004) and have continued to the present (ESRI 2019).

The Irish government has published two strategies setting out the policies and measures aimed at alleviating energy poverty in Ireland. The most recent strategy was accompanied by a bottom up analysis of the level of energy poverty in Ireland. The strategy also expanded the energy efficiency supports available to lower income households and launched a scheme aimed at measuring the health impacts of improved energy efficiency. Since 2000, over 135,000 lower income households have received free energy upgrades to their homes through schemes operated by the Sustainable Energy Authority of Ireland. Separately, over 70,000 retrofits have been carried out in Local Authority homes. The measures provided have expanded over time moving from shallower measures to deeper whole house upgrades. In 2020 Government investment of over €100 million has been allocated for these schemes.

Income supports are also available from the Government. These include the *Fuel Allowance* and *the Household Benefits Package* which provides additional Electricity and Gas Allowances. These allowances are intended to help households with increased heating costs over the colder winter months. These payments have been increased over time with a further increase made in Budget 2020, coinciding with the increase in the carbon tax.

There are multiple stakeholders active in the energy poverty field in Ireland. NGOs such as Energy Action and Society of Saint Vincent de Paul are working to alleviate energy poverty. In addition, since 2014, energy suppliers have committed on a voluntarily basis to the *EAI Energy Engage Code* to never disconnect an engaging customer who is communicating with the supplier and genuinely working to clear arrears on their account.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Better Energy Warmer Homes	Building insulation, energy audits, household appliances	National government	Low-income households	2000	135,000 homeowners have had energy efficiency measures carried out to their homes under this scheme.
Fuel Allowance & Household Benefits Package	Energy bill support	National government	Low-income households	1988	Approximately 410,000 recipients per year.
Social Housing Retrofit Programme	Building insulation, heating system	National government, regional covernment	Social Housing	2012	70,000 social housing properties upgraded
Code of Practice for Energy Suppliers	Disconnection protection	National government	Vulnerable Customers		Protections for customers in difficulty with their electricity or gas bills

Member State Report
Ireland

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Ireland and presents publications and training resource on energy poverty in Ireland.

Organisation

Name: Department of Communications, Climate Action & Environment
Organisation type: National Government
Description: It is in charge of developing and delivering Ireland's climate policy including its energy policy. It lead the creation of Ireland's energy poverty strategy (see below) and oversees the Sustainable Energy Authority of Ireland and Commission for Regulation of Utilities.

Organisation

Name: Economic and Social Research Institute
Organisation type: Research & Consultancy
Description: The Economic and Social Research Institute works towards a national vision of 'Informed policy for a better Ireland'. It produces analysis to provide robust evidence for policymaking, with the goals of research excellence and policy impact.

Publication

Title: A Strategy to Combat Energy Poverty 2016 - 2019
Authors: Department of Communications, Energy and Natural Resources
Year: 2016
Description: It expands the reach of existing energy efficiency schemes and commits the Government to developing and piloting new measures to find more effective ways to focus energy efficiency efforts on those most at risk of energy poverty. It also puts in place the structures and the accountability to ensure that the challenge is effectively addressed.

Publication

Title: Is Fuel Poverty in Ireland a Distinct Type of Deprivation
Authors: Watson, D., and Maître, B.
Year: 2015
Description: It investigates whether fuel poverty is a distinctive type of deprivation that warrants a fundamentally different policy response than poverty in general. The paper concludes, based on evidence from factor analysis and multinomial regression, that fuel poverty is better regarded as an aspect of low living standards rather than being a distinct dimension of deprivation.

Other selected publications

- Healy, J.D. (2003) Fuel Poverty and Policy in Ireland and the European Union
- Scott, S. et al. (2008) Fuel Poverty in Ireland: Extent, Affected Groups and Policy Issues
- McAvoy, H., and Liddell, C. (2009) Annual Update on Fuel Poverty and Health
- Department of Communications, Energy and Natural Resources (2011) Warmer Homes. A Strategy for Affordable Energy in Ireland
- Goodman, P., et al. (2011) Fuel Poverty, Older People and Cold Weather: An all-island analysis
- Ahern, C., et al. (2013) State of the Irish housing stock—Modelling the heat losses of Ireland's existing detached rural housing stock & estimating the benefit of thermal retrofit measures on this stock
- O'Meara, G. (2015) A Review of the Literature on Fuel Poverty with a Focus on Ireland
- DCENR (2015) Bottom-up analysis of fuel poverty in Ireland
- Kerr, N., Gillard, R. & Middlemiss, L. (2019) Politics, problematisation, and policy: A comparative analysis of energy poverty in England, Ireland and France
- Government of Ireland, Climate Action & Environment (2019) Climate Action Plan 2019
- Economic and Social Research Institute (2019) Carbon Taxes and Compensation Options
- Government of Ireland (2020) Roadmap for Social Inclusion 2020 - 2025

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This report was completed in February 2020.

Member State Report
Italy

DATA & STATISTICS

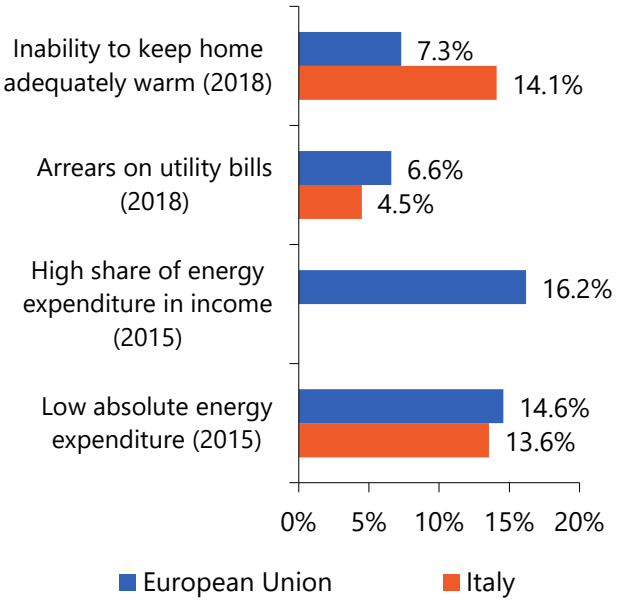
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Italy at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Italy.

Italy has a mixed performance in comparison to the EU average on the population-reported indicators. In 2018, 14.1% of households reported that they were unable to keep the home adequately warm which is significantly higher than the corresponding EU average at 7.3%. Conversely, for 2018, 4.5% were unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

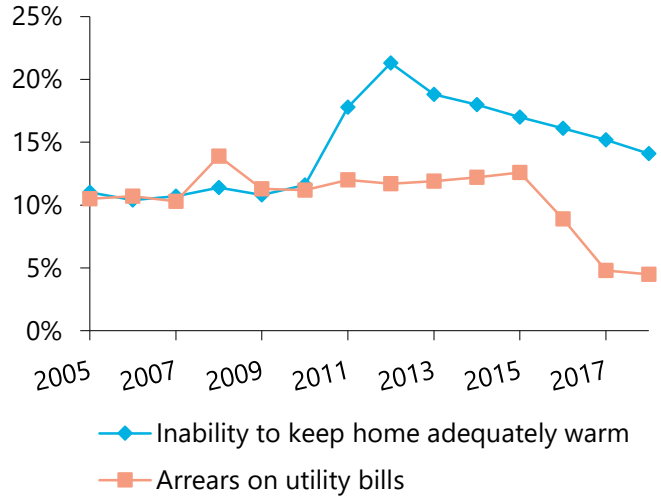
Italy's performance in the expenditure-based indicators is slightly better than the EU average. The share of households that spend a low share of their income on energy expenditure in 2010 is 13.6% which is slightly lower than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

No data was available on the high share of energy expenditure in income due to validity concerns following the national data collection process.

Performance relative to EU average*



Performance over time*



In Italy, the percentage of the population that is unable to keep the home adequately warm increased sharply between 2010 and 2012, from 11.6% to 21.3%. This may be due to the financial crisis and increase in the price per unit for electricity and gas. The value gradually decreased to 14.1% by 2018.

Meanwhile the percentage of the population on arrears on utility bills remains relatively constant throughout the years and decreased notably from 12.6% to 4.8% between 2015 and 2017. By the year 2018, the arrears on utility bills decreased to 4.5%.

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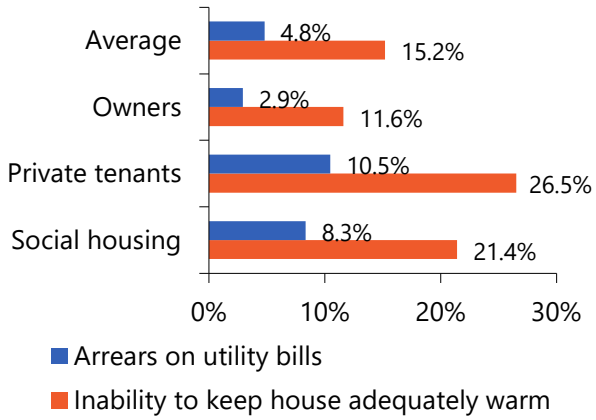
Member State Report
Italy

DATA & STATISTICS

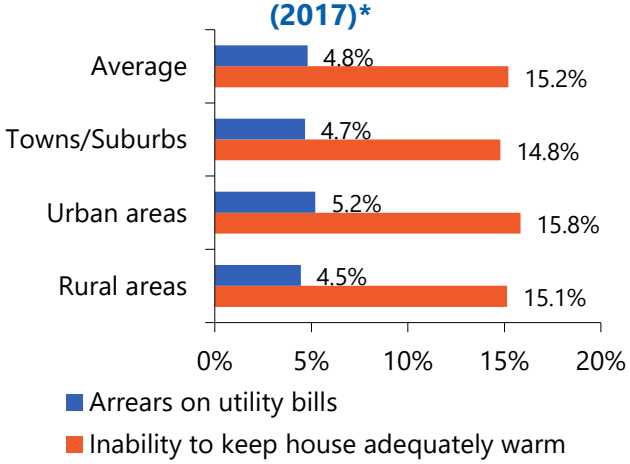
The disaggregated data of the population-reported indicators suggest that energy poverty in Italy is highest for the private tenant sector in 2017, at 26.5% for inability to keep the house warm and 10.5% for arrears on utility bills. The social housing sector is the second most vulnerable tenure type.

The private tenancy and social housing sectors, account for 18% and 10% of the population in Italy, respectively. The data indicates that the majority of the population in Italy are house owners, which are at lower risk of energy poverty.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*



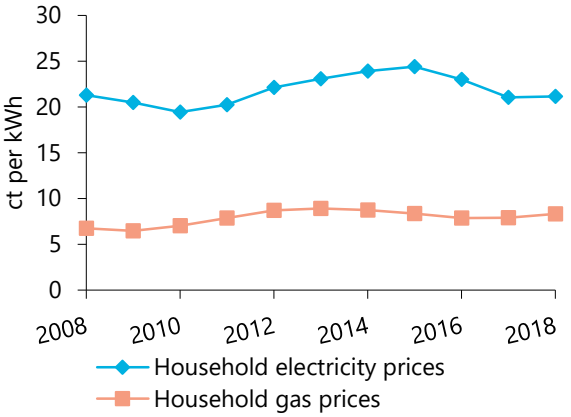
In Italy, for 2017, urban areas have the lowest performance for ability to keep the house adequately warm and having arrears on utility bills, very closely followed by town/suburb and also rural areas. This indicates that energy poverty in Italy is not particularly sensitive to the urban density and that poor populations are spread across all types of areas.

Urban areas, intermediately populated areas and rural areas account for 34%, 41% and 25% of the population, respectively, for 2017. Italy has the highest population in intermediate density areas as opposed to urban areas for the EU average. The data also shows that energy poverty is distributed somewhat evenly across all dwelling types, despite having 52% of the population living in apartments.

Italy household energy costs over time

The household energy prices over time in Italy has increased from 2010 to reach a peak in 2014 and 2015, with electricity at 24.4 €ct/kWh and gas at 8.74 €ct/kWh. The price per unit decreased to the 2018 values of 21.1 €ct/kWh for electricity and 8.33 €ct/kWh for gas.

The largest increase in price was between 2010 and 2012, and may be due to the financial crisis. This corresponds to the poorer performance of household indicators between these two years, as observed earlier.



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Member State Report
Italy

POLICIES & MEASURES

The first national study on energy poverty in Italy was published in 2014 (Faiella and Lavecchia 2014). It was a statistical analysis on energy poverty, which suggested the use of a modified low income high costs indicator. This research was followed by additional research on energy poverty and related concepts (Federesco 2017, Faiella, Lavecchia and Borgarello 2017).

In the National Energy and Climate Action Plan (NECP), submitted to the EU Commission at the end of 2019, Italy established targets and policies in order to fight energy poverty. Existing policies addressing energy poverty include electricity and gas social bonuses and two tax deductions on electricity and heating fuel. The electricity and gas social bonuses provide, in the form of a bill discount, an amount that varies as a function of the number of family members and, with respect only to the gas social bonus, as a function of the climatic zone and the type of use. There is also an electricity bill discount available to people reliant on life-saving medical equipment. As regards the measures for improving the energy efficiency of households, there is a tax deduction for the energy refurbishment of buildings (known as "Ecobonus") recently extended to families living in energy poverty and to social housing institutes. Italy, as highlighted in the NECP, intends to review the existing instruments, strengthen the strategy for fighting energy poverty and setting up an Institutional Observatory of Energy Poverty with the aim of monitoring the phenomenon as well as supporting the policy makers in identifying policies, including information measures, promotion, training and assistance to public subjects, operators and stakeholders.

Various European projects related to energy poverty are implemented in Italy such as ASSIST, EnerSHIFT, FIESTA, LEMON and SMART-UP. Italy is also part of the Energy Efficiency in Low Income Households in Mediterranean (ELIH-Med) scheme which is funded by the European Union and focuses on identifying and experimenting on a large scale a set of practical and innovative technical options and financial mechanisms targeted to develop energy efficiency in low income housing.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Tax deductions for energy efficiency	Building insulation, Heating system, Renewable energy	National government	No specific target group	2007	
Reduction of available power	Disconnection protection	Regulator	Indebted households		
Financial assistance for heating costs	Energy bill support	Local government	Low-income households		
Gas bonus	Energy bill support	National government	Low-income households	2009	
Electric bonus	Energy bill support	National government	Low-income households, Chronically/severely diseased	2009	
VAT reduction for renovation	Building insulation, Cooling system, Household appliances, Heating system	National government	No specific target group		
Heat account	Building insulation, Heating system, Renewable energy	National government	No specific target group	2012	
Energy Social Housing Innovative Financing Tender (EnerSHIFT)	Building insulation, heating system	European Union, Regional government	No specific target group	2016	
Less Energy More Opportunities (LEMON)	Building insulation, Information and awareness	European Union	No specific target group	2016	

Member State Report
Italy

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Italy and presents publications and training resource on energy poverty in Italy.

Organisation

Name: Agenzia per l'Innovazione, lo Sviluppo e la Formazione (AISFOR**)**
Organisation type: Research & Consultancy
Description: AISFOR is an Italian company working on green and social topics. Since 2015 it is focusing on tackling energy poverty. It is the coordinator of ASSIST, a European project with the objective of tackling energy poverty and support vulnerable consumers to efficiently manage their energy consumption.

Organisation

Name: Energy Social Housing Innovative Financing Tender (EnerSHIFT)
Organisation type: Research & Consultancy
Description: EnerSHIFT aims at launching €14,59 million of energy investments with the retrofitting of around 43 social housing buildings throughout the 4 provinces of Liguria. The scope of social housing in Italy is quite narrow and addresses the most vulnerable part of the population

Publication

Title: National Integrated Energy and Climate Plan (NECP)
Authors: Italian Government (Ministry of Economic Development, Ministry for the Environment, Ministry of Infrastructures and Transports)
Year: 2019
Description: The NECP confirms that the Italian government is committed to strengthen the strategy for fighting energy poverty, to adopt an official definition and national indicators on energy poverty, and to create an Italian Energy Poverty Observatory.

Training Resource

Title: A tenant's guide to managing your energy
Authors: Attrattivita Ricerca Territorio (ART-ER)
Year: 2019
Description: A practical guide for social housing tenants on how to reduce energy consumption. It helps households reduce energy related behaviour and their environmental impact. Included is a questionnaire which explains household energy use and related areas which might be adapted without significant life style changes.

Other selected publications

- Miniaci, R., Scarpa, C. and Valbonesi, P. (2008) Distributional Effects of Price Reforms in the Italian Utility Markets
- European Fuel Poverty and Energy Efficiency Project (EPEE) (2009) Diagnosis of causes and consequences of fuel poverty in Belgium, France, Italy, Spain and United Kingdom
- Faiella, I. and Lavecchia, L. (2014) Energy Poverty in Italy (*in Italian*)
- Faiella, I. , Lavecchia, L. and Borgarello, M. (2017) A new measure of households' energy poverty (*in Italian*)
- Federesco, Federconsumatori, Unione Nazionale Consumatori, AiCARR (2017) Fuel Poverty and Energy Efficiency (*in Italian*)
- Faiella, I. and Lavecchia, L. (2017) Energy Poverty in Italy
- Stagnaro, C. et al. (2017) The liberalization of Italy's retail electricity market: a policy proposal
- Autorità di Regolazione per Energia Reti e Ambiente (2018) The social bonus for electricity and natural gas: implementation status for 2017 *(in Italian)*

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This report was completed in February 2020.

Member State Report
Latvia

DATA & STATISTICS

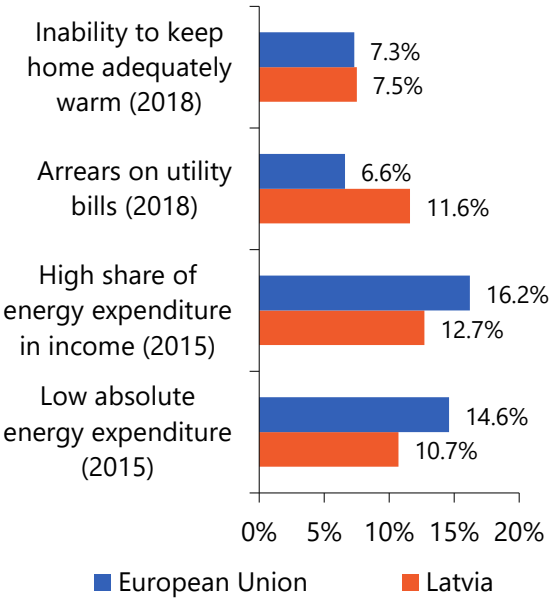
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Latvia at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Latvia.

Latvia has a lower performance than the EU average on the population-reported indicators. In 2018, 7.5% of Latvians reported that they were unable to keep the home adequately warm while the corresponding EU average is slightly lower at 7.3%. Similarly for 2018, 11.6% were unable to pay their utility bills on time, while the respective EU average is significantly lower at 6.6%.

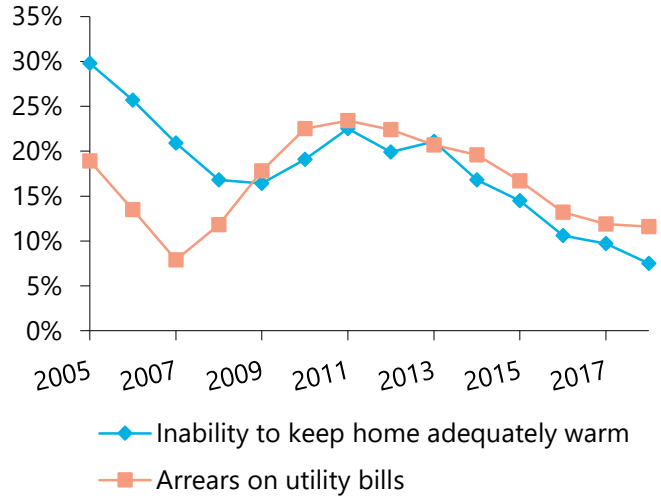
Latvia's performance in the expenditure-based indicators is better than the EU average. 12.7% of households spend a high share of their income on energy expenditure. This is below the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 10.7% Latvia has a lower number of households whose energy expenditure is unusually low. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Latvia, the number of people that are unable to keep their home adequately warm decreased from 29.8% in 2005 to 7.5% in 2018. These major improvements might be attributed to the positive development of the Latvian economy and standard of living since joining the EU in 2004. The were major improvements in energy poverty after joining the EU in 2004. However, the decline slowed down and partly reversed in the years following the financial crisis of 2008.

The number of people with arrears on utility bills decreased from 2005 to 2007 and shows a sharp increase between 2007 (7.9%) and 2011 (23.4%) followed by a decline (11.6% in 2018). The sharp increase might be attributed to the financial crisis of 2008.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

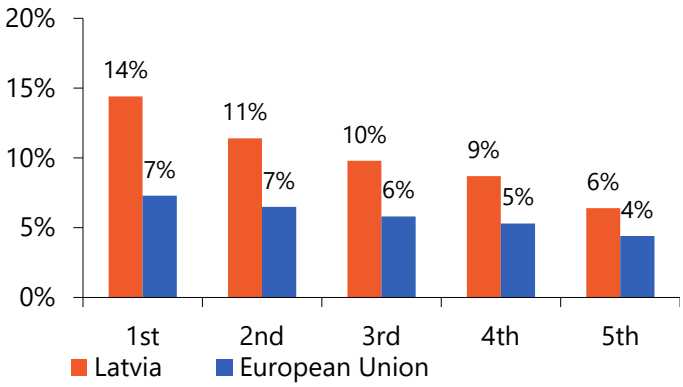
**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

Member State Report
Latvia

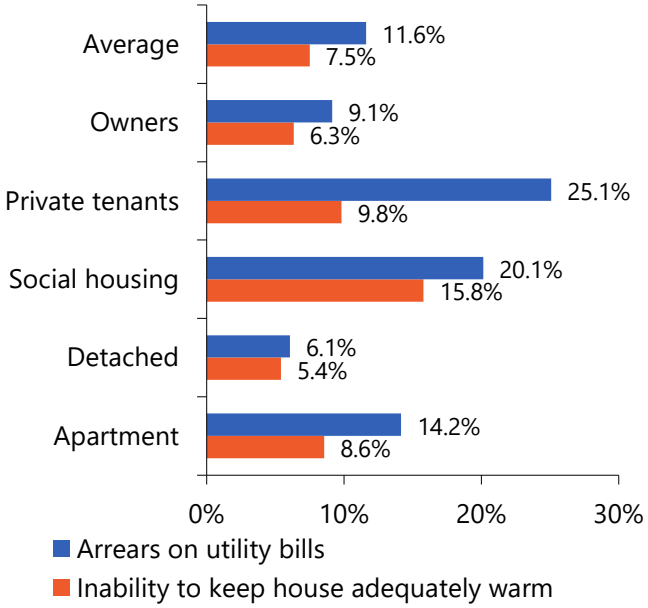
DATA & STATISTICS

Due to its cold climate Latvians have a high energy usage for heating. Combined with a median income that is well below the EU median (about a third of EU median in 2015), this leads to a much larger share of energy expenditure of income in Latvia than in the EU average. In 2015, the poorest quintile spent 14% of their income on energy expenditure, compared to 7% in the European Union as a whole. This indicates that a relatively high share of the Latvian population is at risk of being energy poor.

