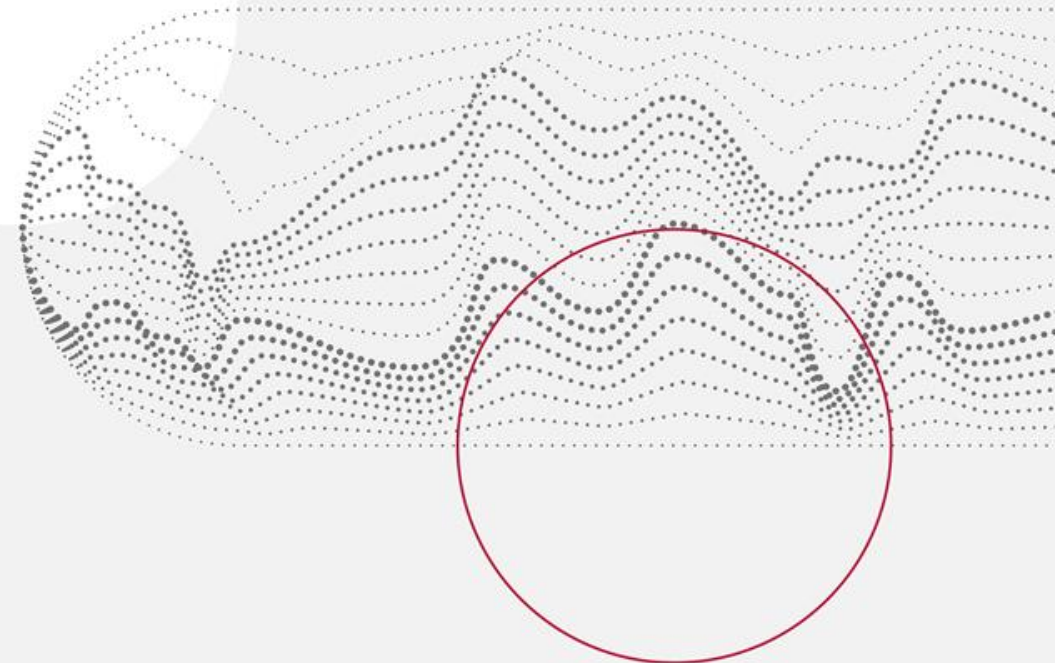


Energy poverty in Poland, 2012-2016

Description and changes over time

BRIEF REPORT
REVISED VERSION
FEBRUARY 2018

Katarzyna Sałach
Piotr Lewandowski



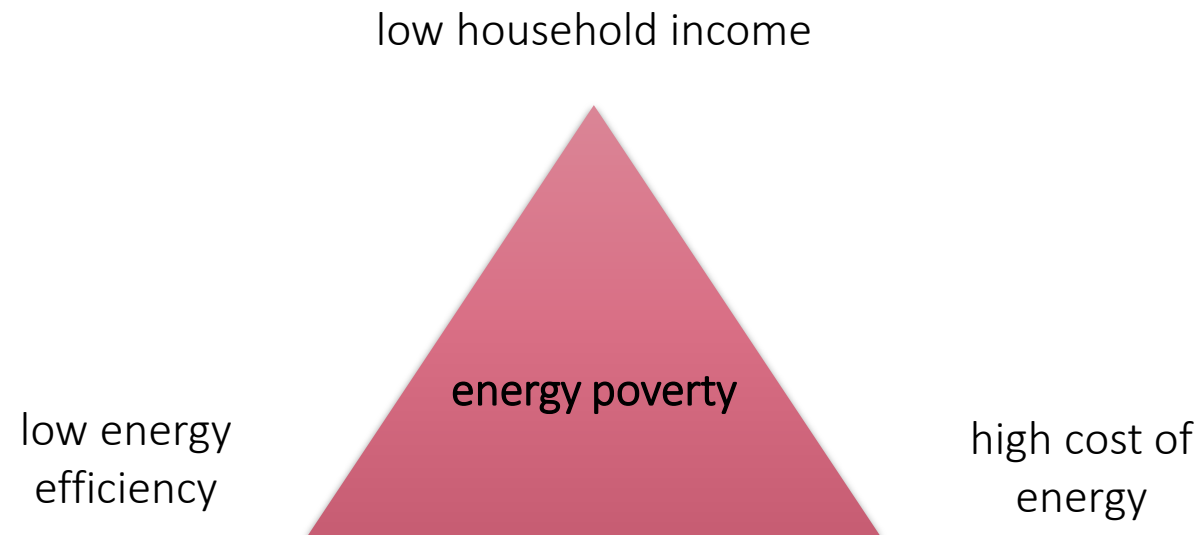
Energy poverty – a concurrence of unfavourable factors



A household is affected by **energy poverty** if it has difficulty meeting its energy needs because of low income or the nature of its dwelling.