Share of energy expenditure of income by quintile (2015)*



Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2018)*



The disaggregated data of the household-reported indicators suggest that the 82% of the population that own their housing are less than half as likely as the rest of the population to have arrears on utility bills. People living in social housing are twice as likely to be unable to keep their home warm as people who own their house or rent it freely on the market.

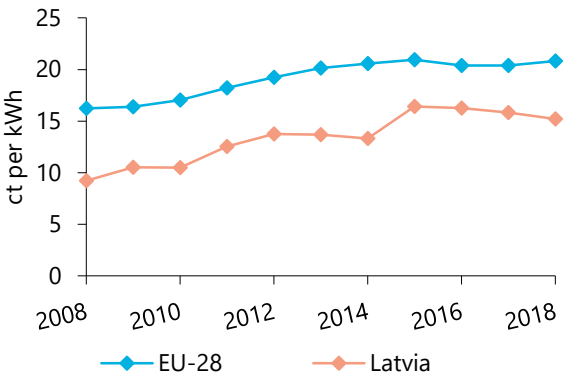
The data also indicates that the 66% of the population living in apartments are more likely to be affected by energy poverty than the 31% living in detached houses.

The data shows that there is not a lot of variation between rural and urban areas.

The household electricity cost in Latvia has increased from 9.2 ct/kWh in 2008 to a peak of 16.5 ct/kWh in 2015. Since then it has declined slightly to 15.2 ct/kWh in 2018. This decrease of the electricity may be attributed to new electricity interconnections and power market integration between the Baltic region and Finland, Sweden and Poland in 2014 and 2015.

Compared to the EU average the increase until 2015 has been particularly pronounced. In 2008 the average price in Latvia was at 57% of the EU average. This increased to 78% in 2015.

Latvia household energy costs over time



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Member State Report
Latvia

POLICIES & MEASURES

In Latvia, specific research and policies on energy poverty have yet to be developed. Until December 2019, energy poverty in Latvia had only been analysed in the context of regional studies of Eastern Europe.

In October 2018, the Latvian government decided to fund a research project on Energy Poverty. The aim of the research project, that will be completed by 2021, is to assess the situation of Energy Poverty, suggest a definition of energy poverty, identify social groups that are at risk of energy poverty, and review the definition of vulnerable costumers. After the conclusion of the research project, the government intends to set targets for addressing energy poverty and if necessary develop energy poverty policy measures.

The current approach to address energy poverty in Latvia is mainly through social policies. Municipalities are required to provide a *minimum income* level to all households if necessary, and they can also provide a *housing allowance* to households, which includes the costs for electricity and heating. In addition, the national government provides financial support for certain vulnerable groups to pay for their electricity bills.

The energy provider Elektrum also carries out *support for electricity costs*. Various groups of vulnerable customers – e.g. poor costumers or people with disabilities – get varying levels of support.

Some general energy policies could be potentially beneficial for energy poor households. The *Energy Efficiency Obligation Scheme* requires electricity suppliers to achieve a certain amount of energy savings by informing consumers of energy efficiency and promoting energy efficiency improvements. The *Live Warmer* measure is an agreement signed between different stakeholders in the public and private sectors to promote energy renovations by cooperating and providing information to households.

In the *Energy efficiency program*, around 20,000 apartments are expected to benefit from improvements in energy efficiency by 2020. It targets the two third of the population living in apartment buildings and provides them with free consultations, grants, loans and credit guarantees for banks.

The EU-funded project related to energy poverty, SUNShiNE, is active in Latvia. SUNShiNE supports public and private ESCOs and contributes to an innovative investment scheme based on the long-term guaranteed safety, health, comfort, and affordability of deeply renovated buildings in Latvia.

Selected measures	Type of measure	Organisation	Target groups	Result
Energy efficiency program	Building insulation, Heating system	National government	Apartment buildings	Around 20,000 apartments are expected to benefit from the program.
Support for electricity costs	Energy bill support	National government, Energy supplier	Households with children, Disabled, Low-income households	Based on the category under which a vulnerable customer falls, they receive varying financial support to pay for their electricity bills (e.g. through a cheaper electricity price for the first 100 kWh per month).
Energy Efficiency Obligation Scheme	Information and awareness	Energy suppliers	No specific target group	All households in Latvia receive information on energy efficiency measures.
Live warmer	Information and awareness	Business/Industry, National government	No specific target group	Information on energy efficient renovations are more easily accessible.
Guaranteed minimum income level	Social support	Local government	Low-income households	All households in need receive a minimal income.
Housing allowance	Social support	Local government	Low-income households, Disabled, Pensioners, Households with children, children left without parental care	Some municipalities provide financial support for the cost of housing to households in need.

Member State Report
Latvia

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Latvia and presents publications on energy poverty in Latvia.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organisation type: Association
Description: STEP is a project to develop a simple, innovative and replicable model of measures to address energy poverty. The project covers nine EU Member States including Latvia. STEP's overall objective is to alleviate energy poverty by encouraging behavioural change and low-cost energy efficiency solutions amongst consumers in or at risk of energy poverty through trusted, tailored advice.

Organisation

Name: Altum
Organisation type: National Government
Description: Altum was founded in 2013 as a state owned development finance institution. Altum develops and implements state aid programmes to support the Latvian people. In the sphere of energy poverty it provides financial support for home owners living in multiple apartment buildings to improve the energy efficiency or the heating system of their home. It provides households with free consultations, grants, loans and credit guarantees for banks.

Publication

Title: Draft National Energy and Climate Plan of Latvia 2021–2030
Authors: Latvian Government
Year: 2018
Description: All EU Member States have to submit a National Energy and Climate Plan (NECP) to the EU Commission to lay out their energy and climate policy agendas for 2021 to 2030. The EU Commission requires the NECP to include a section on energy poverty. The NECP of Latvia details the plan of the Latvian government to carry out research projects on energy poverty until 2021 and develop a strategy to address energy poverty afterwards.

Training Resource

Title: Handbook: Deep renovation of multifamily residential buildings using Energy Performance Contracting
Authors: SUNShINE
Year: 2017
Description: This publication by the EU-funded SUNShINE project shows house owners the benefits and required practical steps of carrying out deep energy efficient renovation measures of multi-apartment buildings. It explains both technical details on how to perform the measures and how to finance it using energy performance contracting.

Other selected publications

- World Bank (2000) Maintaining Utility Services for the Poor: Policies and Practices in Central and Eastern Europe and the Former Soviet Union
- Lampietti, J., and Meyer, A. (2002) Coping with the Cold: Heating Strategies for Eastern Europe and Central Asia's Urban Poor
- Fankhauser, S. and Tepic, S. (2007) Can poor consumers pay for energy and water? An affordability analysis for transition countries
- Ruggeri Laderchi, C., Olivier, A., and Trimble, C. (2013) Balancing Act: Cutting Energy Subsidies While Protecting Affordability
- Ecoserveis Association (2018) Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review
- Agency for the Cooperation of Energy Regulators, Council of European Energy Regulators (2019) Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2018 – Consumer Empowerment Volume

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Lithuania

DATA & STATISTICS

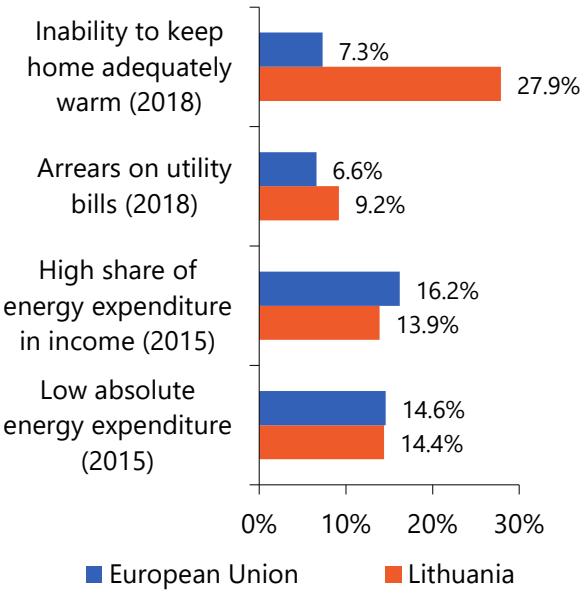
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Lithuania at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Lithuania.

Lithuania performs particularly poorly on the indicator on the inability to keep the home adequately warm. In 2018, 27,9% of people reported that they were unable to keep the home adequately warm. This value is nearly four times the corresponding EU average of 7.3%. The number of people that had arrears on utility bills was at 9.2% and higher than the EU average 6.6%. The fact that the number of people unable to keep the home adequately warm is significantly higher than the number of people with arrears on utility bills might be because households underspend on energy, which is also illustrated by the high number of households that have a low share of energy expenditure in income

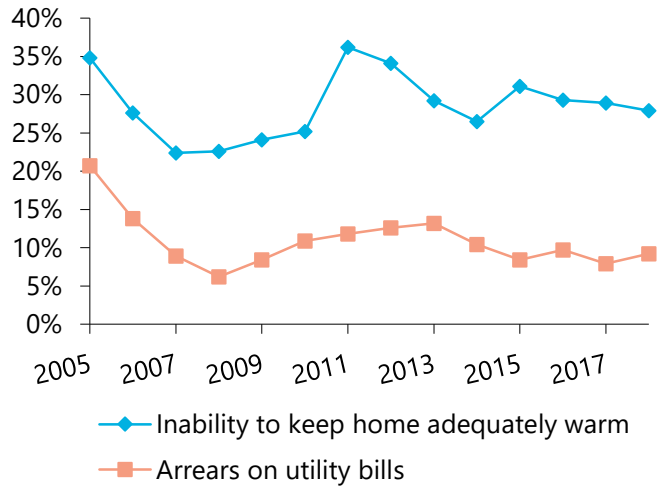
Lithuania's performance in the expenditure-based indicators is slightly better than the EU average. 13.9% of households spend a high share of their income on energy expenditure. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

The energy expenditure of 14.4% of households is unusually low. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Lithuania, the percentage of the population that are unable to keep the home adequately warm was at 35% in 2005, gradually decreased to values of around 25% between 2006 and 2010 and then increased again to 36% in 2011. Since then it showed a decreasing trend and is at 28% in 2018.

Meanwhile the fraction of people who live in households with arrears on utility bills decreased from 21% in 2005 to 6% in 2008. It then increased to 13% in 2013. This increase might be attributed to the financial crisis. Since 2013 there is a declining trend to 9% in 2018. The declining trend might be explained by a general increase in wages and living standards in Lithuania as well as decreasing energy prices (see next page).

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Member State Report
Lithuania

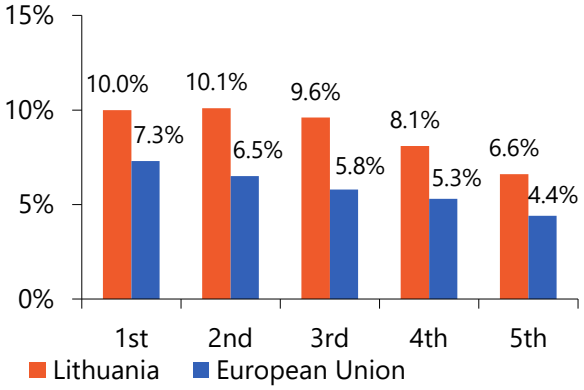
DATA & STATISTICS

The share of energy expenditure of the household income is higher in Lithuania than in the EU average due to its cold climate and lower median wages.

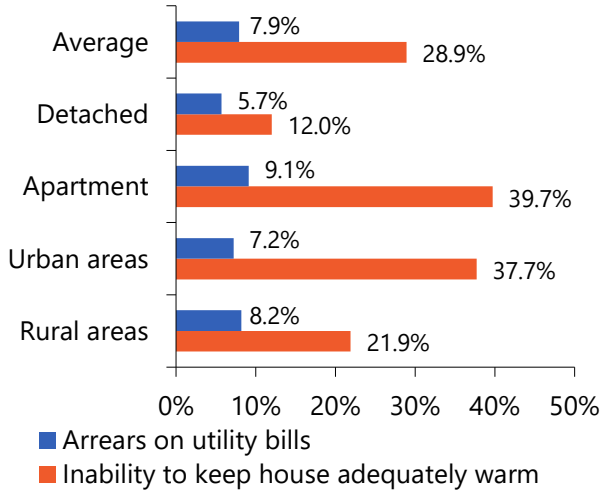
This figure shows that the share of energy expenditure in the first three income quintiles is similar to each other. Therefore, the absolute energy expenditure of the first quintile must be significantly lower than that of the people in the second and third quintile.

This might be explained by the fact that people in the lower quintile groups include many households in rural areas. These tend to have lower heating costs as they often use wood to heat their homes.

Share of energy expenditure of income by quintile (2015)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density and housing type (2017)*



The disaggregated data of the household-reported indicators suggest that energy poverty in Lithuania is highest for people living urban areas and in apartments.

People living in apartments are more than 3 times as likely to be unable to keep their home warm as people living in detached houses.

People living in apartments make up 59% of the Lithuanian population while people living in detached houses make up 36% of the population.

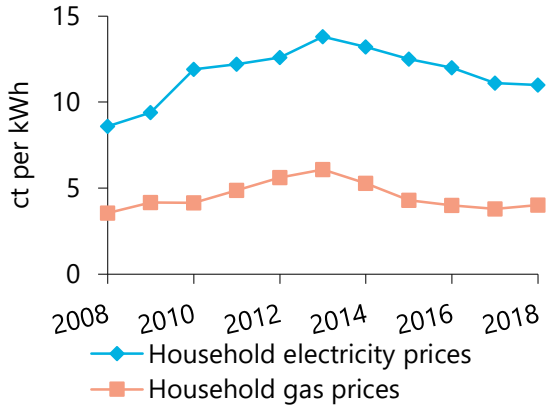
The 43% of the Lithuanian population living in urban areas are nearly twice as likely as the 55% of the population living in rural areas to be unable to keep their home adequately warm. However, the fraction of households that have arrears on utility bills is slightly higher in rural than in urban areas.

The household energy cost has gradually increased over time in Lithuania to reach a peak in 2013 with electricity at 13.8 €ct/kWh and gas at 6.09 €ct/kWh and a gradual decline to values of 11.0 €ct/kWh for electricity and 4.02 €ct/kWh for gas in 2018.

This development corresponds to an increase of people with arrears on utility bills until 2013 and a subsequent decline. This suggest that in Lithuania the development of the number of people with arrears on utility bills is driven by the development of the energy prices.

This decrease in electricity prices can be mainly attributed to new electricity interconnections and power market integration from the Baltic region to Finland, Sweden and Poland in 2014 and 2015.

Lithuania household energy costs over time



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Member State Report
Lithuania

POLICIES & MEASURES

In Lithuania, there is no specific strategy for addressing energy poverty, instead energy poverty is addressed as part of general social policies. Lithuania does not have a national definition of energy poverty. There is little specific research on the topic of energy poverty.

An important instrument to address energy poverty in Lithuania is *heating compensation*, which provides financial assistance to households who cannot afford sufficient heating. In June 2017, the regulation on heating compensation was changed with a view to reduce energy poverty. Households shall not pay more than 10% of the difference between the received income and the State Supported Income, whereas before this was 20%. This has led to around 15.5% more households being eligible for this compensation in 2019. In addition, households that receive heating compensation and live in an apartment building are entitled to support towards the cost of a loan taken out to finance the renovation of the building.

In addition, some *government-sponsored programs* target energy efficiency improvements in multi-apartment buildings. One of the programmes is funded by the European Jessica II Fund and has led to the renovation of 47,000 apartments been between 2009 and March 2018. Another programme aims to *replace inefficient biomass boilers* with more energy efficient alternatives, with funding available for at least 9,000 households.

To lower the energy costs to households, there is a reduced VAT on hot water and district heating of 9% (instead of 21%). After charging the full VAT between June and September 2017 the government the government again reduced the VAT for district heating and hot water to 9%.

Another interesting measure in Lithuania requires energy suppliers to establish an agreement with the national government, whereby the suppliers commit to educating and advising households on energy efficiency measures.

The European project Students Achieving Valuable Energy Savings 2 (SAVES2) is also active in Lithuania. It aims to catalyse sustainable energy behaviours amongst university students to help them reduce their exposure to energy poverty.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Programs for renovation of apartment buildings	Building insulation, Heating system	National government	Apartment buildings	2005	More than 400 apartment buildings renovated since 2013.
Heating compensation	Energy bill support	National government, Local government	Low-income households		Financial assistance to households who otherwise cannot afford sufficient heating.
Program to replace boilers	Heating system	National government	No specific target group		Funding is available for at least 9,000 households.
Agreements on energy education and consultation for energy consumers	Information and awareness	National government, Energy suppliers	No specific target group	2017	Energy suppliers have to educate and advise households on energy efficiency measures.

Member State Report
Lithuania

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Lithuania and presents publications on energy poverty in Lithuania.

Organisation

Name: Housing Energy Efficiency Agency (VšĮ Būsto energijos taupymo agentūra, BETA)
Organisation type: National Government
Description: The Housing Energy Efficiency Agency supports home-owners in the renovation of apartment buildings. It informs apartment owners on programmes for renovation of apartment buildings and co-ordinates between relevant stakeholders such as municipalities, NGOs, home owners and construction companies. Until January 2020 it supported the renovation of 2600 multi-apartment buildings.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organisation type: Association
Description: STEP is a project to develop a simple, innovative and replicable model of measures to address energy poverty. The project covers nine EU member states including Lithuania. STEP's overall objective is to alleviate energy poverty by encouraging behavioural change and low-cost energy efficiency solutions among consumers in or at risk of energy poverty through trusted, tailored advice.

Publication

Title: Energy Poverty Policies and Measures in 5 EU Countries: A Comparative Study
Authors: Kyprianou, I., Serghides, D., Varo, A., Gouveia, J.P. Kopeva, D., Murauskaite, L.
Year: 2019
Description: This academic paper presents and evaluates the energy poverty policies of Lithuania and four other EU Member States. It discusses the status of energy poverty along different indicators as well as various policies in place (consumer protection policies, financial support, energy efficiency measures and information campaigns).

Publication

Title: EU Energy Poverty Observatory Case Study - Jessica II Fund for Multi-apartment Building Modernisation
Authors: Housing Europe, European Investment Bank, EU Energy Poverty Observatory
Year: 2018
Description: This case study discusses the programme for multi-apartment building renovation carried out with financial support from the Jessica II Fund. It gives a detailed description of the measure and discusses what contributed to its success and what could be improved.

Other selected publications

- World Bank (2000) Maintaining Utility Services for the Poor: Policies and Practices in Central and Eastern Europe and the Former Soviet Union
- Lampietti, J., and Meyer, A. (2002) Coping with the Cold: Heating Strategies for Eastern Europe and Central Asia's Urban Poor
- Fankhauser, S. and Tepic, S. (2007) Can poor consumers pay for energy and water? An affordability analysis for transition countries
- World Health Organization (2007) Housing, Energy and Thermal Comfort: A review of 10 countries within the WHO European Region
- Porritt, S.M., Cropper, P.C., Shao, L. and Goodier, C.I. (2012) Ranking of interventions to reduce dwelling overheating during heat waves
- Ruggeri Laderchi, C., Olivier, A., and Trimble, C. (2013) Balancing Act: Cutting Energy Subsidies While Protecting Affordability
- Ecoserveis Association (2018) Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review

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Member State Report
Luxembourg

DATA & STATISTICS

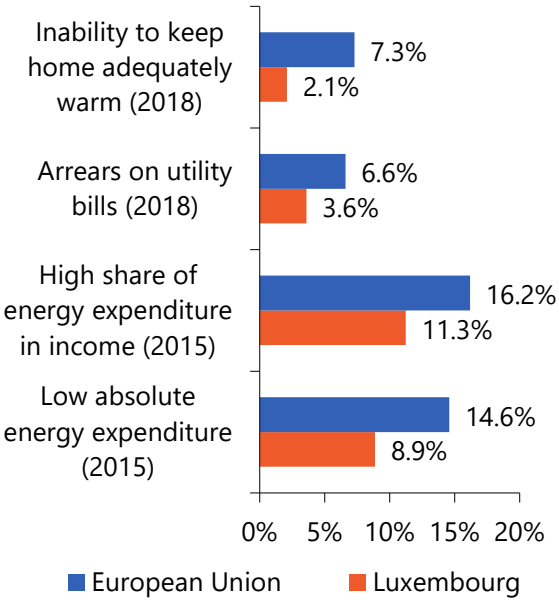
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Luxembourg at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Luxembourg.