Energy needs comprise all activities necessary to maintain a decent standard of living that use either heat or electricity, such as: heating of the dwelling, heating of water, lighting, preparing meals, and using basic

household appliances and audio and video devices. We can speak of energy poverty if the cost of meeting energy needs is so high that household members have to decide between meeting these needs or spending money on other goods, e.g. food, medicine, and education.



We measure energy poverty using the modified LIHC indicator



Low Income - High Costs (LIHC) indicator

Two criteria:

- **high required energy costs** (meeting standard energy needs)
- low income
 - 30% of people with the lowest income
 - individual income threshold (takes into account the household's housing situation)

For a household to be classified as energy poor, it has to meet two criteria simultaneously: high required energy costs and low income. Required energy costs mean the expenses that the household would incur, taking into account its housing situation, if it were able to fully meet standard energy needs.

The group of households that meet the low income criterion is determined in two steps. First of all, this group is narrowed down to the 30% of people with the lowest equivalent incomes. Secondly, this group is narrowed further to people who are below the individual income threshold.

The individual income threshold for a household is the sum of two figures: the poverty threshold common for all households, and the energy expenses of a particular household. The poverty threshold common for all households equals 60% of the median of income after housing costs. By applying the individual income threshold, we include people who are slightly above the income poverty threshold, but who are "pushed into" energy poverty by high energy expenses.

The "Low Income High Costs" (LIHC) indicator applied in this work has been modified from the original to fit Polish conditions and the level of detail of the available Polish data.

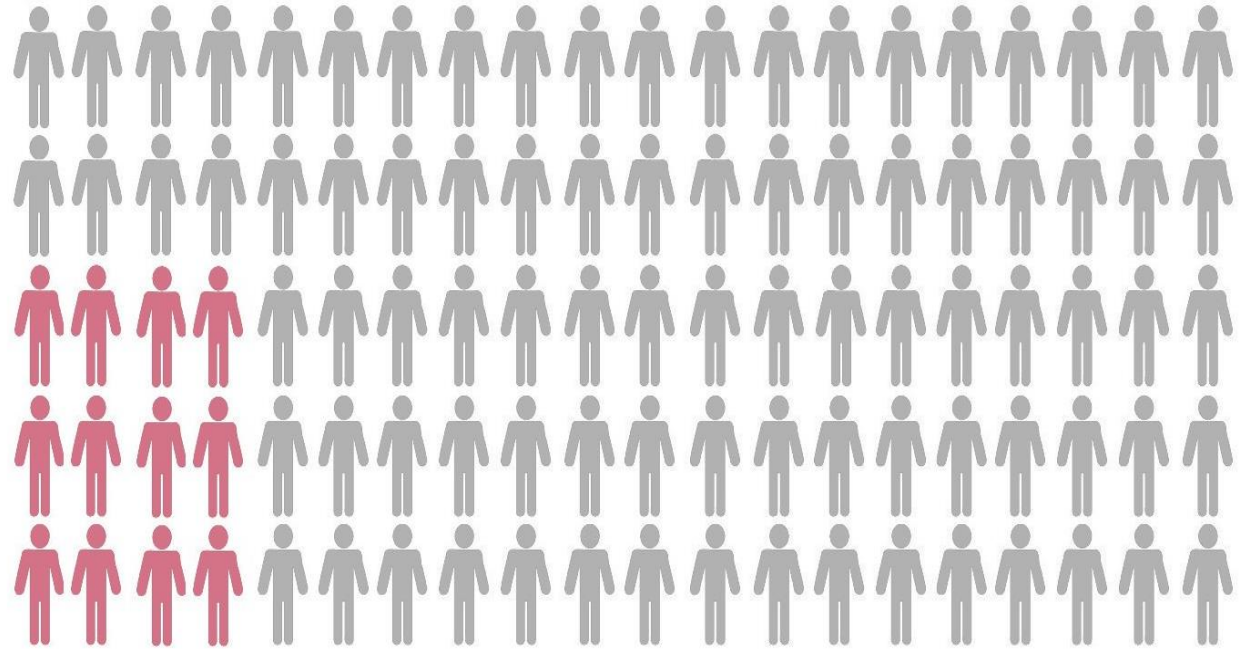
12% of people in Poland live in energy poverty



In 2016, 12.2% of people in Poland lived in energy poverty, which in absolute terms meant 4.6 million people in 1.3 million households.

Among those affected by energy poverty, a slight majority (2.5 million) was simultaneously income poor (according to the definition of relative poverty, equivalent income below 60% of the median).

2.1 million people experienced energy poverty, although not income poverty. This demonstrates that **energy poverty should be seen not as an aspect of income poverty but as a separate dimension of deprivation.**



Source: Own calculations based on Polish Household Budget Survey 2016.

12% of people in
Poland live in
energy poverty

4.6 million
people

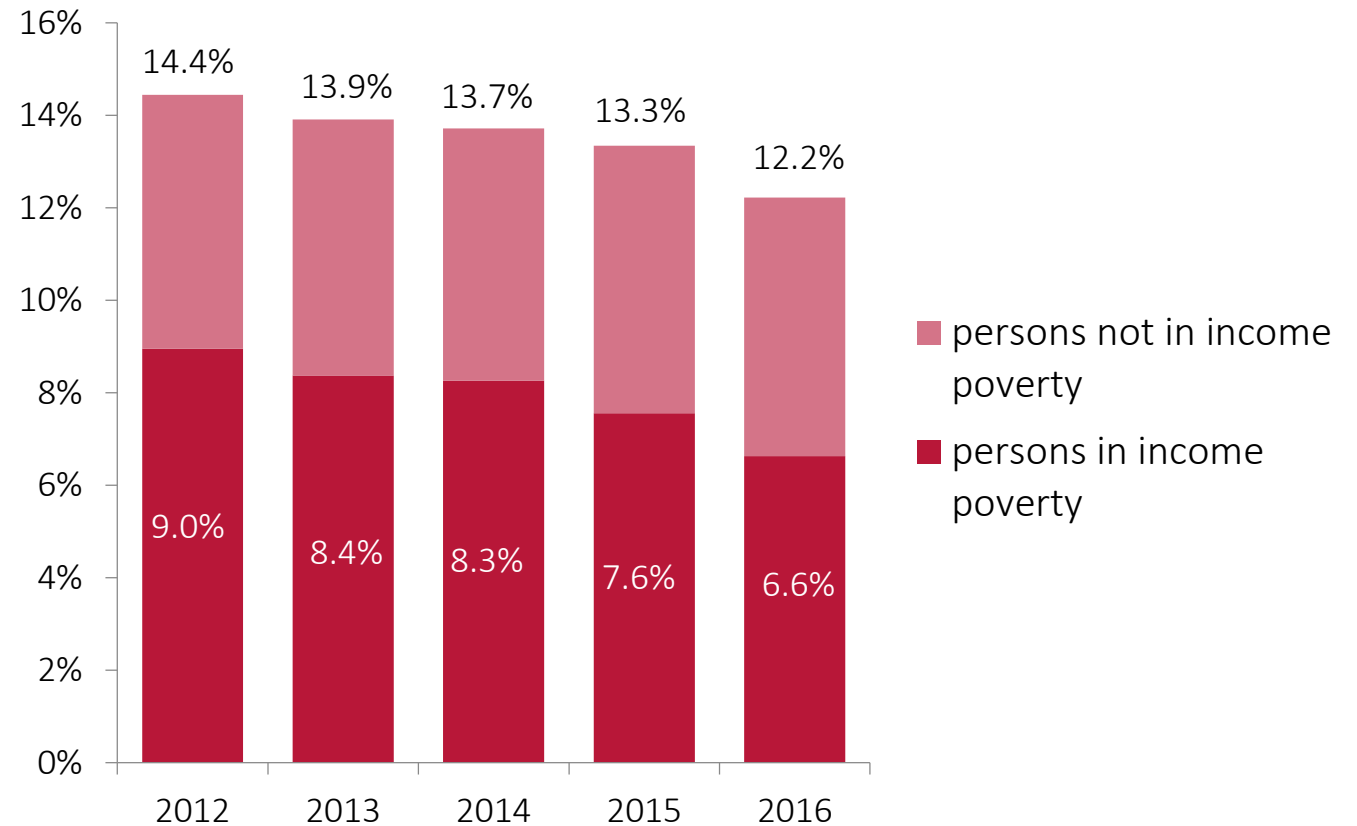
Poland's rate of energy poverty has decreased in the last five years



The percentage of energy poor Poles dropped from 14.4% in 2012 to 12.2% in 2016. In absolute terms, this was a drop by 880,000 people. This resulted almost entirely from a lower number of people who were simultaneously income and energy poor. The improved situation of these households was to a great extent attributable to increased income.

The greatest drop year on year was from 2015 to 2016 and can be linked to the *Rodzina 500+* family benefit programme. Nevertheless, a downward trend has been visible since 2012. The percentage of people who were energy poor but not income poor remained practically unchanged, amounting to about 5.5% of the population.