Luxembourg has a notably better performance than the EU average on the population-reported indicators. In 2018, 2.1% of the population in Luxembourg reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 3.6% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

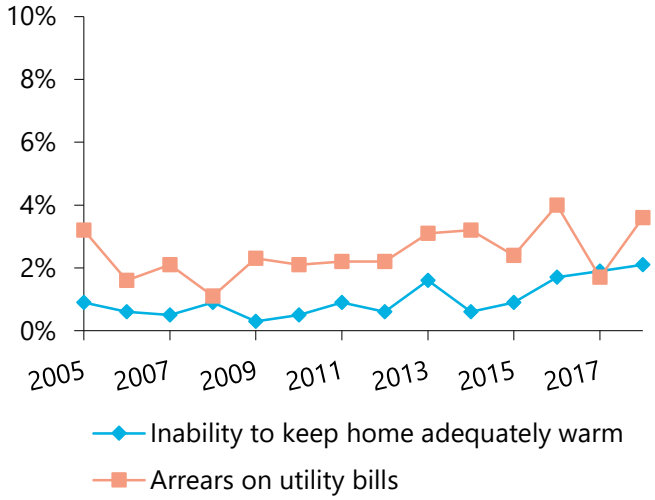
Luxembourg's performance in the expenditure-based indicators is also better in comparison to the EU average. In 2015, the share of households that spend a high share of their income on energy expenditure was 11.3% which is below the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 8.9% Luxembourg has a lower number of households that spend a low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Luxembourg, the percentage of the population that is unable to keep the home adequately warm has been below 2% since 2005, although in recent year this has seen a small increase at 2.1% for 2018.

Meanwhile the percentage of the population that has arrears on utility bills follows a similar trajectory and increased slightly in the past few years reaching a value of 2.6% in 2018.

It is noted that energy poverty levels in Luxembourg are notably less than the EU average despite a very slight increase in energy poverty in 2018.

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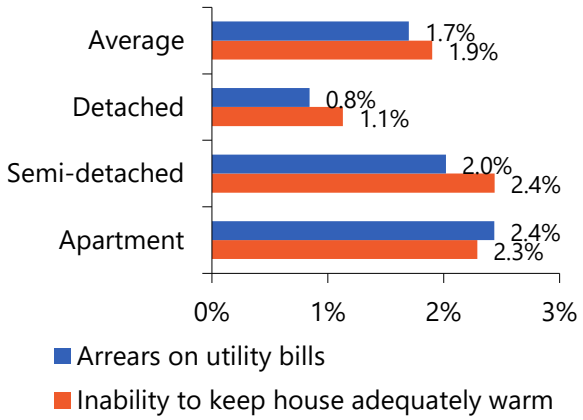
Member State Report
Luxembourg

DATA & STATISTICS

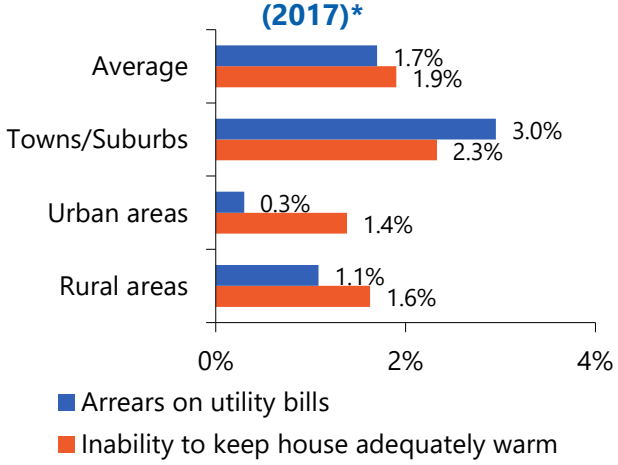
The disaggregated data of the population-reported indicators suggest that energy poverty in Luxembourg is the highest for the population living in an apartment type dwelling for 2017. This is closely followed by those living in semi-detached housing. These two dwelling types account for 32% and 28% of the population living in apartment and semi-detached dwellings, respectively.

The data also indicates that those living in social housing are the most vulnerable to these indicators, noting that just 5% of the population living in social housing.

Inability to keep home warm and Arrears on utility bills disaggregated by dwelling type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*



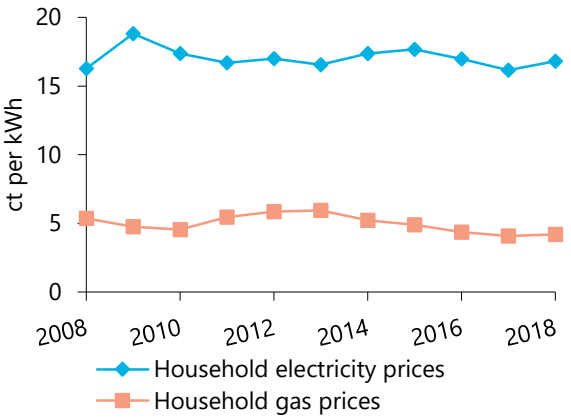
In Luxembourg, towns/suburb areas have the lowest performance for ability to keep the house adequately warm at 2.3% and having arrears on utility bills at 3% for the year 2017. This is followed by rural areas while urban areas are at the lowest risk for energy poverty.

The population distribution across different urban densities in Luxembourg is notably different to that of the EU average where urban areas generally have the highest population percentage. In Luxembourg, for the year 2017, rural areas account for the highest percentage of the population at 46%, followed by towns/suburbs at 39% and urban areas at 16%.

Luxembourg household energy costs over

The household energy cost over time in Luxembourg has been quite consistent with the biggest change occurring between 2008 and 2009 for electricity and between 2010 and 2011 for gas. The sharp increase in electricity may be attributed to the financial crisis.

The price per unit for the year 2018 is lower than the EU average for both gas and electricity, at 4.2 €ct/kWh and 16.8 €ct/kW, respectively.



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Member State Report
Luxembourg

POLICIES & MEASURES

In Luxembourg, specific national research on energy poverty has yet to be developed. At the time this factsheet was created, no publications were found that analyse energy poverty in Luxembourg specifically.

Energy poverty is primarily addressed through social policy in Luxembourg. The national government provides a *guaranteed minimum income* level to all households if necessary, as well as a broader *income support* programme for low-income households which varies varied according to the composition of the household in question.

In addition, there are multiple programmes to stimulate energy efficiency and renewable energy in households, even though these are not specifically focused on the energy poor. The *Energy Efficiency Obligations* scheme, started in 2015, requires electricity and natural gas suppliers to achieve a certain amount of energy savings by informing consumers on energy efficiency and promoting energy efficiency improvements. *Climate loans* are also available, which provide zero interest or a reduced interest rate and are partially financed by the national government through a private bank. *Energy renovation subsidies* help households finance energy renovations for buildings that are older than 10 years.

Furthermore, there are multiple information and awareness measures on energy. *Calculix* is a website by the Luxembourgish regulator that compares electricity and natural gas prices of different energy suppliers, allowing households to make informed decision to be able to switch to a cheaper tariff. *OekoTopten* is a project providing information on energy efficient appliances through a web-based portal. Finally, *MyEnergy* is the national organisation in Luxembourg that promotes a sustainable energy transition. It also operates a website with information, an information phone number as well as infopoints where advice on energy savings is provided.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Climate loans	Building insulation, Heating system, Renewable energy	National government	No specific target group		
Energy renovation subsidy	Building insulation, Heating system, Renewable energy	National government	No specific target group		
Energy efficiency obligations	Information and awareness	Energy suppliers	No specific target group	2015	
Oekotopten	Information and awareness	NGO	No specific target group		
MyEnergy	Information and awareness	National government	No specific target group		
Calculix – Price comparison website	Information and awareness	Regulator	No specific target group		
Income support	Social support	National government	Low-income households		
Guaranteed minimum income	Social support	National government	Low income households		

Member State Report
Luxembourg

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Luxembourg and presents publications and training resource on energy poverty in Luxembourg.

Organisation

Name: European Anti-Poverty Network (EAPN)
Organisation type: NGO
Description:
EAPN is the largest European network of national, regional and local networks, involving anti-poverty NGOs and grassroot groups as well as European Organisations, active in the fight against poverty and social exclusion.

Organisation

Name: European Energy Network
Organisation type: Association/National government
Description: European Energy Network (EnR) is a voluntary network of European energy agencies which aims at promoting sustainable energy good and best practice. EnR strengthens cooperation between members and key European actors on issues concerning sustainable energy.

Publication

Title: Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health (Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health)
Authors: Recalde, M. et al.
Year: 2019
Description: Energy poverty is structurally determined by broader political and socio-economic conditions. Their aims were to analyse the configuration of these determinants in each EU-27 Member State.

Organisation

Name: Energy Cities
Organisation type: Association/Local government
Description: Energy Cities is the European Association of local authorities in energy transition. The association created in 1990 represents now more than 1,000 towns and cities in 30 countries. Energy Cities wants a radical transformation of the energy systems and policies, giving citizens the power to shape a decentralised and renewable energy future. They trigger a trustful dialogue between citizens, local leaders and EU & national institutions to accelerate the energy transition in Europe.

Other selected publications

- No other publications found for Luxembourg in the field of energy poverty.

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Malta

DATA & STATISTICS

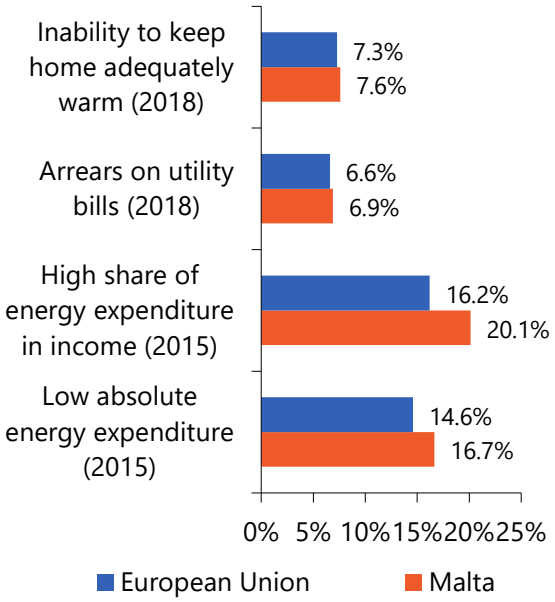
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Malta at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Malta.

Malta has a marginally lower performance than the EU average on the household-reported indicators. In 2018, 7.6% of households reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 6.9% were unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

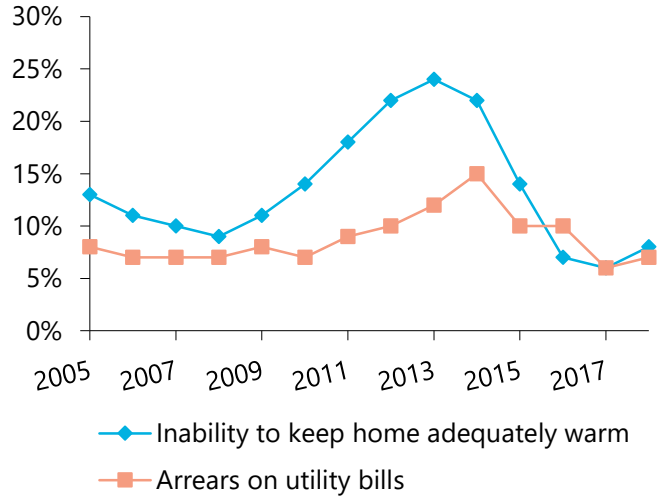
Malta's performance in the expenditure-based indicators is lower than the EU average for 2010. The share of households that spend a high share of their income on energy expenditure is 20.1% which is higher than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 16.7% Malta has a marginally higher number of households that spend a low share of their income on energy expenditure than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Malta, the percentage of households that are unable to keep the home adequately warm increased from 9% in 2008 to a maximum peak of 24% in 2013 most likely largely explained by the financial crisis. It decreased to 6% in 2017 which may be a result of investment in the energy infrastructure as well as improvement of the economic conditions. Meanwhile households on arrears on utility bills follow a different trajectory and increased slowly from 7% in 2010 to 15% in 2014. It is noted that the arrears on utility bills indicator might not capture the ability to pay for LPG. LPG is used in the majority of households for heating and cooking and is purchased by consumers directly from the supplier in cylinders.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

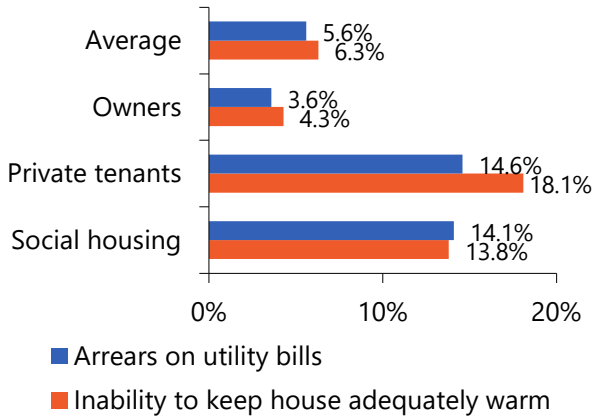
**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

Member State Report
Malta

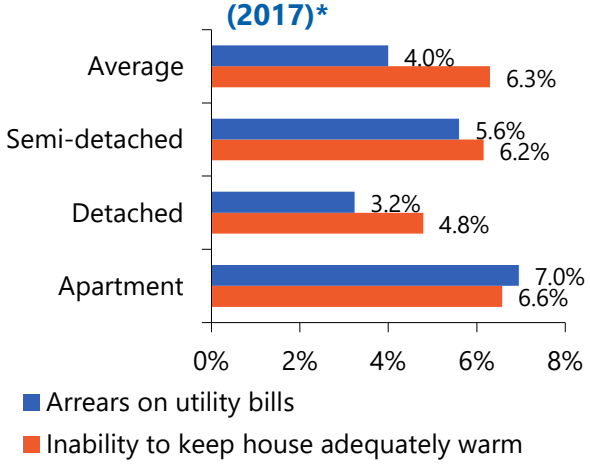
DATA & STATISTICS

The disaggregated data of the household-reported indicators suggest that energy poverty in Malta is highest for the private tenant sector at 18.1% for inability to keep the house warm and 14.6% for arrears on utility bills. This may be due to an increase in rental prices for residential dwellings in the past few years. The social housing sector closely follows the private tenants sector. The private tenant sector accounts for 5% of the population in Malta, while social housing is 14% of the population. This suggests that almost one fifth of the Maltese population is at higher risk of energy poverty.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by dwelling type (2017)*

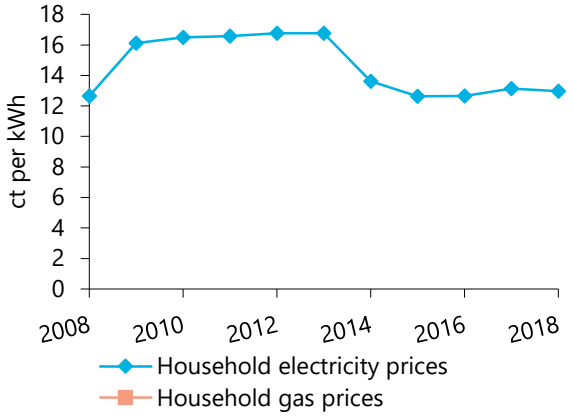


In Malta, people living in an apartment dwelling type have the lowest performance for the ability to keep the house adequately warm and having arrears on utility bills. Apartment dwellings account for 55% of the population in Malta. The majority of social housing and private tenant tenure types are apartment dwellings.

The performance of semi-detached dwellings are similar to that of apartment dwellings. However the inability to keep house warm is higher than the arrears on utility bills in this case.

The household energy cost over time in Malta has fluctuated over the years. There is a sharp increase between 2008 and 2009 where the electricity price increases from 12.6 €ct/kWh to 16.1 per €ct/kWh. The highest price per kWh is in 2013 at 16.6 €ct. The electricity price decreases to 12.7 €ct/kWh in 2016. It is noted that the household gas price is not the best indicator for Malta as the majority of heating and cooking is based on LPG.

Malta household energy price over time



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Member State Report
Malta

POLICIES & MEASURES

In Malta, research focusing on energy poverty is limited. Publications related to analysis of the energy poverty in Malta could not be found. However, indicators on energy poverty are included in Malta's Strategic Policy for Poverty Reduction and for Social Inclusion (2014-2024).
The most important instrument addressing energy poverty in Malta is the *energy benefit* scheme, which provides financial assistance to households to pay for their electricity and LPG bills. The measure focuses on specific vulnerable groups: low income households, households on social benefits, pensioners, the disabled, and the unemployed. It is funded by the national government and does not target a specific household category.

In addition, there are programmes to stimulate energy efficiency and renewable energy in households. The *Energy Efficiency Obligation Scheme* requires electricity and natural gas suppliers to achieve a certain amount of energy savings. In this scheme, the national government may require a share of energy efficiency measures to be implemented as a priority in households affected by energy poverty. The support schemes for renewable energy and insulation provides financial assistance to households to invest in renewable energy and energy efficiency options even though these are not specifically targeted to energy poor households.

The *Energy Efficiency in Low Income Households in Mediterranean* (ELIH-Med) project has also been active in Malta. As the name implies the country participants of this programme are all within the Mediterranean region. The ELIH-Med focused on large-scale identification and experimentation on a set of practical and innovative technical options and financial mechanisms targeted to develop energy efficiency in low-income housing. This programme was started in 2011 and was a European public funded project.

Another European project in Malta is the SMART-UP (Consumer empowerment in a smart meter world). This encourages the active use of smart meters by vulnerable consumers. It encourages the consumer to change their energy behaviour by monitoring their in-home displays. Social workers and other frontline staff have been trained within the project to advise and empower vulnerable households to become more energy efficient. This was started in the year 2015 and has a target of engaging 5000 vulnerable households in total.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Support schemes for renewable energy and insulation	Building insulation, Heating system, Renewable energy	National government	No specific target group		
Energy Benefit	Energy bill support	National government	Disabled, Households on social benefits, Low-income households, Pensioners, Unemployed		
Energy efficiency obligations	Information and awareness	Energy suppliers, Grid operator	No specific target group		
Energy Efficiency in Low Income Households in Mediterranean (ELIH-Med)	Heating system, household appliances	European Union	Low income households	2011	
Consumer empowerment in a smart meter world (SMART-UP)	Energy Audits, Information and awareness	European Union	Vulnerable households	2015	

Member State Report
Malta

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Malta and presents publications on energy poverty in Malta.

Organisation

Name: Consumer empowerment in a smart meter world (SMART-UP)
Organisation type: Research & Consultancy
Description:
The project encourages the use of smart meters and in-home displays by vulnerable consumers to change their energy behaviour. Social workers and frontline staff have been trained to advise and empower vulnerable households to become more energy efficient.

Organisation

Name: Institute for Sustainable Energy
Organisation type: Research & Consultancy
Description: The Institute of Sustainable Energy within the University of Malta monitors developments related to energy utilization in sectors such as demography, economy and industry. Analysis of trends of sector energy use provide basis for a strategy for the application of energy conservation and renewable energies.

Publication

Title: Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health
Authors: Recalde, M. et al.
Year: 2019
Description: Energy poverty is structurally determined by broader political and socio-economic conditions. The aim was to analyse the configuration of these determinants in each Member State through the creation of a structural energy poverty vulnerability (SEPV) index.

Publication

Title: Analysis of the current energy support mechanism for low income groups and investigation of alternative energy support measures to support vulnerable consumers in Malta.
Authors: Formosa, A.
Year: 2015
Description: An In-depth analysis of the energy consumption patterns of vulnerable consumers, the modelling of a proposed definition appropriate to the local context, and an analysis of the impact that the application of this definition will have

Other selected publications

- No other publications found for Malta in the field of energy poverty.

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This report was completed in February 2020.

Member State Report
Netherlands

DATA & STATISTICS

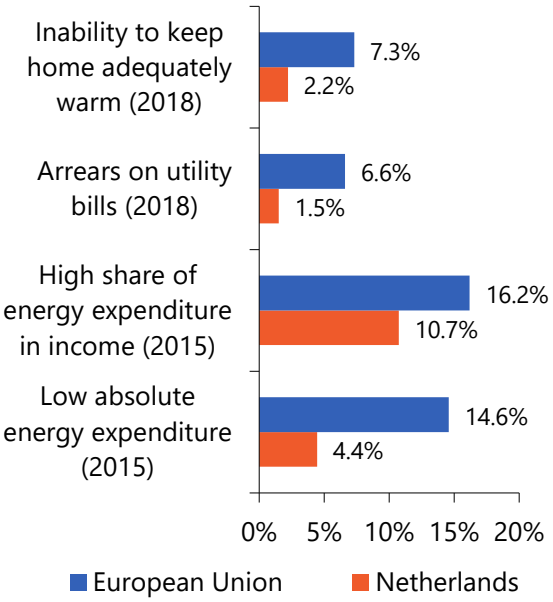
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in the Netherlands at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in the Netherlands.

The Netherlands has a better performance than the EU average on the population-reported indicators. In 2018, 2.2% of Dutch people reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.4%. Similarly for 2018, 1.5% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

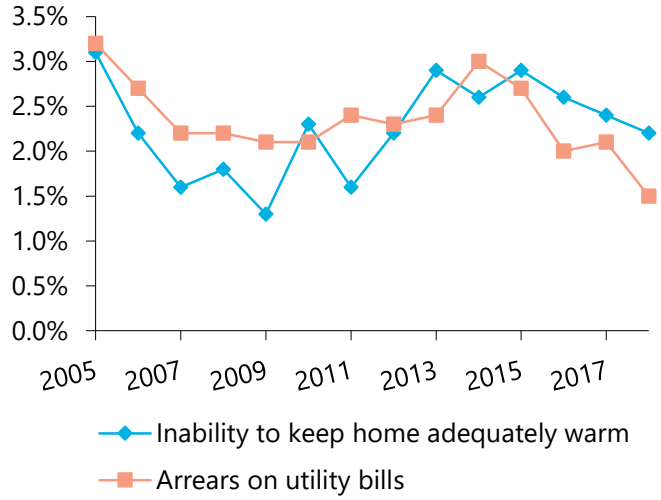
The Netherlands's performance in the expenditure-based indicators is better compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 10.7%, which is lower than the EU average. These households are likely to live in a poorly insulated dwelling, combined with other financial challenges.

Moreover, at 4.4% the Netherlands has a significantly lower share of households that spend unusually low on energy than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In the Netherlands, the percentage of population that are unable to keep the home adequately warm gradually decreased from 3% in 2005 to 1% in 2009. The notable increases between 2010 and 2015 may be attributed to cold winters, and to a lesser extent the financial crisis. In 2018 the indicator lowered to 2%. Meanwhile the population in arrears on utility bills fluctuated from 3% in 2005 to 2% in 2018.