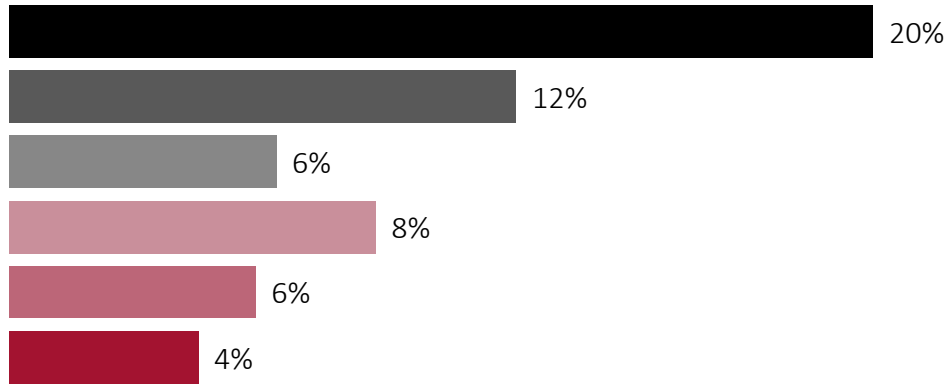
Energy poverty 2012-2016 (% of population)



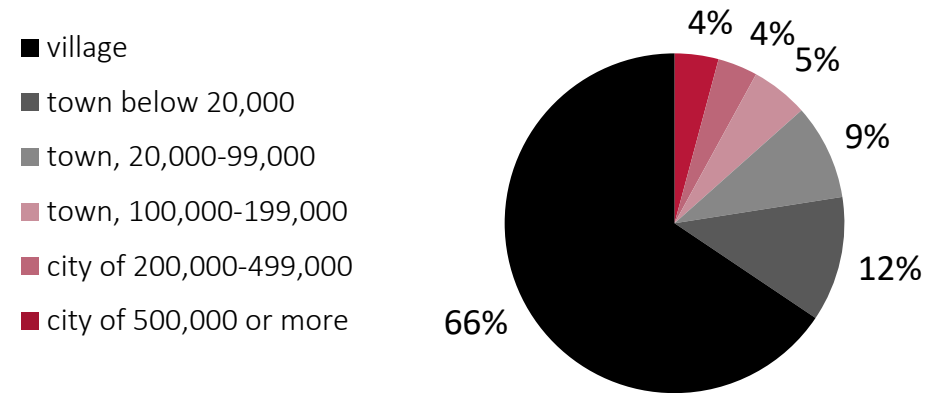
Energy poverty affects mainly people living in villages and small towns



Energy poverty rate by type of region



The energy poor, by type of region



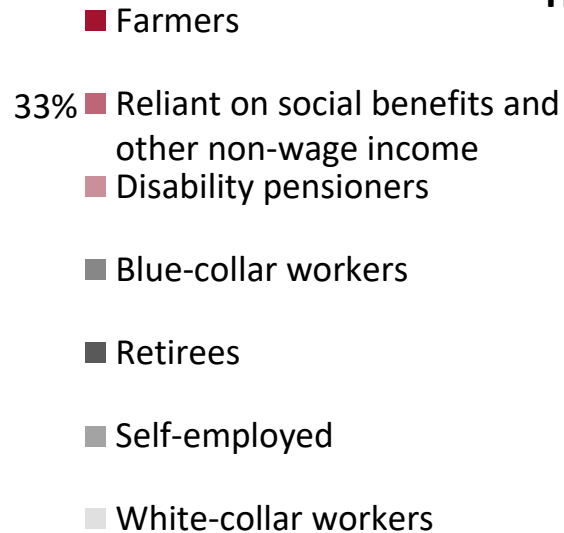
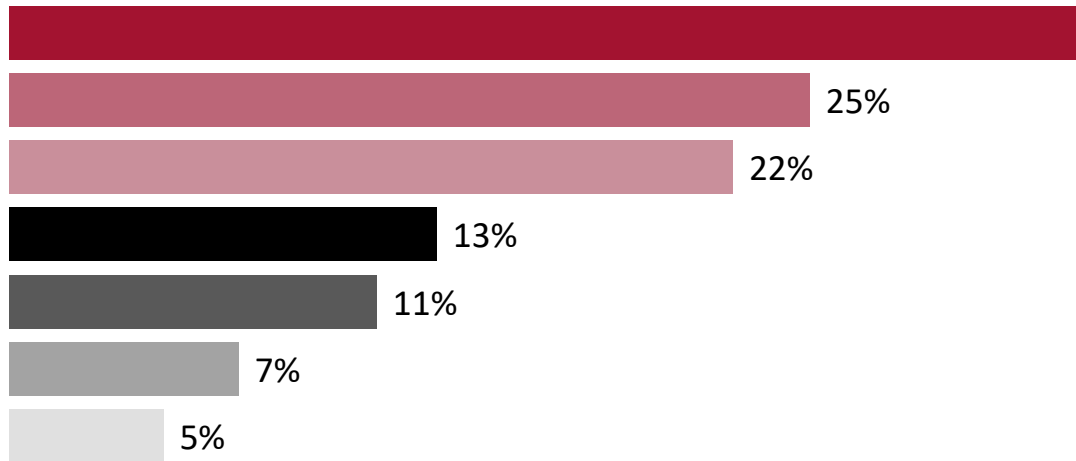
The vast majority (2/3) of the energy poor live in villages. In this group, the energy poverty rate is also the highest: as much as 20% of Poland's village population is energy poor. This is a consequence of relatively lower income in rural areas and living in detached houses, often quite large, with low energy efficiency. Another important aspect is frequent lack of access to the heating and gas networks.