Cold spells seem to precede spikes in arrears on utility bills. A large push for enhanced energy efficiency across a variety of segments in the built environment might have contributed to a slight improvement to keep the home adequately warm.

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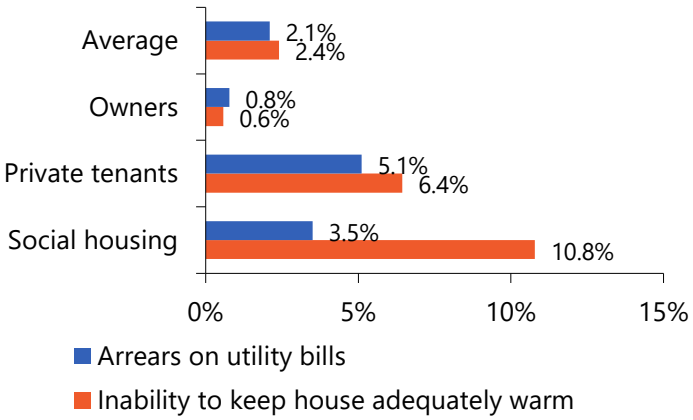
Member State Report
Netherlands

DATA & STATISTICS

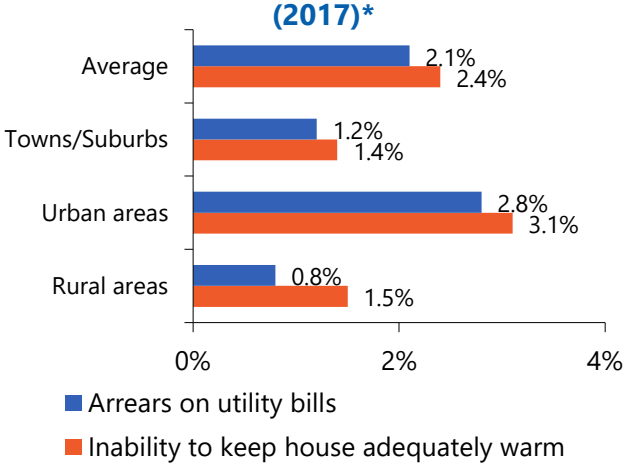
The disaggregated data of the household-reported indicators suggest that energy poverty in the Netherlands is highest for the social housing sector in 2017, at 10.8% for inability to keep the house warm and 3.5% for arrears on utility bills.

The data also indicates that apartment type dwellings are the most vulnerable, noting that 19% of the population lives in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*



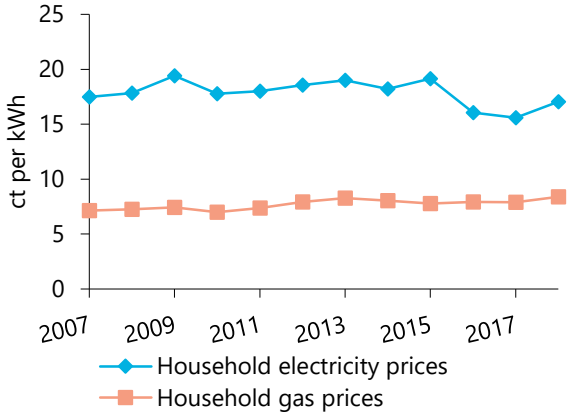
In the Netherlands urban areas have the lowest performance for ability to keep the house adequately warm and being in arrears on utility bills, closely followed by town/suburb areas. This may be due to the higher costs of living in urban areas and the relatively high proportion of poor populations living in cities. Urban areas account for 56% of the Dutch population.

Towns and rural areas are similarly unable to keep their house adequately warm with values comparable to each other, as well as for arrears on utility bills. This may be attributed to the dwelling type most prevalent in rural areas and by having lower building density which increases heat dissipation. The rural area accounts for 10% of the Dutch population.

The household energy cost over time in NL has gradually increased for gas to reach 8.38 €ct/kWh in 2018. Household electricity prices fluctuated more, with a price of 17.07 €ct/kWh in 2018.

Due to the end of the national gas production, natural gas prices are expected to increase in the coming years. To enable this push, taxes on gas will increase more then taxation on electricity, hence the gap might become smaller between the two commodities. This could possibly trigger a higher inability to keep the house adequately warm, as most houses in The Netherlands are currently heated with gas boilers.

NL household energy costs over time



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Member State Report
Netherlands

POLICIES & MEASURES

In the Netherlands, research and activities on energy poverty have become more prevalent in recent years. The research focuses in particular on the distributional effects and affordability of the energy transition in the context of political discussions. The first NGO to address energy poverty on a national scale, *Energy bank,* was established in 2015.

Energy poverty is addressed mainly through social policy in the Netherlands, including strong social housing and social support systems. Multiple policies exists to improve energy efficiency in social housing. The *Energy savings convent* rental sector is an agreement between the national government and stakeholders in the social housing sector stipulating that all social housing achieve a minimum energy performance. There is also an incentive scheme that provides financial assistance for improvements in the energy performance of social housing. In order to avoid the landlord-tenant dilemma, the total housing costs (rent, service costs and energy costs) cannot be increased due to the renovation.

There is also a *disconnection protection* measure for vulnerable households in the winter (1 October–1 April). Households can also benefit from a tax reduction of a fixed amount (around €300) to cover basic electricity needs. Another interesting measure is the *Guide on energy subsidies*, which allows households to easily check what subsidies they can receive for energy savings.

Furthermore, various subsidies and tax rebates are available for the improvement of insulation and the switch to renewable and sustainable energy carriers at household level. Subsidies for improved thermal efficiency are often available at the municipal level and regularly prioritise low-income groups.

Finally, there have been multiple initiatives that address energy poverty through energy advisors that visit households to provide energy advice, such as the abovementioned *Energy bank* and the *Energy box*. It has been estimated that these projects lead to savings per household in the range of €56–113 per year. They do so by enhancing the level of knowledge of the participants around energy savings and therefore prioritise low hanging fruit in behavioural change and thermal efficiency investments.

The draft National Energy and Climate Plan (NECP) of The Netherlands does not address energy poverty policies explicitly, as it is deemed to be covered by national poverty alleviation policies and related welfare programmes.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Energy savings covenant rental sector	Building insulation, Heating system, Renewable energy	National government	Social housing	2008	28% of Social Housing estates had received energy efficiency upgrades, albeit not achieving the required targets in the covenant.
Incentive scheme to improve energy performance of social housing	Building insulation, Heating system, Renewable energy	National government	Social housing	2014	Unknown, currently pending
Disconnection protection households	Disconnection protection	National government	Vulnerable households	2018	Unknown, currently pending
Energy bank	Energy audits, Energy bill support, Household appliances	NGO, Grid operator	Low-income households, Households on social benefits	2015	The savings per household were between 56 and 113 euro per year.
Energy box	Energy audits, Household appliances	Business/Industry, Local government, Grid operator	Private tenants, Social housing	2014	+5.000 participants saving on average €113,-, 257 kWh and 85m3 gas
Electricity tax reduction for basic needs	Energy bill support	National government	No specific target group,	2011	Not measured
Guide on energy subsidies	Information and awareness	National government	No specific target group		Not measured
Energy Toolbox	Information and awareness	Local government	No specific target group		Not measured

Member State Report
Netherlands

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in The Netherlands and presents organisations working on energy poverty in The Netherlands.

Organisation

Name: Incentive scheme to improve energy performance of social housing
Organisation type: National government
Description: This policy, combined with a subsidy scheme, is available for social housing operators to improve the energy efficiency of their housing portfolio. Higher efficiency gains are rewarded with higher subsidies. Energy costs for residents cannot be increased in the first years after the renovation. Social housing operators can chose between individual and collective efficiency measures, thereby facilitating customised solutions.

Publication

Title: Going Dutch: Local Government and Fuel Poverty
Author: Scott-Smith, L.
Year: 2011
Description: This paper explores the challenge of rising household energy costs and draws on international inspiration to suggest a new model of support that councils can adopt to help citizens. More broadly, this paper calls on local government to consider new ways of engaging with citizens above and beyond traditional relationships.

Publication

Title: From gas-fired boilers to sustainable heating
Author: Oei, A., et al.
Year: 2018
Organisation type: Research & Consulting
Description: This report analyses the financial incentives that are needed for Dutch households to facilitate a transition to sustainable heating. Residential heating is one of the bottlenecks as households have gas fueled central heating systems, which have few economic alternatives. Alternative heating sources require individual investments and collective infrastructural changes.

Organisation

Name: Energy bank
Organisation type: NGO & Grid Operator
Description: This measure aims to assist households by providing short-term financial support for energy bills as well as energy advice through a voluntary advisor. A wide variety of citizens can make use of this, yet the main target group are economically deprived inhabitants. Also some small materials to improve energy efficiency are provided. The underlying aim is to avoid poverty due to energy expenditures. The savings per household ranged between 56 and 113 euro per year.

Other selected publications

- Ekamper, P., van Poppel, F., van Duin, C. and Garssen, J. (2009) 150 Years of temperature-related excess mortality in the Netherlands
- Scott-Smith, L. (2011) Going Dutch: Local Government and Fuel Poverty
- Tigchelaar, C., et al (2011) Obligations in the existing housing stock: Who pays the bill?
- Murphy, L. (2014) The influence of energy audits on the energy efficiency investments of private owner-occupied households in the Netherlands
- Clancy, J.S., Daskalova, V., Feenstra, M.H. (2017) Gender perspective on access to energy in the EU
- Straver. K, et al. (2017) Report on energy poverty. Effective policies to improve energy efficiency and reduce energy poverty
- Vergeer, R., Rooijers, F., and Davidson, M. (2017) Justice and income effects of climate policy
- Oei, A., et al. (2018) From gas-fired boilers to sustainable heating
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health

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Member State Report
Poland

DATA & STATISTICS

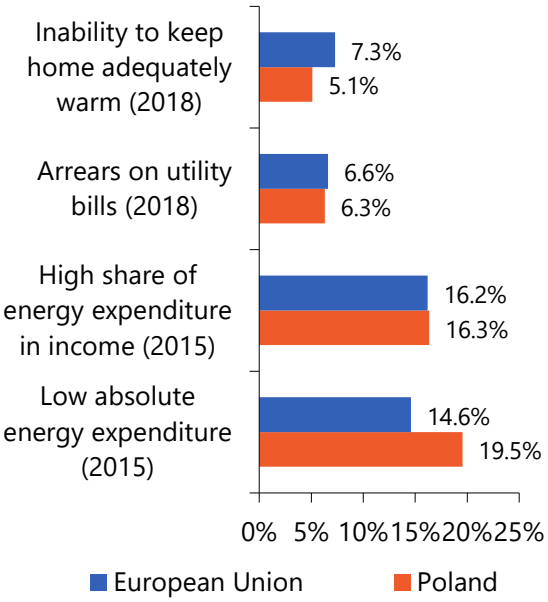
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Poland at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Poland.

Poland has a better performance than the EU average on the household-reported indicators. In 2018, 5.1% of the Polish people reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.4%. Similarly for 2018, 6.3% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

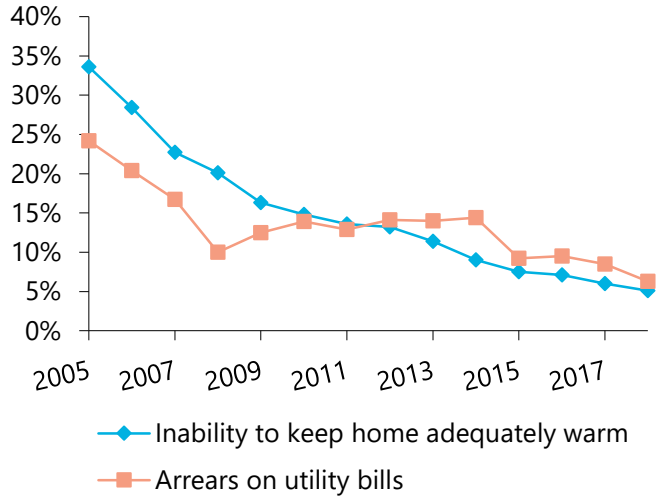
Poland's performance in the expenditure-based indicators is mixed compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 16.2% which is close to the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency.

At 19.5% Poland has a higher number of households than the EU average that spend a lower share of their income on energy expenditure. These households either live in homes with high efficiency standards or restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Poland, the percentage of households that are unable to keep the home adequately warm gradually decreased from 34% in 2005 to 5% in 2018. During this timeframe, the percentage showed a consistent drop. Even the financial crisis or relatively cold winters do not seem to have a large effect on the reported indicators.

Meanwhile, households on arrears on utility bills follow a roughly similar trajectory and decreased notably between 2005 and 2008 from 24% to 10%. By the year 2014, the arrears on utility bills increased to 14%. In the years after that it decreased to 6%. Fluctuations in this percentage display an effect from economic conjectures.

About the EU Energy Poverty Observatory

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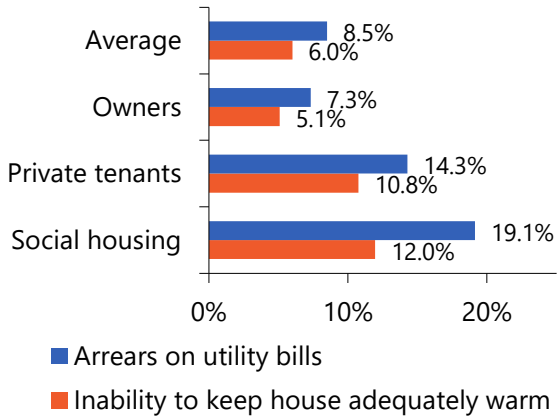
Member State Report
Poland

DATA & STATISTICS

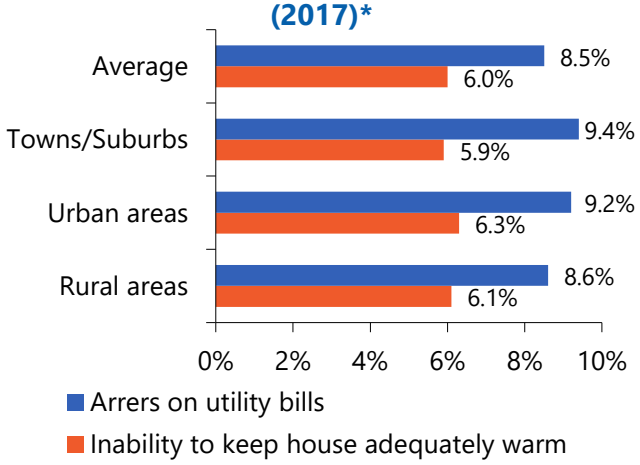
The disaggregated data of the household-reported indicators suggest that energy poverty in Poland is highest for the social housing sector in 2017, at 12% for inability to keep the house warm and 19.1% for arrears on utility bills. The social housing sector, which is most vulnerable to these indicators, accounts for 12% of the population in Poland.

The data also indicates that apartments and a detached type dwelling are the most vulnerable to these indicators, noting that 94% of the population live in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*



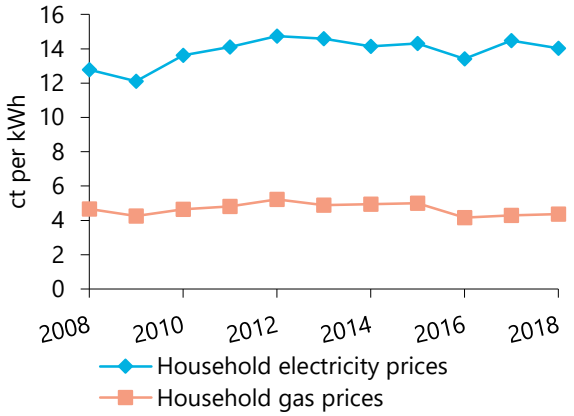
In Poland urban areas and towns/suburbs have the lowest performance for ability to keep the house adequately warm and being in arrears on utility bills. Urban areas are often characterised by a relatively large poor population, while further outside densely populated areas it becomes harder to keep the house adequately warm due to higher heat dissipation.

In Poland urban areas account for 34% of the population and 24% of the population lives in Towns/suburbs. 42% of Polish residents live in the rural areas, which is notably higher than the EU average. These regions often lack adequate infrastructure and therefore sometimes opt for a variety of heating sources.

The household energy cost over time in Poland have been relatively stable over time. A peak was reached in 2012 with electricity at 14.7 €ct/kWh and gas at 5.23 €ct/kWh. There is a slight increase in electricity price between 2009 and 2012.

These price does not seem to have a significant impact on the population reported indicators mentioned above. Over time, electricity prices slightly risen and gas prices have stayed pretty stable. Energy Poverty reported indicators have shown a relatively stable decrease over this timeframe.

Polish household energy costs over time



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Member State Report
Poland

POLICIES & MEASURES

In Poland, research on energy poverty has significantly increased in recent years. This research focused on all aspects of energy, including defining and measuring of energy poverty (Owczarek and Miazga 2015), energy efficiency (Stępniak and Tomaszewska 2014), energy prices (Lis and Miazga 2015) and regional differences (Lis, Sałach, and Miazga 2015). This increased focus on energy poverty is linked to efforts to reduce air pollution, which is partly caused by the use of less efficient, more polluting energy sources such as coal (see for example Pytliński L., Guła A. and A. Dworakowska 2018). The new *Clean Air programme* of the Polish government contains significant funds for energy efficiency.

Energy poverty is addressed mainly on the national level through financial support, including energy bill support and social support. The *energy/housing allowance* provides financial assistance to households to pay their electricity bills, while the *energy lump sum* provides specific financial assistance for energy bills to people in military operations or wars. More generally, the *special purpose allowance* can be given in certain cases to meet basic needs, including fuel and energy expenses.

In addition, the NGO Habitat for Humanity launched an advocacy project in 2017 that aims to prevent energy poverty in Poland. The project involves a number of initiatives that seek to provide a better understanding of the issue, as well as active collaboration with other non-profit organisations, business partners, government officials and local authorities.

Furthermore, the national government operates general programmes and policies to improve energy efficiency and renewable energy in households, some of which are specifically targeted to the energy poor citizens.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Clean Air programme	Building insulation, Heating system	National government	No specific target group	2018	The Clean Air Program provides financing to improve heating systems in households
Energy lump sum	Energy bill support	National government	Pensioners	Unknown	This measure provides financial assistance for energy bills to people that were involved in military operations or wars
Energy allowance/Housing allowance	Energy bill support	Local government	Low-income households	2014	This measures provides financial assistance to households to pay their electricity bills
National support system for energy efficiency and RES	Information and awareness	National government	No specific target group	Unknown	This project aims to support different stakeholders in Poland to improve energy efficiency by providing guidance and information. Advisors are available that can give households information on how to improve energy efficiency
Prosument - subsidies for small RES installations	Renewable energy	National government, Local government	No specific target group	Unknown	This measure includes subsidies for small-scale RES generation
Special purpose allowance	Social support	National government	Low-income households	Unknown	This measure can be given in certain cases to meet basic needs, including fuel and energy expenses

Member State Report
Poland

PUBLICATIONS & ORGANISATIONS

This page gives an overview of publications on energy poverty in Poland and presents organisations working on energy poverty in Poland.

Organisation

Name: Habitat for Humanity
Organization type: NGO
Description: The project involves a number of initiatives that should provide a better understanding of the issue, as well as active collaboration with non-profit organisations, business partners, government officials and local authorities. The project includes the following actions: mobilisation and development of Energy Poverty Prevention Group, Study visits, advocacy and participation in public consultations, gathering and systemising information on the topic.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organization type: Research & Consultancy
Description: Solutions to Tackle Energy Poverty (STEP) is a project to develop a simple, innovative and replicable model of measures to address energy poverty. The organisation helps to disperse advice to energy poor consumers, they carry out campaigns on how to save energy and STEP disseminates best practices and policy choices to alleviate energy poverty and promote replication of these solutions.

Publication

Title: Heterogeneity of the fuel poor in Poland – quantification and policy implications
Authors: Lis, M., Sałach, K., Swiecicka, K.
Year: 2016
Description: The purpose of the paper is to quantify the heterogeneity of causes and symptoms of energy poverty in order to provide guidance for policies aimed at fuel poverty alleviation. It quantified the diversity of the households in Poland in terms of energy efficiency and income using cluster analysis.

Training Resource

Title: It's cold inside – energy poverty in Poland
Authors: Miazga, A. and Owczarek, D.
Year: 2015
Description: The aim of this paper is to present a statistical measure of energy poverty in Poland. This is the first research for Poland which is strictly based on the methodology applied in the United Kingdom – the only country with a statutory definition of energy poverty. The results are compared with a subjective energy situation assessment made by households.

Other selected publications

- Stępniak, A., and Tomaszewska, A. (2014) Energy poverty and energy efficiency - an analysis of the problem and recommendations (in Polish)
- Lis, M. and Miazga, A. (2015) Who will be affected by rising energy prices? Map of energy expenditures of Poles
- Owczarek, D., and Miazga, A. (2015) Energy poverty. Definition and characteristics
- Swora, M., Buchowska, N., Skoczylas, M. (2015) Granting vulnerable customers an access to energy
- Lis, M., Sałach, K., Miazga, A. (2016) Location, location, location. What accounts for regional variation of fuel poverty in Poland?
- Szpor, A., and Lis, M. (2016) Fuel poverty alleviation in Poland: turning evidence into action
- Lewandowski, P. and Sałach, K. (2018) Energy poverty in Poland, 2012-2016
- Ziółkowska K., Rutkowski J., Sałach, K. and A. Szpor (2018) How to reduce energy poverty in Poland?
- Pytliński L., Guła A. and A. Dworakowska (2018) Poor houses *(in Polish)*
- Statistics Poland, (2019) Energy consumption in households in 2018

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Portugal

DATA & STATISTICS

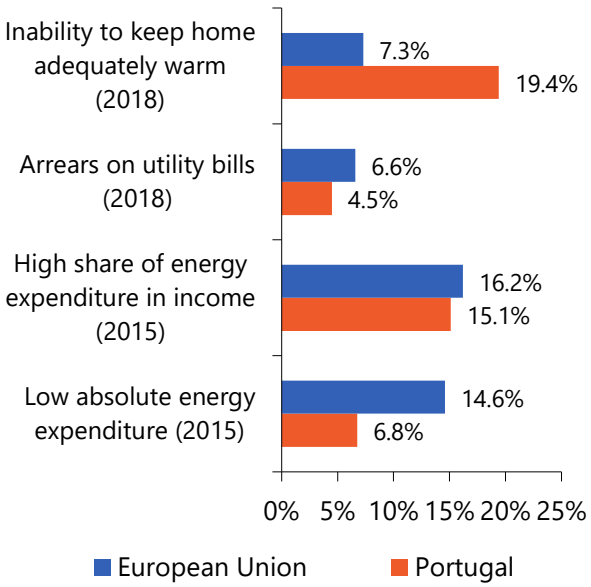
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Portugal at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Portugal.

Portugal has a mixed performance in comparison to the EU average on the reported indicators. In 2018, 19.4% of the population reported that they were unable to keep the home adequately warm which is notably higher than the corresponding EU average at 7.3%. Conversely, for 2018, 4.5% of the population were unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

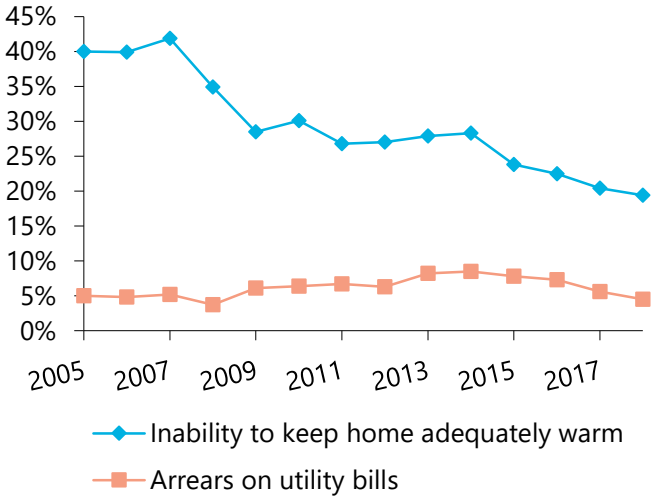
Portugal's performance in the household expenditure-based indicators is better than the EU average. The share of households that spend a high share of their income on energy expenditure is 15.1% which is slightly lower than the EU average The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building

Moreover, at 6.8%, Portugal has a notably lower number of households that spend a low share of their income on energy expenditure than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Portugal, the percentage of households that are unable to keep the home adequately warm decreased significantly from 42% in 2007 to 19.4% in 2018. The sharpest decrease was between 2007 and 2009 which may be due to a new social tariff introduced in 2008 aimed at providing financial assistance to vulnerable households. Meanwhile the percentage of households with arrears on utility bills follows a consistent pattern throughout the years.

This difference between the inability to keep warm and the arrears on utility bills might be due to the important share of wood fuel used for heating purposes that are not included in utility bills.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

Member State Report
Portugal

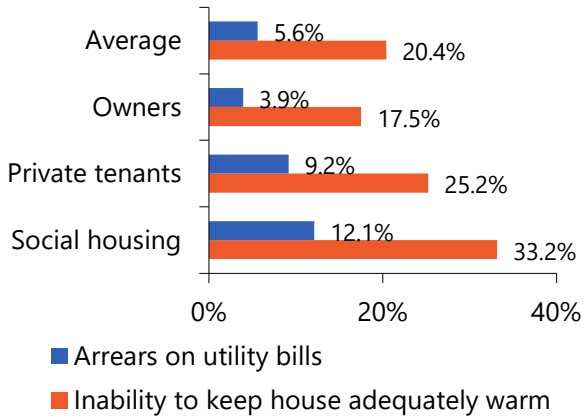
DATA & STATISTICS

The disaggregated data of the household-reported indicators suggest that energy poverty in Portugal is highest for the social housing sector in 2017, at 33.2% for inability to keep the house warm and 12.1% for arrears on utility bills.

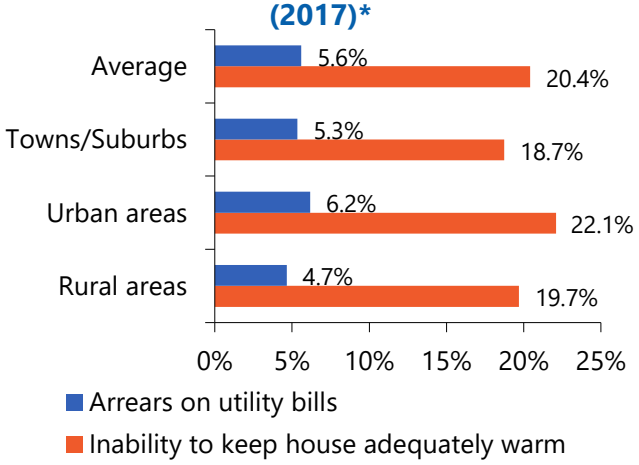
The social housing sector, which is particularly vulnerable in keeping the house adequately warm, accounts for 13% of the population in Portugal. Private tenants are also at notable risk of being unable to keep the home warm, having 25.2% for this indicator in 2017.

Household owners are at lowest risk of energy poverty, based on 2017 indicators.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*



In Portugal, urban areas have the lowest performance for the ability to keep the house adequately warm and having arrears on utility bills, very closely followed by town/suburb and also rural areas.

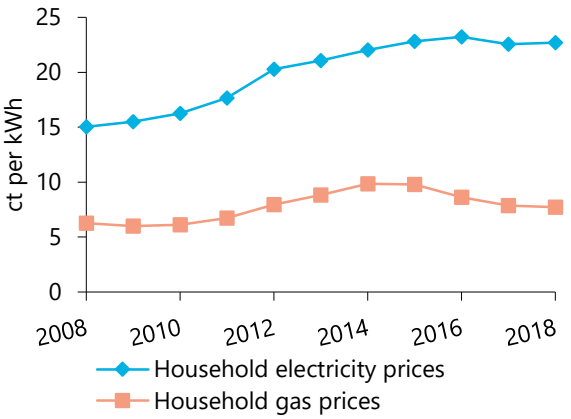
This indicates that energy poverty in Portugal is not particularly sensitive to the urban density and that poor populations are spread out across all types of areas. Urban areas, intermediately populated areas and rural areas account for 44%, 30% and 26% of the population of Portugal, respectively.

The data also shows that energy poverty is distributed somewhat evenly across all dwelling types, despite having 45% of the population living in apartments.

Portugal household energy costs over time

The household energy prices over time in Portugal have gradually increased from 15.0 €ct/kWh for electricity and 6.27 €ct/kWh for gas in 2008, to reach a cost of 22.7 €ct/kWh for electricity and 7.72 €ct/kWh for gas in 2018. The price of gas reached a peak in 2014 at 9.87 €ct/kWh to slowly decrease to the 2018 value. The price of electricity has been somewhat more stable from 2014 onwards.

These price trajectories are in line with those observed for the EU average across the years although the price of gas was notably higher in Portugal between 2013 and 2016.



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Member State Report
Portugal

POLICIES & MEASURES

In Portugal, research on energy poverty has increased in recent years. This research focused on different topics, such as the geographical distribution of energy poverty, thermal comfort and energy consumption. There is also an increasing interest in conducting research in the inability to keep dwellings comfortably cool in summer time, which could also fall under energy poverty.

Energy poverty is addressed mainly on the national level through financial assistance via the *social tariff*. The social tariff was started in 2008 and was aimed at providing financial assistance to households to pay their energy bills. Since 2016, the tariff is automatically awarded to vulnerable consumers receiving certain social benefits and to low-income households. To benefit from the electricity social tariff, consumers must have a power supply contract for domestic use and contracted power in low-voltage ≤6,9 kVA. Additionally, to benefit from the natural gas social tariff, the consumer must have a supply contract for domestic use in low pressure and an annual consumption ≤500 m^3. The previous version of the social tariff that initiated in 2008 was different in scope (only electricity) and had different target groups. In previous years, around 14% of all Portuguese households benefit from this measure: 786,000 households receive the social tariff for electricity and 34,000 for natural gas.

The national government also operates general programmes and policies to improve energy efficiency and cooling/heating systems in households, but these are not specifically targeted to the energy poor. In 2007, the *Promotion of Efficiency in Electric Energy Consumption* policy was started. The policy aims to promote measures to improve the efficiency of electricity consumption through actions taken by third parties, such as energy suppliers and grid operators. In 2010, Portugal started the measure called *Energy Efficiency Fund*. It aims at providing financial assistance to improving energy efficiency in a wide range of sectors, including the residential sector. This is a publicly funded grant.

The national energy agency ADENE runs a project on Energy Poverty and Energy Efficiency. Its mission is the development of activities of public interest in the areas of energy, efficient use of water and energy efficiency in mobility.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Promotion of Efficiency in Electric Energy Consumption	Cooling system, Heating system, Household appliances, Information and awareness	Regulator	No specific target group	2007	
Social tariff	Social tariff	National government	Disabled, Low-income households, Households on social benefits, Pensioners, Unemployed	2008	Around 14% of all Portuguese households benefit from this measure: 786,000 households receive the social tariff for electricity and 34,000 receive it for natural gas.
Energy Efficiency Fund	Building insulation, Heating system, Household appliances, Renewable energy	National government	No specific target group	2010	

Member State Report
Portugal

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Portugal and presents publications on energy poverty in Portugal.

Organisation

Name: ADENE – National Energy Agency
Organisation type: National government
Description:
ADENE has as its mission the development of activities of public interest in the area of energy, efficient use of water and energy efficiency in mobility. Currently it has a running project on Energy Poverty and Energy Efficiency.

Organisation

Name: Center for Environmental and Sustainability Research (CENSE)
Organisation type: Research & Consultancy
Description:
The CENSE group on Energy and Climate within the NOVA University of Lisbon develops research in the interface of energy systems and climate change, including a focus on energy poverty

Publication

Title: Energy poverty vulnerability index: A multidimensional tool to identify hotspots for local action
Authors: Gouveia, J.P., Palma, P. and Simoes, S.G.
Year: 2019
Description:
The aim of this work is to develop a novel high-resolution spatial scale composite index, focusing on space heating and cooling, to map energy poor regions and identify hotspots for local action.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organisation type: Association
Description: STEP involves nine countries in the EU, one of which is Portugal. The objective is to alleviate energy poverty by encouraging behavioural change and low-cost energy efficiency solutions among consumers in or at risk of energy poverty through tailored advice. It has three objectives: to get consumer groups and frontline organisation to team up and deliver advice, to help poor consumers save energy and improve their living standards, to disseminate best practices and policy choices.

Other selected publications

- Vasconcelos, J., Freire, E., Morais, J., Machado, J.R., and Santana, P. (2010) The health impacts of poor housing conditions and thermal discomfort
- Gouveia, J.P., Palma, P., Seixas, J., and Simoes, S (2017) Mapping Residential Thermal Comfort Gap at Very High Resolution Spatial Scale: Implications for Energy Policy Design
- Palma, P. (2017) Mapping heating and cooling energy needs in Portugal at civil parish level: Implications for thermal comfort in households
- Simoes, S., Gregório, V. and Seixas J. (2017) Mapping Fuel Poverty in Portugal
- Gouveia, J.P., Seixas, J., and Mestre A. (2017) Daily electricity consumption profiles from smart meters - Proxies of behavior for space heating and cooling.
- Gouveia, J.P., Seixas, J., Long, G. (2018) Mining Households' energy data to disclose fuel poverty: lessons for Southern Europe
- Palma, P., Gouveia, J.P., Simoes, S. (2019) Mapping the energy performance gap of dwelling stock at high-resolution scale: Implications for thermal comfort in Portuguese households.
- Gouveia, J.P., Palma, P. (2019) Harvesting big data from residential building energy performance certificates: retrofitting and climate change mitigation insights at a regional scale
- Horta, A., Gouveia, J.P., Schmidt, L., Sousa, J., Palma, P., Simões, S. (2019) Energy poverty in Portugal: Combining vulnerability mapping with household interviews.

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This report was completed in February 2020.

Member State Report
Romania

DATA & STATISTICS

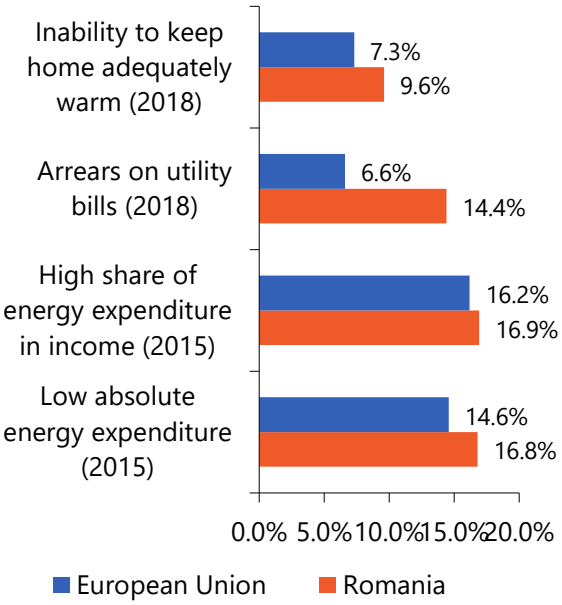
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Romania at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Romania.

Romania has a lower performance than the EU average on the population-reported indicators. In 2018, 9.6% of the Romanian population reported that they were unable to keep the home adequately warm while the corresponding EU average is lower at 7.4%. Furthermore, for 2018, 14.4% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is significantly lower at 6.6%.

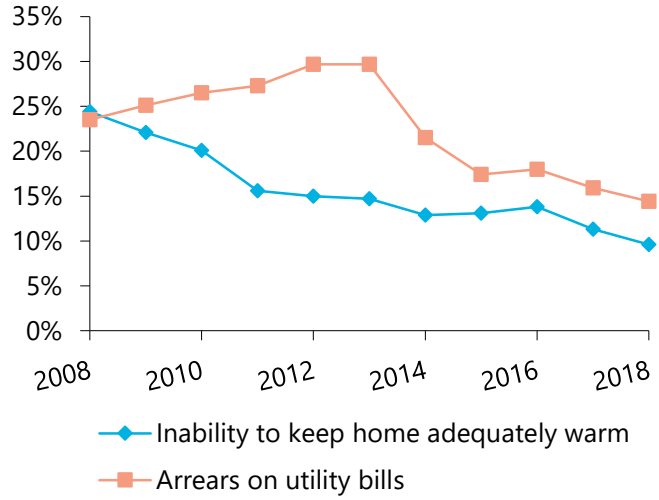
Romania's performs slightly below the EU average in the expenditure-based indicators. The share of households that spend a high share of their income on energy expenditure is 16.9% which is higher than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 16.8% Romania has a higher number of households than the EU average that spend a low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Romania, the percentage of the population that is unable to keep the home adequately warm has significantly improved since 2008. This indicator has decreased from 24.4% in 2018 to 9.6% in 2018. Meanwhile households on arrears on utility bill increased notably between 2008 and 2013, to reach a maximum value of 29.7%. However, this indicator has decreased significantly since, with the sharpest difference observed between 2013 and 2014. The performance of this indicator has continued to improve to reach a value of 14.4% in 2018.

Romania is making a concerted effort in improving and renovating existing building stock via programmes partly funded by the European Union. This may have contributed to a decrease in energy poverty in recent years.

About the EU Energy Poverty Observatory

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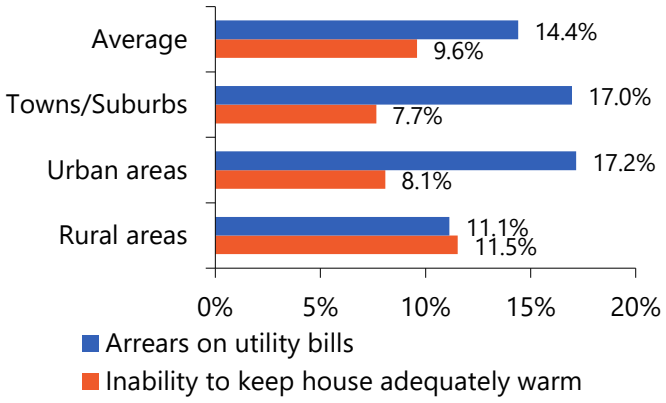
Member State Report
Romania

DATA & STATISTICS

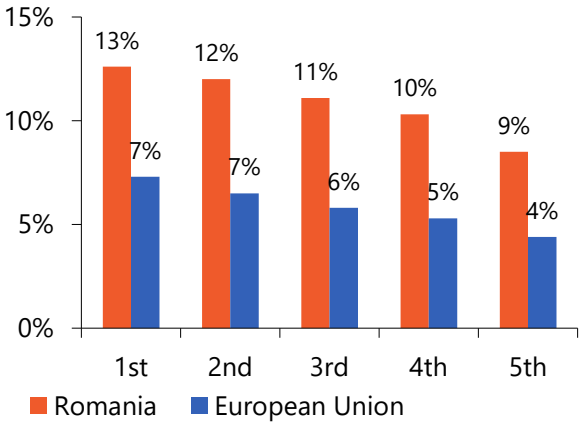
The disaggregated data of the population-reported indicators show that urban and suburban areas had a high share of people with arrears on utilities in 2018, at 17.2% and 17.0% respectively.

Meanwhile, the inability to keep the house warm is highest in rural areas at 11.1%. The urban, rural and towns/suburbs densities account for 29%, 47% and 25% of the population, respectively, for 2017.

Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2018)*



Share of energy expenditure of income by quintile (2015)*

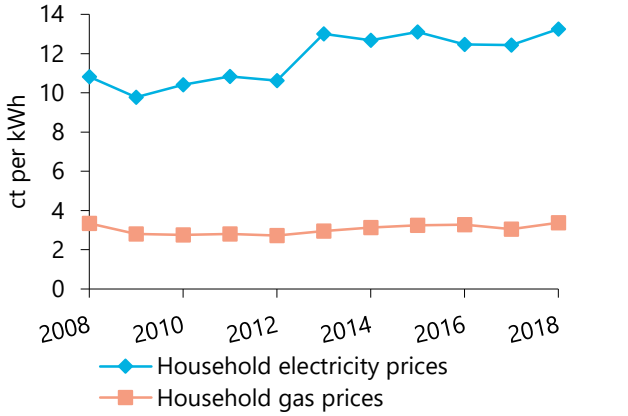


Romania experiences cold climates which results in a high energy usage for heating. Combined with a median income that is well below the EU median (less than half the EU median in 2015), this leads to notably larger share of income spent on energy expenditure in Romania than in the corresponding EU average. In 2015, the poorest quintile spent 13% of their income on energy expenditure, compared to 7% for the EU average. A similar pattern is observed for each quintile, whereby even the richest quintile in Romania spends a notably higher percentage of its income on energy than the EU average. This indicates that the Romanian population, regardless of income, is at a higher risk of being energy poor than the EU average.

The household energy cost over time in Romania has gradually increased for the price per unit of electricity, increasing form 10.8 €ct/kWh in 2008 to 13.3 €ct/kWh in 2018. The sharpest increase in the price of electricity was between 2012 and 2013. Meanwhile the price per unit for gas remains somewhat consistent across the 10 year period. The price per unit in 2018 was recorded at 3.38 €ct/kWh.

The prices per unit for both electricity and gas observed for Romania are lower than the corresponding EU average.

Romania household energy costs over time



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Member State Report
Romania

POLICIES & MEASURES

In Romania, research on energy poverty has become more prevalent in recent years. An extensive report on energy poverty in Romania was published in 2017 (Murafa, Sinea, Jiglau and Badescu 2017) and attention to the topic has been growing.

Energy poverty is addressed mainly on a national level through financial support to low-income households. The *social tariff* provides financial assistance for low-income households to pay their energy bills. It is estimated that around 11% of Romanian households benefitted from the social tariff in 2016. Furthermore, the *Heating aid during winter* provides support to households to pay their heating bills in the winter (1 November–31 March). The Romanian government also provides a *Minimum income* to low-income households to ensure a minimum standard of living.

In addition to financial support, electricity suppliers are prohibited from disconnecting vulnerable consumers from the grid via the measure called *Disconnection protection vulnerable consumers*. The programme *Improving Energy Efficiency in Households and Low-Income Communities in Romania,* started in 2011, focused on integrating energy poverty in Romanian policies, as well as carrying out energy efficiency measures in specific locations. Other energy efficiency programmes exist, but these do not target energy poor households in particular. For instance, the *Programme for energy efficiency renovations in apartment buildings* which was started in 2009. This measure finances energy efficiency improvements in the residential sector, with particular emphasis on apartment buildings. There is also the *Ordinance on energy efficiency improvements financed with loans*, started in 2010. This measure finances energy efficiency improvements in the residential sector through government guaranteed loans.

One of the most recent measures in which Romania is involved is the *Students Achieving Valuable Energy Savings 2* (SAVES2). This measured is organised by the European Union and aims to catalyse sustainable energy behaviours among over 219,000 university students in seven countries to help them reduce their exposure to energy poverty. This measure was initiated in 2017 and will end in 2020.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Programme for energy efficiency renovations in apartment buildings	Building insulation, Energy audits, Heating system	National government, Local government	Apartment buildings	2009	
Ordinance on energy efficiency improvements financed with loans	Building insulation, Heating system	National government	No specific target group	2010	
Improving Energy Efficiency in Households and Low-Income Communities in Romana	Building insulation, Information and awareness	National government	No specific target group	2011	
Disconnection protection vulnerable consumers	Disconnection protection	National government	Vulnerable households		
Heating aid during winter	Energy bill support	National government	Low-income households, Vulnerable households		
Minimum income	Social support	National government	Low-income households		
Social tariff	Social tariff	National government	Low-income households		round 11% of Romanian households benefitted from the social tariff in 2016.
SAVES2	Information and awareness	EU	No specific target group	2017	

Member State Report
Romania

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Romania and presents publications and training resource on energy poverty in Romania.