Energy poverty is also an important phenomenon in towns with less than 20,000 residents, where one in eight people is affected. In large cities (above 200,000 residents), the scale of energy poverty is insignificant (approximately 5%).

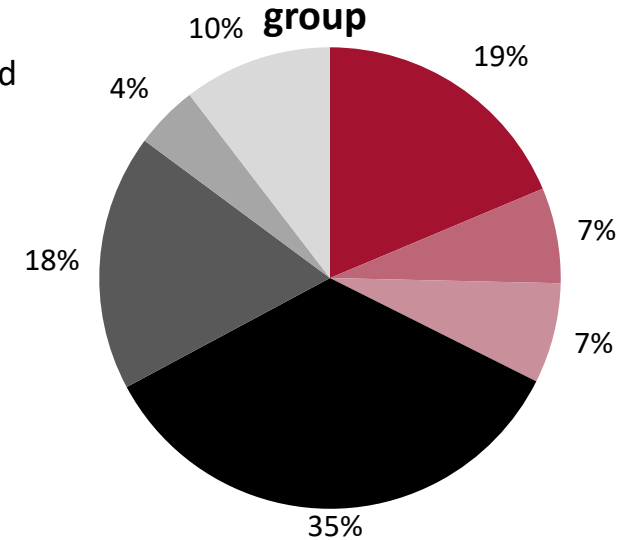
The majority of energy poor households are those of blue-collar workers, farmers and pensioners



Energy poverty rate by socio-economic group



The energy poor, by socio-economic group



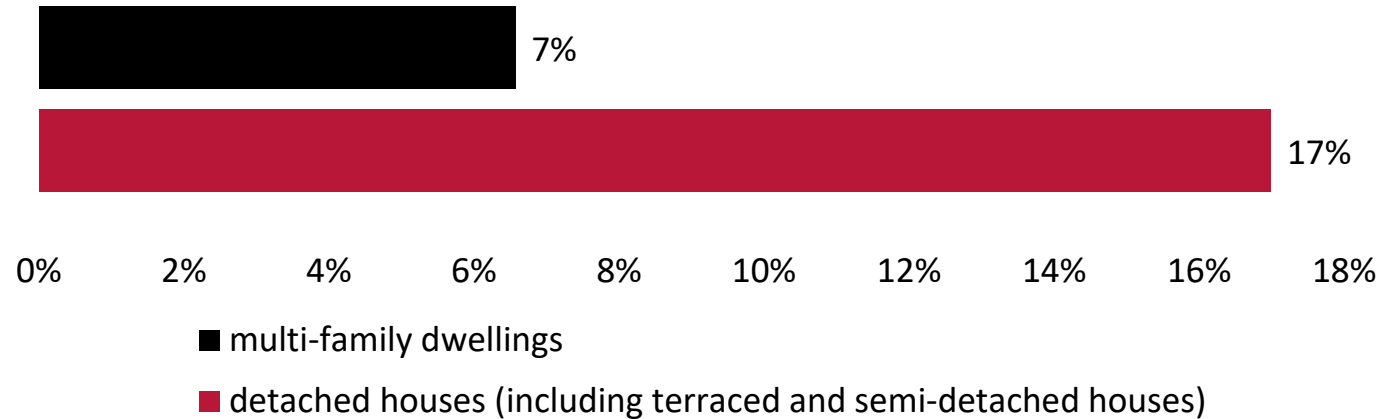
As energy poverty is most common in rural areas, farmers are the socio-economic group where the percentage of the energy-poor is the highest: every third person in households living off farming suffers from energy poverty. Farmers constitute almost 20% of the energy poor.

However, the most numerous group of the energy poor are blue-collar workers, who make up more than 1/3 of the energy poor. Another important group of the energy poor are retirees (18% of the total), although the rate of energy poverty among retirees (11%) is lower than the national average (12%).

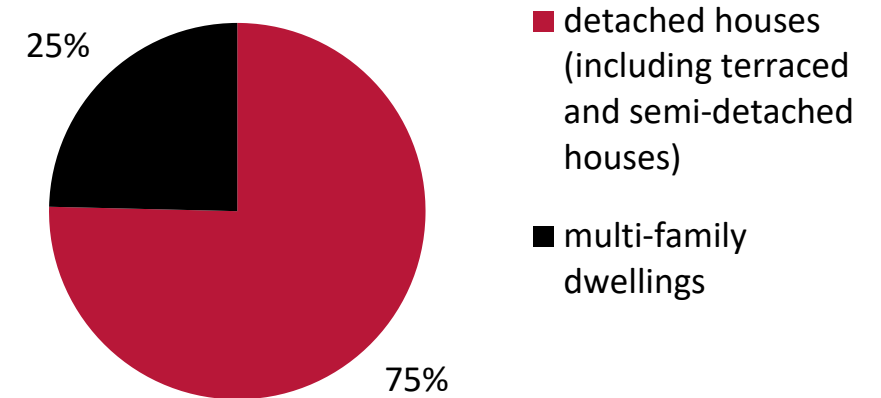
Energy poverty affects mainly people living in detached houses



Energy poverty rate by type of housing



The energy poor, by type of housing



The energy poverty rate is more than two times higher among people living in detached houses (including terraced houses and semi-detached houses) than among people living in multi-family dwellings. As a result, 75% of all the energy poor are residents of detached houses.