Organisation

Name: Building retrofit potential (ENERFUND)
Organisation type: Research & Consultancy
Description: This project is developing a tool to rate and score deep renovation opportunities. The tool will be based on a set of parameters such as EPC data, number of certified installers, governmental schemes running, etc. When used by municipalities, this can be used e.g. to prioritise the most energy inefficient buildings for retrofitting.

Training Resource

Title: Energy saving advice for students
Authors: SAVES2
Year: 2018
Description: It provides energy saving guidance for university students living in rented accommodation including: switching energy supplier; smart meters; the energy efficiency of the property. Specific resources have been adapted by universities from selected Member States, including Romania.

Publication

Title: Energy poverty in Romania – drivers, effects and possible measures to reduce its effects and number of people affected
Authors: Clodnitchi, R. and Busu, C.
Year: 2017
Description:
This article aims to restrain the concept of energy poverty from the perspective of national and EU policies and regulations by reviewing the existing knowledge and critical approaches in this field.

Publication

Title: Energy poverty and the vulnerable consumer: How far are we from Europe?
Authors: Murafa, C., Sinea, A., Jiglau, G. and Badescu, G.
Year: 2017
Description: The report makes a radiography of the legal framework and the public policies in Romania and analyses the manner in which the approach practiced currently affects the social reality in our country. The report identifies the main shortcomings and offers concrete solutions. The study is completed by a series of conclusions and recommendations.

Other selected publications

- Poputoaia, D., and Bouzarovski, S. (2010) Regulating district heating in Romania: Legislative challenges and energy efficiency barriers
- Household, I., and Musatescu, V. (2012) Fuel poverty (*in Romanian)*
- Household, I., and Musatescu, V. (2012) Improving Energy Efficiency in Low-Income Households and Communities in Romania: Fuel Poverty Draft assessment report
- Dodd, S. (2012) Ideological Alleviants: A Comparative Analysis of Fuel Poverty Policy
- Lenz, N.V., Grgurev, I. (2017) Assessment of Energy Poverty in New European Union Member States: The Case of Bulgaria, Croatia and Romania
- SAVES2 Project (2018) Analysis of current trends in the rental accommodation market for students

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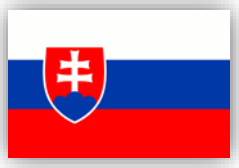
This report was completed in February 2020.



Member State Report
Slovakia

DATA & STATISTICS

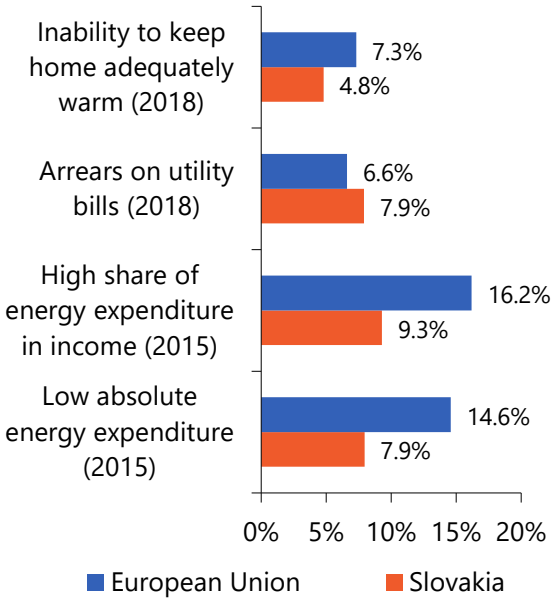
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Slovakia at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Slovakia.

Slovakia has a mixed performance than the EU average on the population-reported indicators. In 2018, 4.8% of the Slovakian population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 7.9% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6.%.

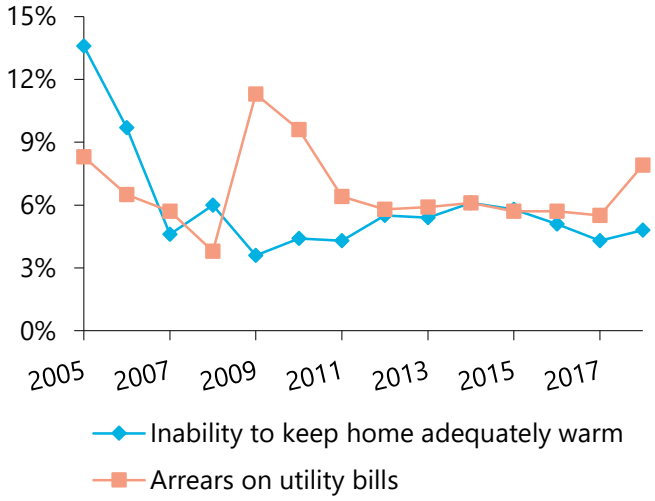
Slovakia's performance in the expenditure-based indicators is also better than the EU average. In 2015, the share of households that spend a high share of their income on energy expenditure is 9.3% which is lower than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 7.9% Slovakia has a notably lower number of households than the EU average that spend a low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



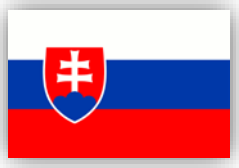
In Slovakia, the percentage of the population that is unable to keep the home adequately warm saw a sharp decrease between 2005 and 2007 from 13.6% to 4.6%. This indicator has since remained somewhat stable. This indicator is 4.8% for 2018. Meanwhile, households on arrears on utility bills also saw a decrease between 2005 and 2008, to be then followed by a sharp increase in 2009. It is noted that this sharp increase may due to the inclusion of an additional answer category in the survey conducted. This indicator has since decreased considerably to a level of 6% and slightly increased at 7.9% in 2018.

Slovakia has also seen a couple of measures addressing energy efficiency and use of renewable energy since 2011. These may have contributed to the reduction in arrears on utility bills in the past our years.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*



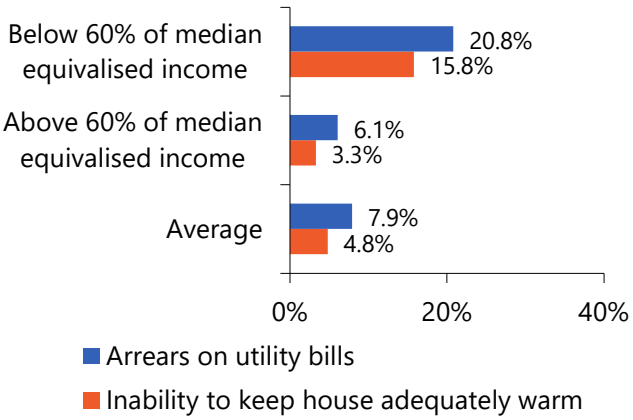
Member State Report
Slovakia

DATA & STATISTICS

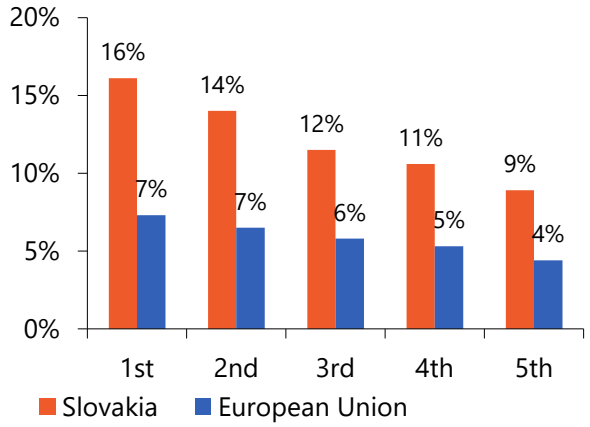
The disaggregated data of the population-reported indicators for the year 2018 suggest that energy poverty in Slovakia is significantly higher for the population with equivalised income below 60% of median. Conversely, indicators for the year 2018 suggest that only 3.3% of Slovak population with equivalised income above 60% of median is unable to keep home adequately warm and 6.1% of Slovak population with equivalised income above 60% of median was unable to pay their utility bills on time due to financial difficulties.

Additionally, the disaggregated data for 2017 indicates that energy poverty in Slovakia is not sensitive to dwelling type.

Inability to keep home warm and arrears on utility bills disaggregated by income(2018)*



Share of energy expenditure of income by quintile (2015)*

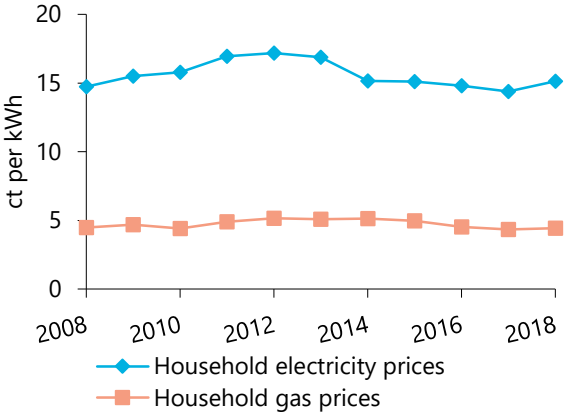


Slovakia experiences cold climates which results in a high energy usage for heating. Combined with a median income that is well below the EU median (less than half the EU median in 2015), this leads to a notably larger share of income spent on energy in Slovakia than in the corresponding EU average. In 2015, the poorest quintile spent 16% of their income on energy. This is more than twice the corresponding EU average. A similar pattern is observed for each quintile, whereby even the richest quintile in Slovakia spends a notably higher percentage of its income on energy than the EU average. This indicates that the Slovakian population is at a higher risk of being energy poor than the EU average.

Slovakia household energy costs over time

The household energy cost over time in Slovakia has remained somewhat stable throughout the years. The price per unit of electricity increased between 2010 and 2013 to decrease again to reach a value of 15.1 €ct/kWh in 2018. Meanwhile the price per unit of gas was even more stable. The highest price per unit was in 2012 at 5.15 €ct/kWh but this has since decreased slightly again. The price per unit for gas in 2018 was 4.43 €ct/kWh.

The prices per unit, for both electricity and gas observed in Slovakia are lower than the corresponding EU average.



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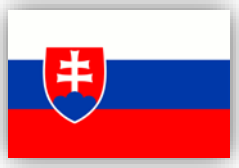


Member State Report
Slovakia

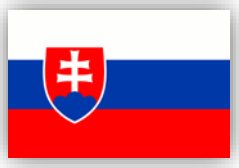
POLICIES & MEASURES

In Slovakia, a tradition of research on energy poverty is not yet fully established. Publications that study topics related to energy poverty are mainly regional analyses, although a few studies can be found addressing the country as a whole.

The approach to reduce energy poverty in Slovakia is mainly through social support measures. The *Assistance in case of material distress* programme provides general income support to low-income households to cover living expenses such as energy and heating costs. In addition, there are multiple programmes that could potentially assist households that are or are at risk of being energy poor, even though the programmes do not specifically target these groups. Large-scale renovation efforts to improve the energy efficiency of apartment buildings include the *MunSEFF* and *SlovSEFF* programmes. The *MunSEFF* measure was started in 2011 and it supports energy efficiency measures in municipalities, including apartment buildings owned by the municipalities. The *SlovSEFF* programme provides financial assistance to energy efficiency projects. It started in 2007 and is developed by the European Bank for Reconstruction and Development (EBRD) and is co-funded by the Slovak and Spanish governments. An additional measure is the *Operational Programme Environment*. It started in 2007 and provides financial assistance for a broad spectrum of measures, including energy efficiency and renewable heat. The *Green for households,* started in 2015, measure provides financial assistance to households to install small renewable energy installations.

Finally, some policies facilitate households in the improvement of their energy situation. The *Live Energy* measure provides households with free advice on energy efficiency and renewable energy, and the *Price Calculator* allows households to compare the electricity and gas prices of different suppliers, facilitating the switch to a more affordable supplier.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
MunSEFF	Building insulation, Heating system, Renewable energy	National government, Regional government, Local government	Apartment buildings	2011	
SlovSEFF	Building insulation, Heating system, Renewable energy	National government	Apartment buildings	2007	
Operational Programme Environment	Building insulation, Heating system, Renewable energy	National government	No specific target group		
Green for households	Heating system, Renewable energy	National government	No specific target group	2015	
Price calculator	Information and awareness	Regulator	No specific target group		
Live Energy	Information and awareness	National government	No specific target group		
Assistance in case of material distress	Social support	National government	Low-income households		



Member State Report
Slovakia

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Slovakia and presents publications on energy poverty in Slovakia.

Organisation

Name: Building retrofit potential (ENERFUND)
Organisation type: Research & Consultancy
Description: To develop a tool that rates and scores deep renovation opportunities. It will be based on a set of parameters such as EPC data, number of certified installers, governmental schemes running, etc. Municipalities can use it to e.g. prioritise the most energy inefficient buildings for retrofitting.

Organisation

Name: Solutions to Tackle Energy Poverty (STEP)
Organisation type: Association
Description: It involves nine Member States, one of which is Slovakia. The objective is to alleviate energy poverty by encouraging behavioural change and low-cost energy efficiency solutions among consumers in/at risk of energy poverty through trusted and tailored advice.

Publication

Title: Exploring multi-dimensional nature of poverty in Slovakia: Access to energy and concept of energy poverty
Authors: Gerbery, D., Filčák, R.
Year: 2014
Description:
It discusses the concept of energy poverty (origin and definition problems), and analyses empirical data indicating the scope and impacts of the problem in the Slovak Republic. Approaches are suggested to defining energy poverty and offer first empirical findings.

Publication

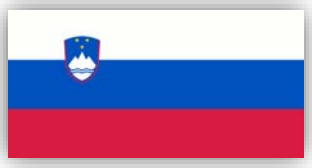
Title: Energy Poverty in Slovakia
Authors: Strakova, D.
Year: 2015
Description:
The article analyses different definitions of energy poverty and their applications on a Slovak household. It introduces roots and principles of protection of European households in energy poverty and analyses the situation in Slovakia from the point of regulatory norms and statistical data.

Other selected publications

- Gray, D. (1995) Reforming the Energy Sector in Transition Economies: Selected Experience and Lessons
- Fankhauser, S. and Tepic, S. (2007) Can poor consumers pay for energy and water? An affordability analysis for transition countries
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.



Member State Report
Slovenia

DATA & STATISTICS

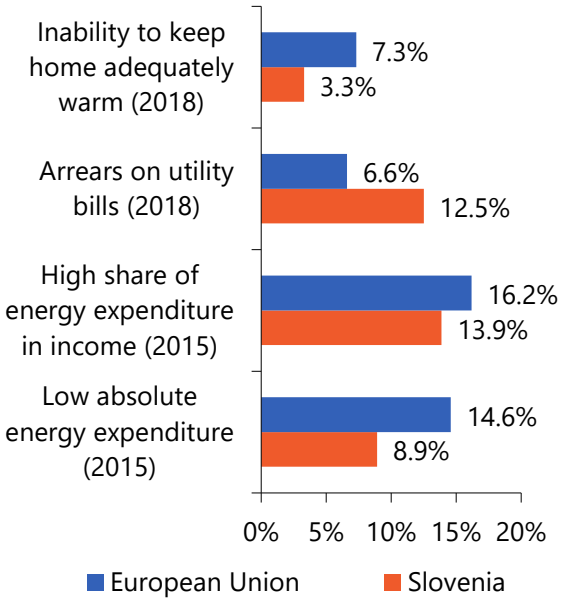
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Slovenia at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Slovenia.

Slovenia has a mixed performance in comparison to the EU average on the population-reported indicators. In 2018, just 3.3% of the Slovenian population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Conversely, for 2018, 12.5% of the population was unable to pay their utility bills on time due to financial difficulties, which is significantly higher than the corresponding EU average of 6.6%.

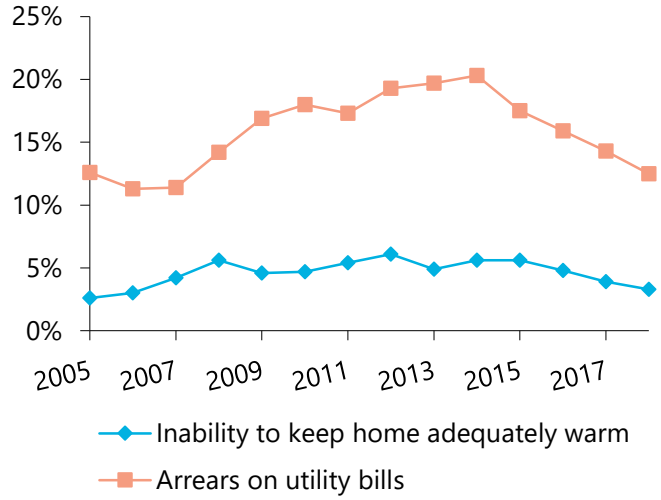
Slovenia's performance in the expenditure-based indicators is better than the EU average for 2015. The share of households that spend a high share of their income on energy expenditure is 13.9% which is lower than the EU average. A high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 8.9% Slovenia has a lower number of households than the EU average that spend a low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Slovenia, the percentage of the population that is unable to keep the home adequately warm has been fairly consistent across the years. Since 2015, this indicator has seen a small decrease, reaching a value of 3.3% in 2018. Meanwhile households with arrears on utility bills follow a different trajectory and increased significantly between 2007 and 2014, reaching a maximum value of 20.3%. This has since decrease consistently to a value of12.5% in 2018.

Slovenia has also seen a number of measures addressing energy efficiency, use of renewable energy and improvement of heating systems since 2014. These may have contributed to the reduction in arrears on utility bills in the past four years.

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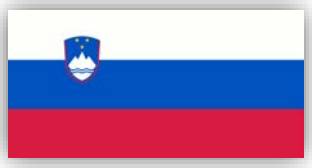


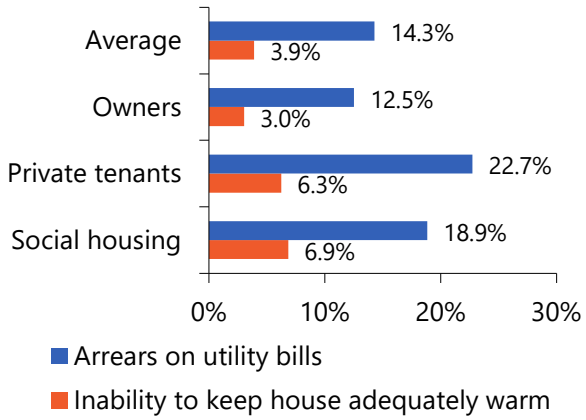
Member State Report
Slovenia

DATA & STATISTICS

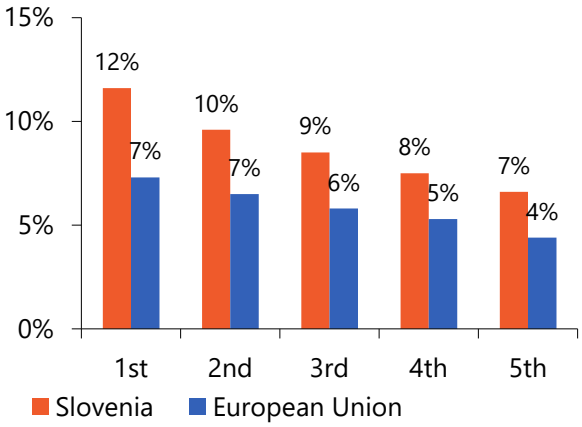
The disaggregated data of the household-reported indicators suggest that energy poverty in Slovenia is highest for the social housing and private tenants sectors for in 2017. Both tenure types show high indicators for arrears on utility bills and relatively low values for inability to keep house adequately warm. The social housing and private tenants sectors account for 19% and 5% of the Slovenian population, respectively.

The data also indicates that apartment type dwellings as the most vulnerable to these indicators, particularly for arrears on utility bills. It is noted noting that 29% of the population live in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



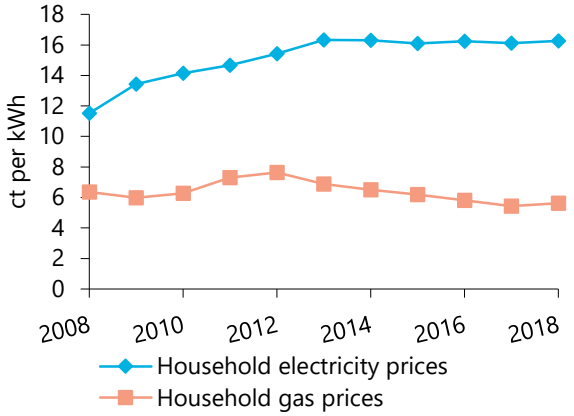
Share of energy expenditure of income by quintile (2015)*



Slovenia experiences cold climates which results in a high energy usage for heating. The median income for Slovenia is below the EU median, leading to larger share of income spent on energy expenditure than in the corresponding EU average. In 2015, the poorest quintile spent 12% of their income on energy expenditure, compared to 7% for the EU average. A similar pattern is observed for each quintile, although the disparity of this indicator between Slovenia and the EU average decreases with the richer quintiles. This data indicates that the Slovenian population is at a higher risk of being energy poor than the EU average.

Slovenia household energy costs over time

In Slovenia, the household energy cost over time for electricity has consistently increased between 2008 and 2013. Since 2013, it has remained fairly consistent, having a price of 16.3 €ct/kWh in 2018. Meanwhile the price per unit for gas has increased between 2009 and 2012 to reach a maximum value of 7.64 €ct/kWh. The price has since dropped and is at 5.62 €ct/kWh for 2018.
The prices per unit in 2018, for both electricity and gas observed in Slovenia are lower than the corresponding EU average.



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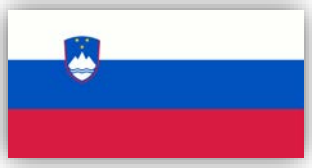


Member State Report
Slovenia

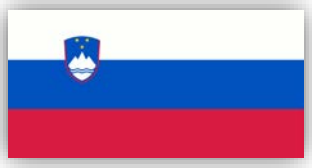
POLICIES & MEASURES

In Slovenia, research on energy poverty has expanded in recent years. An analysis of energy poverty in Slovenia was published in 2014 (Živčić and Tkalec, 2014). The report presents available information and data about energy poverty in Slovenia. It presents the definition of energy poverty, and programmes addressing the problem are presented, followed by the analysis of statistical data and indicators related to study issues. Lastly, further steps to work on reducing energy poverty are suggested. The same authors also produced a follow-up publication in 2017 with recommendations for structural measures to address energy poverty in the country.

There are multiple national measures in Slovenia that specifically aim to improve the energy situation of vulnerable households. *Financial incentives,* started in 2015, is a national public funded measure targeting vulnerable households to replace old solid fuel boilers with wood biomass boilers. This allows these households to have access to a cheaper and more sustainable energy source. The *Operational Programme for the Implementation of the Cohesion Policy 2014 – 2020* provides investment support and guidance to households in energy poverty to improve the energy efficiency of their homes. In addition, via the *Disconnection protection vulnerable households* scheme, energy suppliers are prohibited from disconnecting vulnerable households from electricity supply in circumstances where disconnection could be life threatening or having serious health consequences. *Rules on individual metering systems for district heating* are also potentially beneficial for energy poor households because they give households greater control over their energy consumption and energy bills.

In addition to improving the energy situation, social support is available for low-income households. This *financial social assistance* is intended to cover basic living needs including energy expenses. A Slovenian NGO also carries out a fundraiser called *Let's help survive* to help households afford living costs such as heating bills.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Operational Programme for the Implementation of the Cohesion Policy 2014 – 2020	Building insulation, Cooling system, Heating system, Household appliances	National government	Vulnerable households	2014	
Disconnection protection vulnerable households	Disconnection protection	National government, Grid operator	Vulnerable households		
Let's help survive	Energy bill support	NGO	Low-income households		
Rules on individual metering systems for district heating	Heating system	National government	Apartment buildings		
Financial incentives for vulnerable households to replace old solid fuel boilers with wood biomass boilers	Heating system	National government, Local government	Vulnerable households	2015	
ENSVET	Information and awareness	National government, Local government	No specific target group	2014	
Financial social assistance	Social support	National government	Low-income households		
Exceptional financial social assistance	Social support	National government, Regional government, Local government	Low income households		



Member State Report
Slovenia

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Slovenia and presents publications and training resource on energy poverty in Slovenia.

Organisation

Name: Reduced Energy use And Change Habits (REACH)
Organisation type: Research & Consultancy
Description: This project contributed to energy poverty abatement at the practical and structural level by empowering energy poor households to take actions to save energy and change their habits, and by establishing energy poverty as an issue that demands structural solutions.

Publication

Title: Recommendations for structural measures to address energy poverty in Slovenia (*in Slovenian*)
Authors: Živčič, L., and Tkalec, T.
Year: 2017
Description:
This report provides recommendations for structural measures to address energy poverty in Slovenia.

Training Resource

Title: Innovative Direction in Energy Advising (IDEA)
Authors: University of Cyprus, Focus, društvo za sonaraven razvoj, DOOR, Energy Agency of Plovid (EAP)
Year: 2018
Description: The goals are to raise awareness on energy poverty, improve educational practices, develop high quality education approaches, establish firm and competent international network of energy advisors and relevant stakeholders and develop innovative ICT tool for education in energy poverty.

Publication

Title: Report on national situation in the field of energy poverty - Slovenia
Authors: Živčić, L. and Tkalec, T.
Year: 2014
Description: The report presents available information and data about energy poverty in Slovenia. It presents the definition of energy poverty, and programs addressing the problem are presented, followed by the analysis of statistical data and indicators related to study issues. Lastly, further steps to work on reducing energy poverty are presented.

Other selected publications

- Živčić, L. and Tkalec, T. (2014) Report on national situation in the field of energy poverty – Slovenia
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health
- Ecoserveis Association (2018) Atlas of Initiatives of Energy Poverty in Europe. State-by-state Review
- Porritt, S.M., Cropper, P.C., Shao, L. and Goodier, C.I. (2012) Ranking of interventions to reduce dwelling overheating during heat waves
- KEMA Consulting (2010) Study on Regulation of Tariffs and Quality of the Gas Distribution Service in the Energy Community
- Fankhauser, S. and Tepic, S. (2007) Can poor consumers pay for energy and water? An affordability analysis for transition countries

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This report was completed in February 2020.

Member State Report
Spain

DATA & STATISTICS

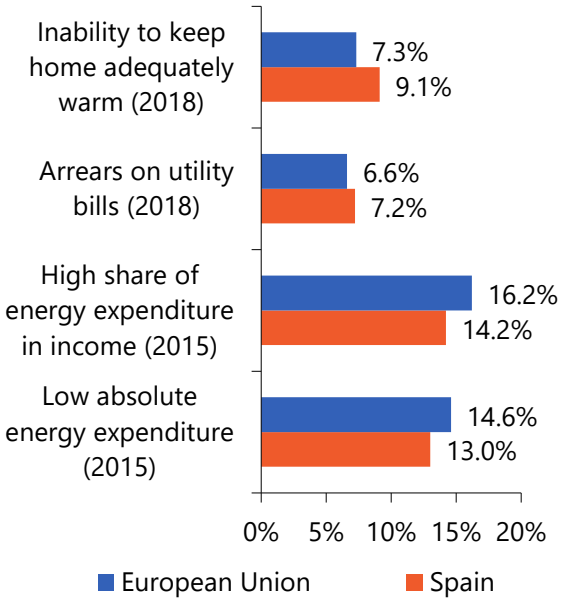
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in the Spain at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in the Spain.

Spain has a lower performance than the EU average on the population-reported indicators. In 2018, 9.1% of the population of Spain reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 7.2% was unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

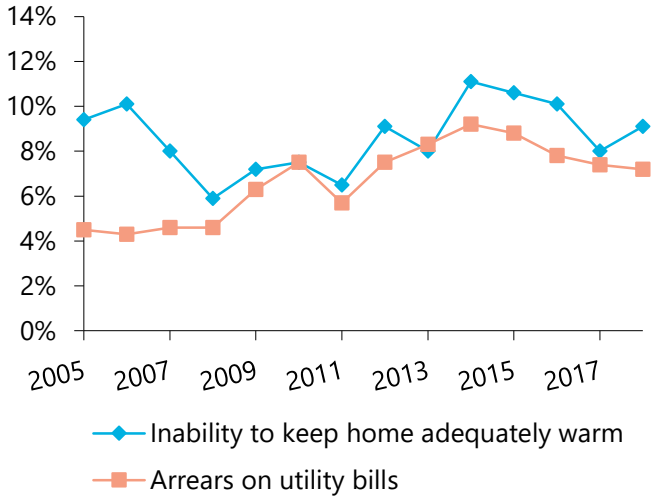
Spain's performance in the expenditure-based indicators is better compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 14.2% which is lower than the EU average. The high energy expenditure is likely to put a strain on the household budget and might indicate a poor energy efficiency of the building.

Moreover, at 13.0% Spain has a lower number of households that spend and unusually low share of their income on energy expenditure. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Spain, the percentage of the population that is unable to keep the home adequately warm gradually increased from 5.9% in 2008 to a maximum peak of 11.1% in 2014. This increase may be attributed to the financial crisis. It has since decreased to 9.1% in 2018.

Meanwhile the percentage of the population on arrears on utility bills follows a similar trajectory to reach a peak of 9.2% in 2014 and gradually decrease to 7.2% by 2018.

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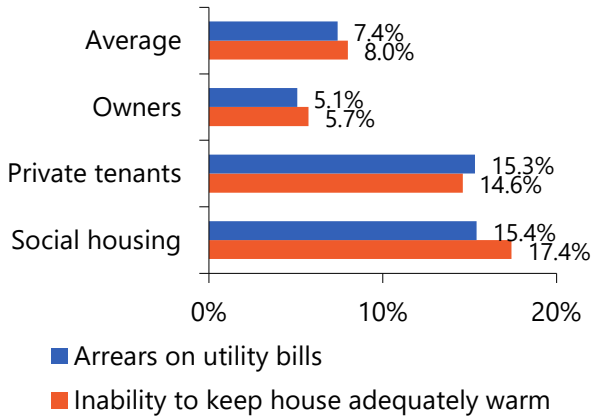
Member State Report
Spain

DATA & STATISTICS

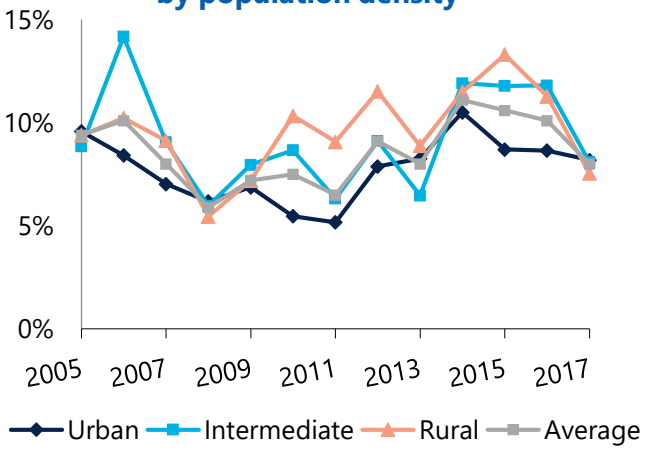
The disaggregated data of the population-reported indicators suggest that energy poverty in Spain is highest for the social housing sector in 2017, at 17.4% for inability to keep the house warm and 15.4% for arrears on utility bills. This is closely followed by the private tenancy tenure type. The social housing sector and private tenants, account for 9% and 14% of the population in Spain, respectively, for the year 2017.

The data also indicates that apartment type dwellings are the most vulnerable to these indicators, noting that 66% of the population lives in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm disaggregated by population density *



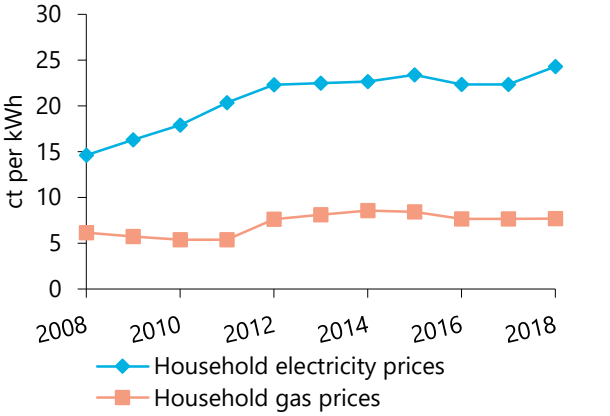
In Spain, rural areas have the lowest performance for ability to keep the house adequately warm for most years since 2010. Prior 2010, intermediately populated areas were the lowest performers, particularly for the year 2006 where this indicator increased sharply to 14.2% from 8.9% in 2005. The indicator shows a gradual increase in the inability to keep house warm from 2008 to 2015. This may be due to the financial crisis. The year 2017 shows a strong decrease in the inability to keep the house warm, in comparison to the previous years, for each of the population densities.

It is noted that the rural and intermediately populated areas account for 26% and 22% of the population in 2017, respectively.

Spain household energy costs over time

The household electricity price over time in Spain has steadily increased between 2008 and 2012 to keep a somewhat consistent price between 2012 and 2015. It has reached its maximum price per unit in 2018 at 24.3 €ct/kWh.

Meanwhile the gas price per unit has a more consistent price across the year, with the biggest change in price occurring between 2011 and 2012. The price of gas was at a maximum of 7.70 €ct/kWh in 2018 which is higher than the EU average for that year



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Member State Report
Spain

POLICIES & MEASURES

In Spain, there is substantial activity on the topic of energy poverty. In the last ten years there have been multiple studies on energy poverty in Spain. In March 2019, the National strategy against Energy poverty 2019 – 2024 (Gobierno de Espana, 2019) was approved by the Spanish government. The publication aims to "guarantee access to affordable, safe, sustainable and modern energy for all", without leaving behind other goals that support its development. The result of this analysis is a detailed diagnosis of the situation of energy poverty in Spain according to which, depending on the indicator used, there are between 3.5 and 8.1 million citizens who suffer (between 7.4% and 17.3% of the population). Its objective is to reduce, at least, 25% all the indicators for the year 2025, but with the ambition of reaching 50%. Therefore, it proposes, from four axes, 19 measures to fight against this situation whose function, execution, financing, duration and responsible body is detailed. In October 2019, the Spanish government published a report with the newest national statistics on energy poverty. On the regional and local levels, there is also active interest from researchers, showcased by studies in Catalonia, Aragon, Gipuzkoa, Madrid and Barcelona. In Gipuzkoa there is a dedicated Energy Poverty Observatory containing indicators and resources.

On a national level, one major measure to address energy poverty is the *social bonus for electricity,* which was implemented in 2009 and updated in 2017. It was updated again in 2018 by the Royal Decree-Law 15/2018, that also created a new social bonus for heating. This is a new aid for vulnerable customers designed as a single year payment to support heating, warm water or cooking costs. Almost 1.100.000 vulnerable customers benefited from it in 2019. In addition, the *Law 8/2013 on building* renovation includes the fight against energy poverty as an objective and prioritises energy efficiency measures in serious situations of energy poverty. There is also the *Emergency financial support* measure which provides emergency financial support to households. The financial support can also be used for energy expenses in case of a disconnection risk. On a regional and local level, energy poverty policies are being implemented. For instance in Barcelona, where the *Energy Advice Points* measure is applied. This gives advice to households in case of a disconnection risk, as well as providing information on energy savings and energy efficiency. During the first year of this measure's service, 23,000 people were attended to and also 5,000 cases were prevented from having services cut off.

Many organisations are active on the topic of energy poverty in Spain; more than 20 organisations are listed in the Relevant Organisations section of the EPOV website. These include governmental organisations, NGOs and advocacy groups on national, regional and local levels.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Social bonus for electricity	Energy bill support	National government	Vulnerable households	2009	
Law 8/2013 on building renovation	Building insulation	National government	No specific target group	2013	
Program for the promotion of building renovations	Building insulation, Heating system	National government	Apartment buildings	2013	
Disconnection protection Catalonia (Law 24/2015)	Disconnection protection	Regional government	Low-income households, Vulnerable households	2015	
Housing renovation programme for vulnerable households	Building insulation, Heating system	Local government	Low-income households, Vulnerable households	2017	
Regional energy efficiency programmes	Building insulation, Heating system, Renewable energy	Regional government	No specific target group		
Energy Advice Points	Disconnection protection, Information and awareness	Local government	No specific target group	2017	In the first year of service, the energy advice points attended to 23,000 people and prevented services from being cut off in 5,000 cases.
Social Bonus for heating	Energy bill support	National government	Vulnerable households	2018	In 2019, the bonus was granted to more than one million vulnerable customers.

Member State Report
Spain

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Spain and presents publications and training resources on energy poverty in Spain.

Organisation

Name: Fuel Poverty Group
Organisation type: NGO
Description:
The group is a network of persons and organisations. It unites professionals from fields of engineering, environmental sciences, social sciences, as well as volunteers and activists. It aims to minimise effects of energy poverty via the promotion of preventive action, training and empowerment.

Organisation

Name: Association of Environmental Sciences (Asociación de Ciencias Ambientales - ACA)
Organisation type: Research & Consultancy
Description: This organisation is involved in studying and solving social and environmental issues. It acts as a contact point between scientists, technical experts and professionals with the common goal to propose and develop projects in line with sustainable development goals.

Publication

Title: National Strategy against energy poverty 2019-2024
Authors: Gobierno de Espana
Year: 2019
Description:
The National Strategy against Energy Poverty 2019 - 2024 approved by the Spanish Government last March seeks to address a situation that affects between 3.5 and 8.1 million citizens, reducing at least 25% current indicators but seeking to reach 50%.

Training Resource

Title: A practical guide identifying and addressing energy poverty
Authors: Assist2gther, EcoServeis
Year: 2018
Description:
A practical guide for frontline workers/practitioners on the identification and solutions to energy poverty. This guide includes information on releveant regulations and support schemes available to prevent and tackle energy poverty.

Other selected publications

- Síndic de Greuges de Catalunya (2013) Energy poverty in Catalonia *(in Spanish)*
- Romero, J.C. et al. (2014) Energy Poverty in Spain. Economic analysis and proposals *(in Spanish)*
- Scarpellini, S., Suárez, I., and Allué, A. (2014) Energy poverty in Aragon, Spain *(in Spanish)*
- Ecoserveis (2016) Energy poverty in the Barcelona region *(in Catalan)*
- Fernández, A., et al. (2016) Technical study on energy poverty in the city of Madrid *(in Spanish)*
- Tirado Herrero, S. and Jiménez Meneses, L. (2016) Energy poverty, crisis and austerity in Spain
- Ajuntament de Sabadell, et al. (eds) (2017) Energy poverty in Catalonia: challenges (*in Catalan*)
- Asociación de Ciencias Ambientales (ACA) (2018) Energy poverty in Spain. Towards a system of indicators and a national implementation strategy *(in Spanish)*
- Castaño-Rosa, R., Solís-Guzmán J. and Marrero, M. (2018) A novel Index of Vulnerable Homes: Findings from application in Spain
- Barrella, R., Hurtado, J.I.L., Arenas, E. and Romero, J.C. (2019) Towards a hidden energy poverty indicator for Spanish households
- Spanish Ministry of Environment (2019) Update of the Indicators of the national strategy against energy poverty *(in Spanish)*

For definitions of the terms used in this report click here. The EPOV website provides an extensive collection of Knowledge & Resources. Click here for more information and to contribute additional policies, publications and other resources.

This report was completed in February 2020.

Member State Report
Sweden

DATA & STATISTICS

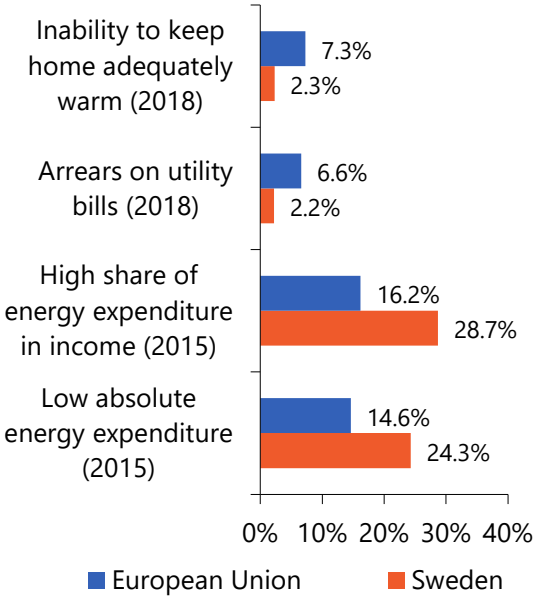
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in Sweden at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in Sweden.

Sweden performs better than the EU average on the population-based indicators. In 2018, 2.3% of the Swedish population reported that they were unable to keep the home adequately warm while the corresponding EU average was 7.3%. Similarly for 2018, 2.2% of the population was unable to pay their utility bills on time due to financial difficulties, while the respective EU average was 6.6%.

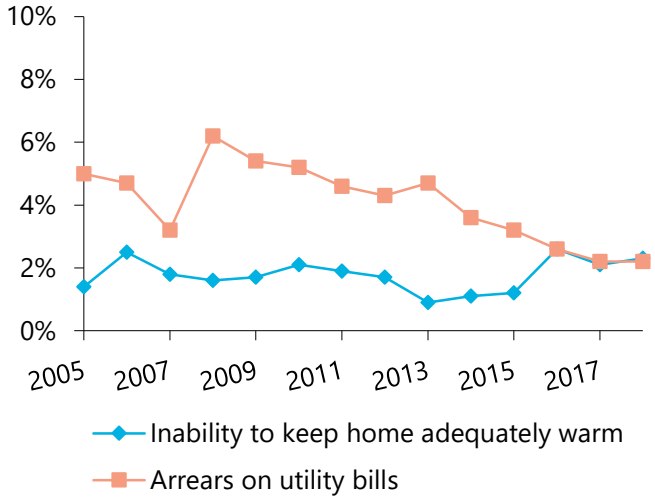
Sweden's performance in the expenditure-based indicators is poorer than the EU average. The likely reason for this is that in Sweden energy costs are usually but not always included in the rental cost. As discussed on the next chapter the ability of the expenditure-based indicators to accurately report the energy poverty situation is therefore limited.

The share of households that spend a high share of their income on energy expenditure is 26.1%. A high energy expenditure may put a strain on the household budget and an indicate a poor energy efficient building. And Sweden has a notably higher number of households that spend a low share of their income on energy expenditure at 26.1%. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In Sweden, the percentage of households that are unable to keep the home adequately warm has been consistently low throughout the past years, and never exceeded the 3% mark.

Meanwhile households with arrears on utility bills follow a similar trajectory although there is a significant increase between 2007 and 2008 with the latter having the highest value across the past 15 years at 6.2%. This increase can also be seen in other member states which points to a changing methodology in the underling data. Hower, this indicator gradually decreased since 2008 to the lowest value of 2.2% in 2018.

These indicators show that levels of energy poverty in Sweden are notably low.

About the EU Energy Poverty Observatory

The EU Energy Poverty Observatory (EPOV) is an initiative by the European Commission to help Member States in their efforts to combat energy poverty. It exists to improve the measuring, monitoring and sharing of knowledge and best practice on energy poverty. EPOV has been developed by a consortium of 13 organisations. This report was authored by Navigant.