This is related to (i) the relatively large areas of detached houses in Poland, (ii) their relatively lower energy efficiency, and (iii) less common connections to gas and heating networks than in multi-family dwellings, which translates into relatively higher costs of satisfying standard energy needs.

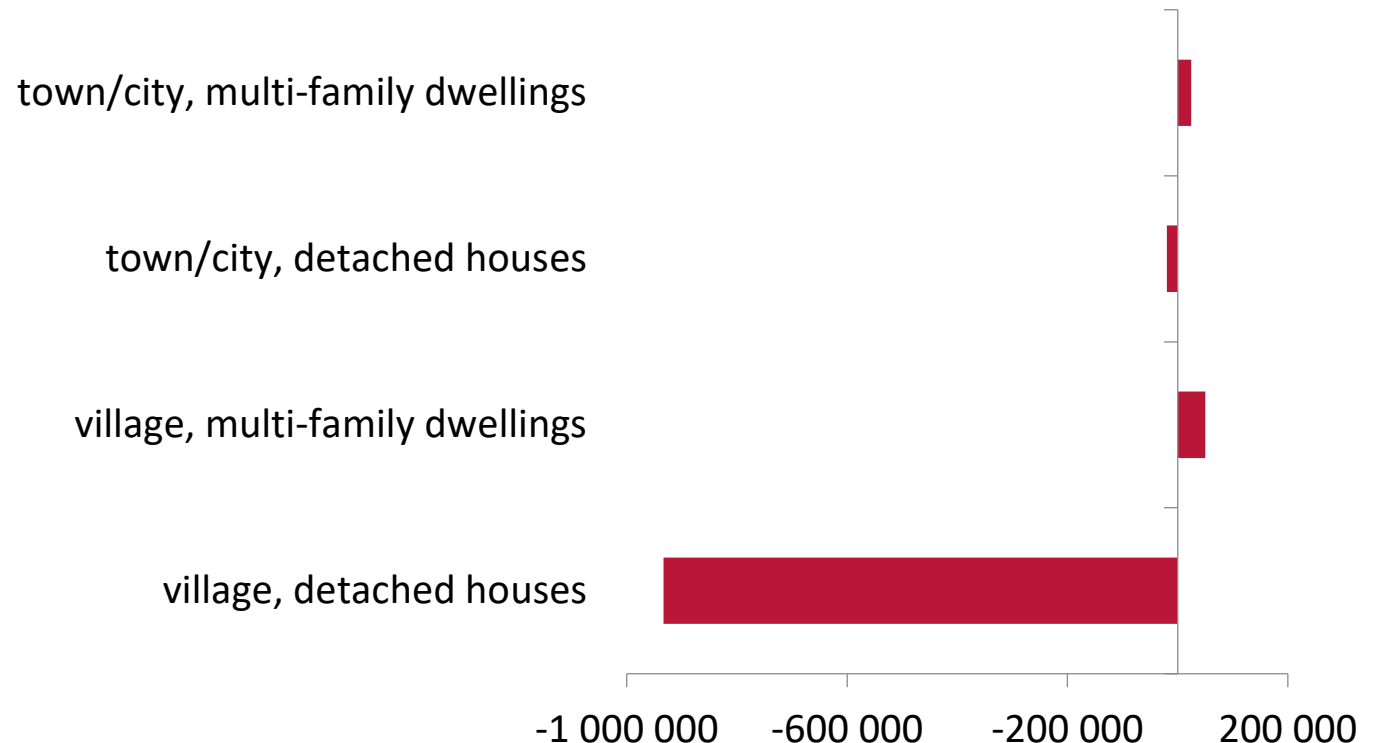
The greatest decline in energy poverty affected people living in detached houses in the countryside



Between 2012 and 2016, the number of the energy poor in Poland decreased, mainly due to a lower number of energy poor people living in detached houses in rural areas (a decline by 933,000 people). This resulted from both increased income and lower energy costs in these households.

At the same time, the number of the energy poor living in multi-family dwellings increased slightly, both in the countryside (by 50,000) and in cities (by 25,000), which resulted from a relative increase in energy costs for people living in multi-family dwellings.