**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*

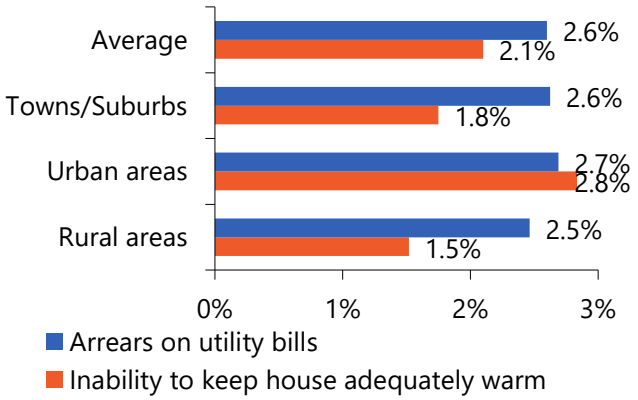
Member State Report
Sweden

DATA & STATISTICS

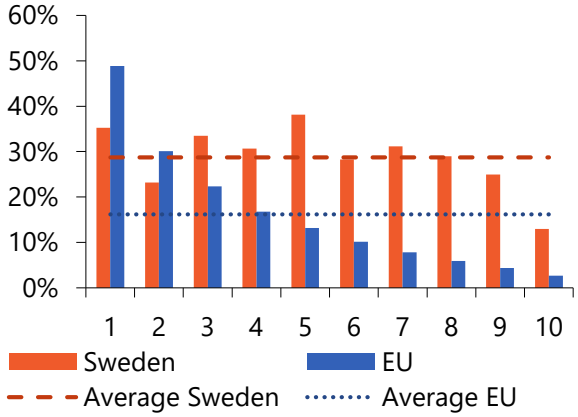
In Sweden no group is very susceptible to energy poverty. However the data shows slight differences between rural and urban areas for the indicator on the inability to keep the house adequately warm. Urban areas have the lowest performance, followed by town/suburb areas. This may be due to the higher costs of living in urban areas and the relatively high proportion of poor populations living in cities. In 2017, urban areas accounted for 40% of the population in Sweden. Similarly, towns/suburb areas also accounted for 40% of the Swedish population.

The data also indicates that apartment type dwellings are most vulnerable to energy poverty.

Inability to keep home warm and Arrears on utility bills in Sweden disaggregated by urban density (2017)*



High share of energy expenditure in income by income deciles (2015)*



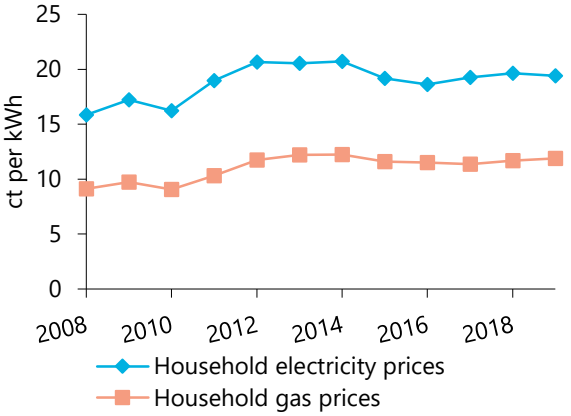
In 2015, the energy expenditure of 28.7% of households in Sweden is unusually high compared to the national median. The EU average for this indicator is significantly lower at 16.2%. The distribution amongst income groups gives an insight to the cause of this.

In Sweden the poorer income deciles are not more likely to have a high share of energy expenditure. In fact the peak can be observed by the fifth income group.

This can be explained by the fact that some households do not pay separate energy bills, as they are included in rents, which lowers the median share of energy expenditure. In countries that are in such a situation, the expenditure-based indicators do not appropriately reflect energy poverty.

Sweden household energy costs over time

The household energy cost over time in Sweden have increased gradually between 2009 and 2013, to reach a peak of 20.7 €ct/kWh for electricity and 12.26 €ct/kWh for gas in 2013.
The price per unit saw a small decrease since the peak of 19.4 €ct/kWh for electricity and 11.88 €ct/kWh for gas in 2018. However the price per unit has not reached the low values seen in 2007.



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Member State Report
Sweden

POLICIES & MEASURES

In Sweden, the research focus has not been specifically on energy poverty, however a number of studies do analyse closely related topics such as energy efficiency , renewable energy and energy transition.

The main method to address energy poverty in Sweden is implicitly through well developed social policies which strongly assist in keeping energy poverty at low levels. A strong social support system is available that helps low-income households cover their living expenses, including costs for accommodation and electricity. This is called the *Social assistance* measure. Meanwhile, the *housing allowance* provides financial assistance to households to cover housing costs, which incorporate costs for heating based on the temperature zone and floor area of the house. It targets not just low income households but also other vulnerable groups, such as chronically diseased or disabled persons and households with children. There is also the D*isconnection safeguards measure* that targets indebted households and prohibits disconnection if it would result in personal injuries.

A number of information and awareness measures are also available to assist and advise vulnerable households. Through *energy and climate advisors,* municipalities provide free advice on energy efficiency and renewable energy to households. A *Price comparison website* is also available from the Swedish regulator where electricity prices can be compared. Questions can also be asked through phone and email. Regulation via the *Transparent billing free of charge* measure also ensures that energy suppliers provide residents with clear and transparent energy bills free of charge, which helps households to assess their energy consumption and the need to change suppliers.

Other subsidies for energy efficiency and renewable energy are available but do not target vulnerable households specifically. *Support for energy efficiency improvements in specific residential areas* aims to overcome the landlord-tenant dilemma by providing landlords with financial support to improve the energy efficiency of rental housing. A portion of this is allocated to a rent reduction for the tenants. Other measures are also available that provide tax cuts on labour costs associated with household energy renovations.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Support for energy efficiency improvements in specific residential areas	Building insulation, Heating system	National government	Landlords		
Disconnection safeguards	Disconnection protection	National government	Indebted households		
Transparent billing free of charge	Information and awareness	Energy suppliers	No specific target group		
Energy and climate advisors	Information and awareness	Local government	No specific target group		
Subsidies for solar systems	Renewable energy	National government, Local government	No specific target group		
Housing allowance	Social support	National government, Local government	Chronically/severely diseased, Disabled, Low-income households, Households with children		
Social assistance	Social support	National government, Local government	Low-income households		
Price comparison website	Information and awareness	Regulator	No specific housing situation	2008	
Subsidies for energy storage	Energy storage	National government	No specific housing situation		

Member State Report
Sweden

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in Sweden and presents publications and training resource on energy poverty in Sweden.

Organisation

Name: European Anti-Poverty Network
Organisation type: NGO
Description:
The European Anti-Poverty Network (EAPN) is the largest European network of national, regional and local networks, involving anti-poverty NGOs and grassroot groups as well as European Organisations, active in the fight against poverty and social exclusion.

Organisation

Name: Energy Vulnerability and Urban Transitions in Europe (EVALUATE)
Organisation type: Research & Consultancy
Description: This is a European Research Council funded project underway since March 2013. It aims to investigate the manner in which urban institutional structures, built tissues and everyday practices shape energy vulnerability at a variety of geographical scales.

Publication

Title: Indoor air quality, thermal comfort and daylight
Authors: Buildings Performance Institute Europe (BPIE)
Year: 2015
Description:. The aim of the report is to provide an overview of the regulatory framework for IAQ, thermal comfort and daylight, and to highlight the importance of having appropriate requirements on these aspects. The report provides concluding recommendations for further policy development relevant for indoor climate.

Training Resource

Title: The SMERGYmeter
Authors: SMERGY
Year: 2017
Description: A web-based and user-friendly consumer guide for young adults. This online guide allows the users to compare their own energy use with those of their peers and to simultaneously measure the energy and money savings they have achieved. It provides simple and personalized recommendations. SMERGY provides other resources relating to energy saving among young adults on their website.

Other selected publications

- Kočenda, E. and Čábelka, Š. (1999) Liberalization in the Energy Sector: Transition and Growth
- Nässén, J. and Holmberg, J. (2009) Quantifying the rebound effects of energy efficiency improvements and energy conserving behaviour in Sweden
- Clancy, J.S., Daskalova, V., Feenstra, M.H. (2017) Gender perspective on access to energy in the EU
- Recalde, M. et al. (2019) Structural energy poverty vulnerability and excess winter mortality in the European Union: Exploring the association between structural determinants and health

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This report was completed in February 2020.

Member State Report
United Kingdom

DATA & STATISTICS

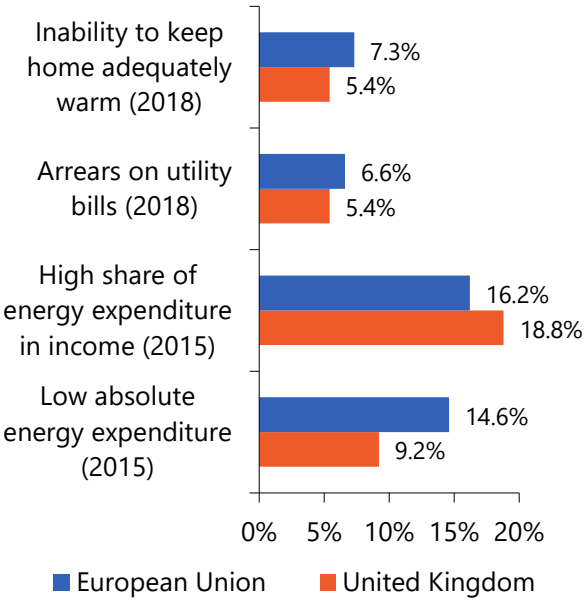
This Member State Report of the EU Energy Poverty Observatory (EPOV) provides an overview of the energy poverty situation in the United Kingdom at a glance. With key indicators, policies, and publications, it offers an understanding of the key aspects of energy poverty in the United Kingdom.

The United Kingdom has a higher performance than the EU average on the population-reported indicators. In 2018, 5.4% of the population reported that they were unable to keep the home adequately warm while the corresponding EU average is 7.3%. Similarly for 2018, 5.4% were unable to pay their utility bills on time due to financial difficulties, while the respective EU average is 6.6%.

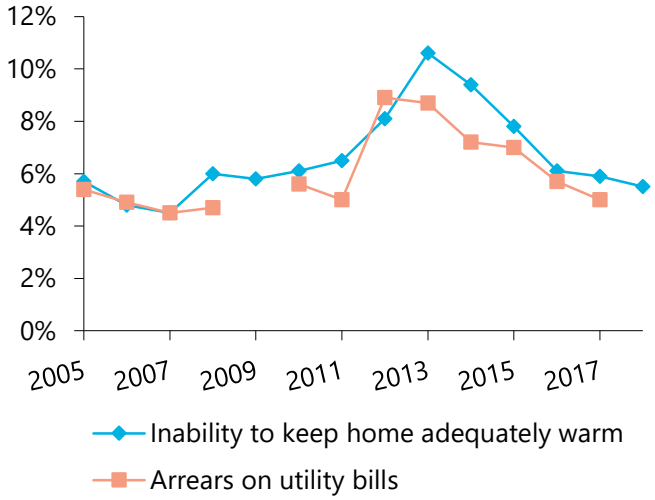
The United Kingdom's performance in the expenditure-based indicators is mixed compared to the EU average. The share of households that spend a high share of their income on energy expenditure is 18.8% which is higher than the EU average. These households are likely to live in a dwelling with poor thermal and energy efficiency in non-urban areas where there is more heat dissipation.

Conversely, at 9.2% the United Kingdom has a lower number of households spending a low share of their income on energy expenditure than the EU average. These households might restrict their energy spending below what is necessary to meet their needs.

Performance relative to EU average*



Performance over time*



In the United Kingdom, the percentage of the population unable to keep the home adequately warm gradually increased from 5% in 2006 to 11% in 2013. The notable increase between 2010 and 2013 may be attributed to the financial crisis. It slowly decreased to the level of 6% in 2017 and 2018. Meanwhile, the percentage of population on arrears on utility bill follows a similar trajectory and increased notably between 2011 and 2012 from 5% to 9%. By the year 2017, the arrears on utility bills decreased to 5%, the same value observed in 2005.

In 2013 the Energy Company Obligation was introduced to tackle energy efficiency in households. This may have contributed to a gradual improvement of indicators from 2013 onwards.

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**Population-reported indicators taken from Eurostat here and here on November 19, 2019. Expenditure-based indicators calculated by EPOV based on HBS data. Disaggregated data of population-reported indicators calculated by EPOV based on Eurostat provided data.*
The United Kingdom also reports its own energy poverty statistics that might suggest different results than the EPOV indicators.

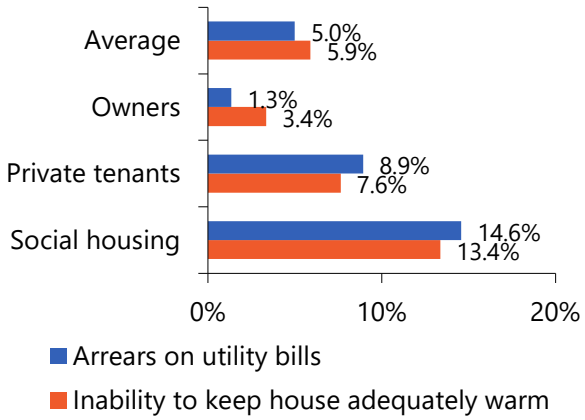
Member State Report
United Kingdom

DATA & STATISTICS

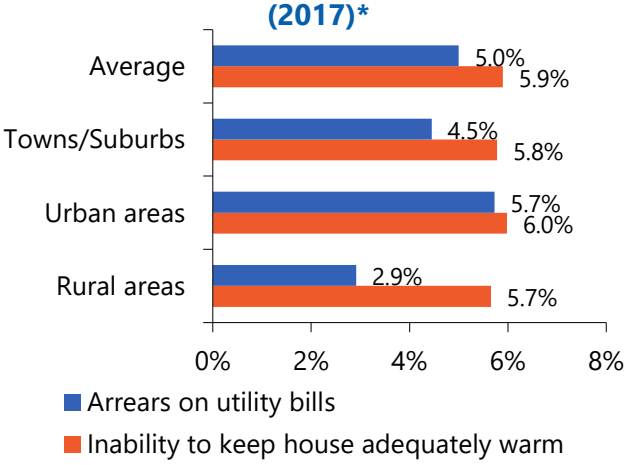
The disaggregated data of the population-reported indicators suggest that energy poverty in the United Kingdom is highest for the social housing sector in 2017, at 13.4% for inability to keep the house warm and 14.6% for arrears on utility bills. The social housing sector, which is the most vulnerable tenure type, accounts for 18% of the population in the United Kingdom.

The data also indicates that apartment type dwelling as the most vulnerable to these indicators, noting that 15% of the population live in this dwelling type.

Inability to keep home warm and Arrears on utility bills disaggregated by tenure type (2017)*



Inability to keep home warm and Arrears on utility bills disaggregated by urban density (2017)*

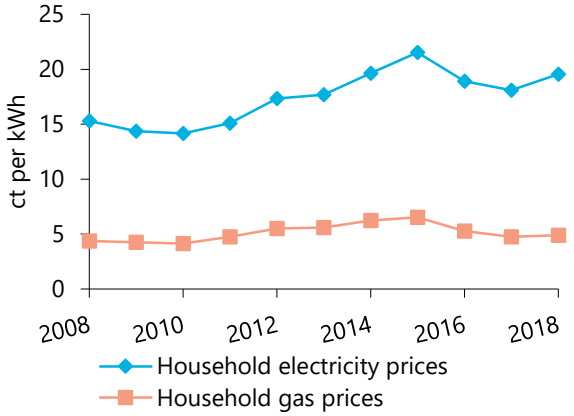


In the United Kingdom urban areas have the lowest performance for ability to keep the house adequately warm and having arrears on utility bills, closely followed by town/suburb areas. This may be due to the higher costs of living in urban areas and the relatively high proportion of poor populations living in cities. Urban areas account for 59% of the United Kingdom population.

Rural areas are notably unable to keep their house adequately warm with values similar to urban areas, despite having the lowest arrears on utility bills. This may be attributed to the dwelling type most prevalent in rural areas and by having lower building density which increases heat dissipation. The rural area accounts for 13% of the United Kingdom population.

UK household energy costs over time

The household energy cost over time in the United Kingdom has gradually increased to reach a peak in 2015 with electricity at 21.5 €ct/kWh and gas at 6.52 €ct/kWh. There is a sharp increase in electricity price between 2011 and 2012. This corresponds to the poorer performance of household indicators between these two years, as observed earlier. There is a notable reduction in price per unit between 2015 and 2017 but 2018 has again seen a small increase in prices.



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The United Kingdom also reports its own energy poverty statistics that might suggest different results than the EPOV indicators.

Member State Report
United Kingdom

POLICIES & MEASURES

Research on energy poverty in Europe began in the United Kingdom, where it is often referred to as 'fuel poverty'. After the term was first used in the 1980's, Boardman's publication 'Fuel Poverty: from cold homes to affordable warmth' is considered the seminal publication on the topic. Research on energy poverty has continued to develop and expand in the United Kingdom, evidenced by the almost 200 publications on the EPOV website linked to the United Kingdom.

National policy on energy poverty was formulated in the UK Fuel Poverty Strategy in 2001. Important elements of the policy include *Winter Fuel Payment, Cold Weather Payment* and *Warm Home Discount (WHD)*, which covers energy bills of certain vulnerable households in the winter. The Winter Fuel Payment reached roughly 12 million people (2015/2016), the Cold Weather Payment issued around 130,000 payments (2016/2017), and the WHD provided rebates to nearly 2.2 million vulnerable consumers (2015/2016). In January 2019 an Energy Price Cap was introduced which protects 11 million households from the highest tariffs.

Various energy efficiency programmes are implemented in the UK. In the *Energy Company Obligation,* started in January 2013, energy suppliers support the delivery of energy efficiency measures amongst low income and vulnerable households. Approximately 500,0000 insulation measures were taken per year since the scheme's inception. The *Decent Homes Programme* aims to ensure that social housing achieves a minimum standard including a reasonable degree of thermal comfort. One of the newest measures, initiated in 2019, is the *Energy Price Cap,* aimed at protecting 11 million households from the highest energy tariffs

Regional governments have also implemented additional policies and their own framework of measurement to address energy poverty. Many civil society organisations are active in the field of energy poverty in the United Kingdom, including advocacy organisations and NGOs. For instance, the *Community Financial Inclusion Project* started in 2010, run by an NGO, aims to establish ongoing engagement with households having low participation in neighbourhood groups or existing structures.

The United Kingdom reports its own energy poverty statistics on England that might use other metrics and partly present different results from the EPOV indicators. In England the Low Income High Costs indicator is used to measure energy poverty. A household is considered energy poor if it has required fuel costs that are higher than average and if they a were to spend that amount, they would be left with a residual income below the official poverty line. The proportion of households in England in fuel poverty was estimated to be 11.1% in 2016. These statistics are gathered by National Department for Business, Energy and Industrial Strategy.

Selected measures	Type of measure	Organisation	Target groups	Start year	Result
Warm Homes Nest Scheme	Building insulation, Energy audits, Heating system, Household appliances	Regional government	Low-income households Vulnerable households	2011	98,000 households in Wales have benefited from free advice and support
Energy Company Obligation	Building insulation, Heating system	National government, Energy suppliers	Low-income households Vulnerable households	2013	500,000 insulation measures taken per year since scheme inception
Decent Homes Programme	Building insulation, Heating system	National government	Social housing	2000	Over million social homes improved in first 10 years
Scotland's Energy Efficiency Programme	Building insulation, Heating system, Energy audits, Energy bill support, Information and awareness	Regional government	Vulnerable households	2016	
Winter Fuel Payment	Energy bill support	National government	Pensioners	1997	12.21m GB residents received payment for winter 2015/2016. 42,000 claimants resident in the EEA or Switzerland received payment.
Cold Weather Payment	Energy bill support	National government	Households on social benefits, Low-income households		131,000 payments in winter 2016-2017, total expenditure of £3.3m
Warm Home Discount	Energy bill support, Information and awareness	National government, Energy suppliers	Households on social benefits, Low-income households	2011	£320m support provided to vulnerable consumers between April 2015 and March 2016.
Energy Price Cap	Social tariff	National government	Vulnerable households	2019	
Minimum Energy Efficiency Standards	Building insulation, Heating system	National government	Private rented housing	2018	

Member State Report
United Kingdom

PUBLICATIONS & ORGANISATIONS

This page gives an overview of the most relevant organisations working on energy poverty in the United Kingdom and presents publications and training resource on energy poverty in the United Kingdom.

Organisation

Name: Citizens Advice
Organisation type: NGO
Description:
Citizens Advice gives independent advice and support for any issue or problem with energy bills and the energy supplier. It also provides knowledge and information on a wide range of topics such as energy meter related questions, new suppliers in a new home and getting the best energy deal possible.

Organisation

Name: Committee on Fuel Poverty (CFP)
Organisation type: National government
Description:
CFP advises on effectiveness of policies aimed at reducing fuel poverty, and encourages greater coordination across organisations working towards reducing fuel poverty. This is an advisory non-departmental public body sponsored by the Department for Business, Energy and Industrial Strategy.

Publication

Title: Energy poverty and social relations: a capabilities approach
Authors: Middlemiss, l., Albala, P. A., Emmel, N., Gillard, R., Gilbertson, J., Hargreaves, T., Mullen, C., Ryan, T., Snell, C. & Tod, A.
Year: 2019
Description:
In this paper the authors draw on secondary qualitative data on energy poverty from the UK and conceptual thinking informed by capabilities approach to explore to relationship of energy poverty with social relations.

Training Resource

Title: Community Action on Fuel Poverty: Resource Hub
Authors: National Energy Action (NEA) and British Gas
Year: 2017
Description:
A resource hub to enable innovative and positive action. The site provides a wide range of toolkits, resources, 'how to' guides and materials which can be downloaded for use by practitioners and community organisations tackling energy poverty.

Other selected publications

- Bradshaw, J. and Hutton, S. (1983) Social Policy Options and Fuel Poverty
- Boardman, B. (1991) Fuel Poverty: from cold homes to affordable warmth
- Department of Trade and Industry (2001) UK Fuel Poverty Strategy
- Boardman, B. (2010) Fixing Fuel Poverty: Challenges and Solutions
- Hills, J. (2012) Getting the measure of fuel poverty: Finale Report of the Fuel Poverty Review
- Bramley, G., Fitzpatrick, S., Liddell, C., & Webb, J. (2017) A new definition of fuel poverty in Scotland: A review of recent evidence.
- Department for Business, Energy & Industrial Strategy (2018) Annual fuel poverty statistics report, 2018 (2016 data)
- Department for Business, Energy & Industrial Strategy (2018) Committee on Fuel Poverty third annual report: 2018
- National Energy Action (NEA), (2018) UK Fuel Poverty Monitor 2017-18
- Sustainability First (2018), Energy for all - Innovate for all.
- Robinson, C. ,(2019) Energy poverty and gender in England: A spatial perspective
- Department for Business, Energy and Industrial Strategy (2019), Consultation on the fuel poverty strategy for England

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This report was completed in February 2020.

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