Change in the number of the energy poor, 2012-2016

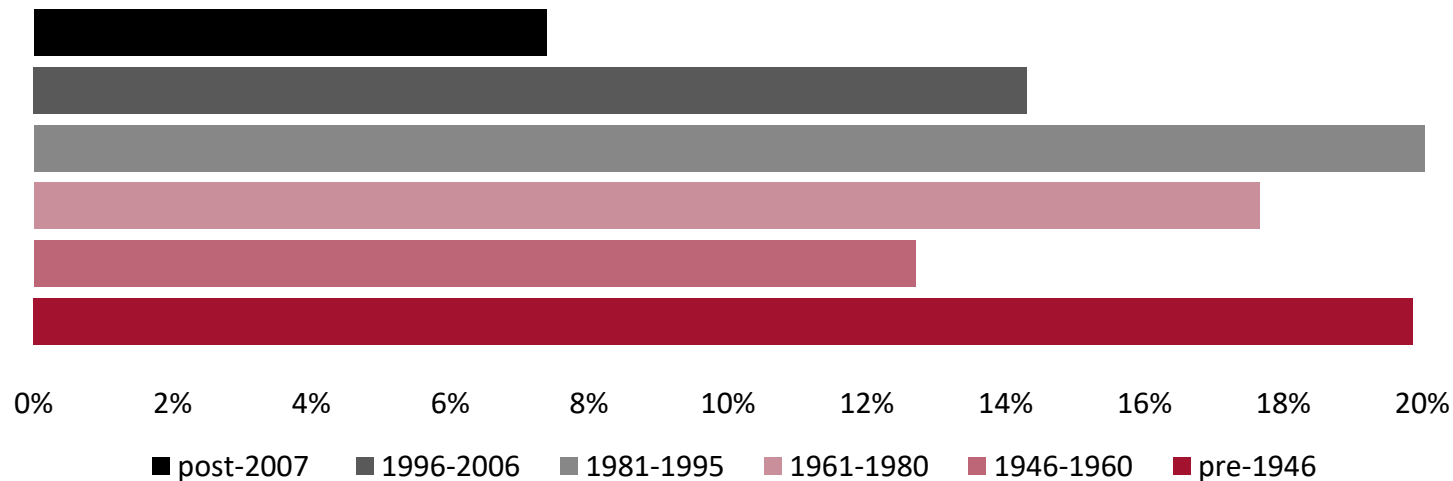


People living in detached houses from before 1946 and from 1981-1995 are at the greatest risk of energy poverty

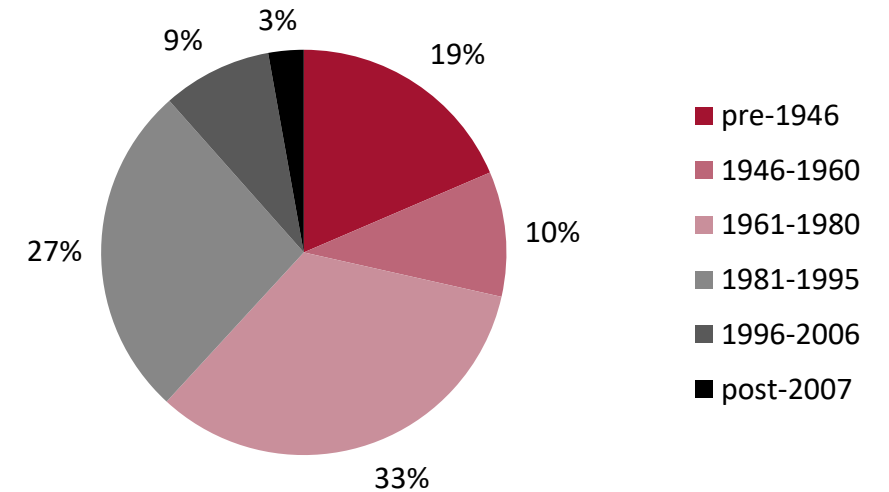


Detached houses (including terraced and semi-detached houses)

Energy poverty rate by dwelling construction date



The energy poor, by dwelling construction date



Residents of detached houses (including terraced and semi-detached houses) constitute the majority of the energy poor. We can identify three groups of buildings by construction date where energy poverty is the biggest problem. Namely:

- houses from before 1946, often made of wood
- houses built in the 1960s and 1970s
- houses built in 1981-1995.

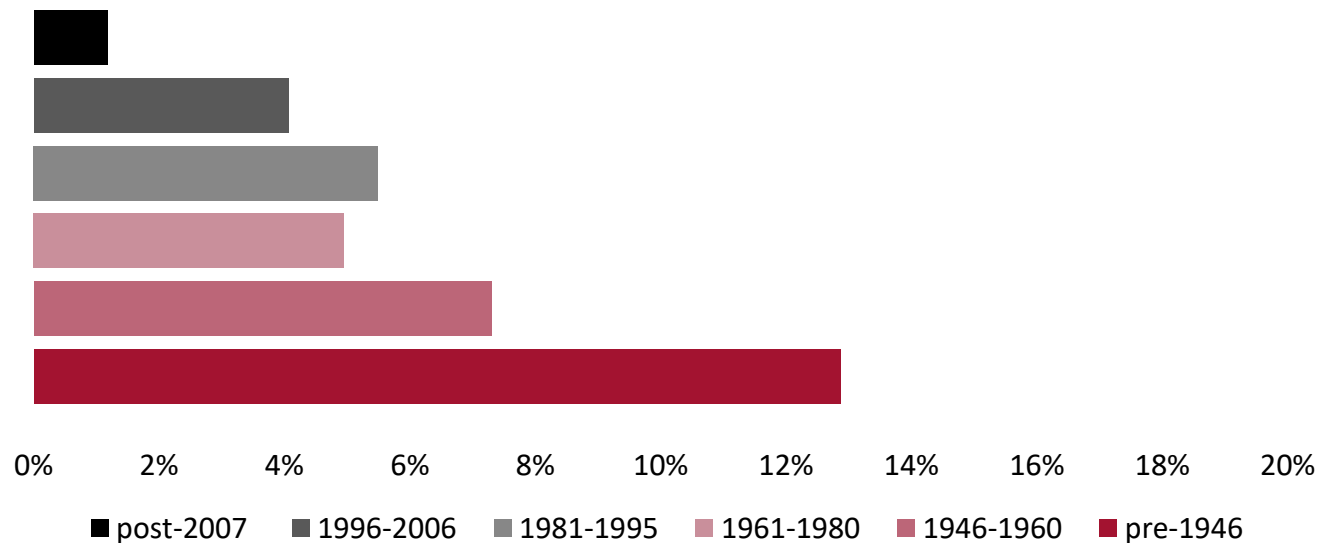
Residents of pre-war buildings are the main group of people in multi-family dwellings at risk of energy poverty



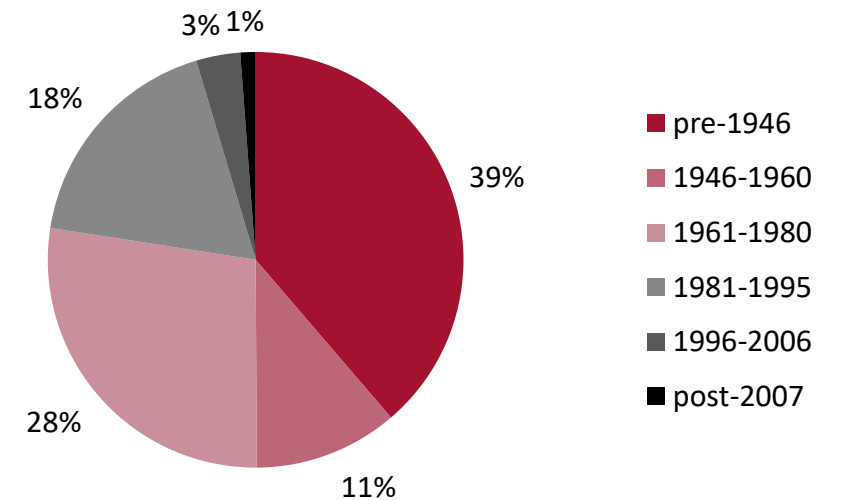
In the case of multi-family dwellings, there is a strong correlation between the age of the building and energy poverty: the older the building, the higher the energy poverty rate. This is particularly true for pre-war buildings, where the rate of energy poverty is twice as high as among residents of buildings built after 1946. Residents of pre-war buildings account for 40% of all energy poor residents of multi-family dwellings.

Multi-family dwellings

Energy poverty rate by dwelling construction date



The energy poor, by dwelling construction date



Source: Own calculations based on Polish Household Budget Survey 2016.

The Institute for Structural Research (IBS) has been conducting research on energy poverty since 2015. This paper presents the latest estimations of the scale of this phenomenon, made based on the most recent data from the Polish Household Budget Survey 2016 by the Central Statistical Office (GUS). With energy poverty measures, that we developed and adjusted to Polish conditions, we are able to precisely determine the scale and evolution in time of the phenomenon. We identify the social groups most affected by this problem, and we determine to what extent energy poverty overlaps with income poverty.

IBS materials about energy poverty:

- Publications:
http://ibs.org.pl/en/?s=&post_type=publications&type=0&category=191&from=&to
- Project description: <http://ibs.org.pl/en/research/energy-poverty/>

**Own study based on data from the Polish Household Budget Survey 2012-2016 by the Central Statistical Office. The Central Statistical Office is not liable for the data and conclusions presented in the publication. The usual disclaimers apply. All errors are ours.*

**Project funded by the European Climate Foundation.*

Katarzyna Sałach
katarzyna.salach@ibs.org.pl

Piotr Lewandowski
piotr.lewandowski@ibs.org.pl

www.ibs.org.pl
@ibs_thinktank
@ibs_warsaw

