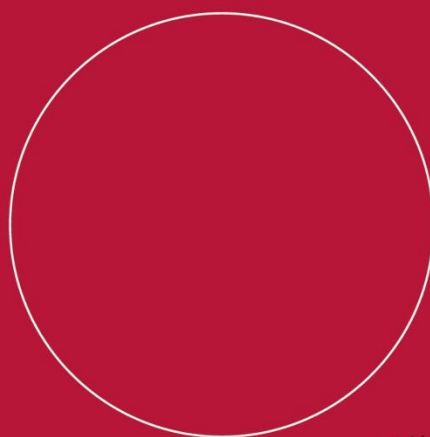


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# ENERGY POVERTY IN POLAND – BUZZWORD OR A REAL PROBLEM?

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Aleksander Szpor

## Abstract

This publication presents the main arguments for the recognition of energy poverty as an important issue that deserves separate treatment in research and policies on poverty in general. For this purpose, references have been made to worldwide literature and to first definition, as well as empirical research in this area conducted in 2015 for Poland. On this basis, a number of steps necessary to deepen knowledge about energy poverty are proposed, as well as actions that should be taken at governmental, regional and local level in order to counteract this dimension of poverty.

Keywords: energy poverty, fuel poverty, poverty measures, energy needs

JEL: I32, Q40

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## Introduction

Energy poverty is still considered a marginal issue in Poland. The incorrect assumption is made that energy poverty stems directly from low income, and those seeking to resolve the issue address it from the same erroneous perspective. Meanwhile, in order to effectively combat energy poverty, it is crucial to comprehend that this phenomenon is determined by more than one specific factor.

The objective of this paper is to review the existing knowledge on energy poverty, while defining it as a specific type of poverty. Furthermore, definition of energy poverty applicable to the Polish context and an initial energy poverty outlook for Poland will be presented.

## Problem with defining poverty

A clear definition of what poverty is and whom it affects is a prerequisite to effectively counteract it. However, the difficulty lies in the fact that poverty (or wealth) can only be discerned against the backdrop of a larger group. Depending on social context, the same individual may be perceived as either poverty-stricken or affluent. To provide an example - people perceived as poor in Poland based on the definition of income poverty would readily fall within the category of wealthy in Malawi. Therefore, it is said that poverty is a relative (as well as dynamic) phenomenon and thus there is **no single universal definition of poverty**.

Shifting focus to the **context and consequences** of poverty emergence allows not only to overcome the problems with defining the phenomenon, but also to effectively counteract it. Context refers to continued lack of resources, or – alternatively – opportunities, life choices, chances, etc. This condition is referred to as the *state of deprivation*, which leads to a situation where the affected become, either in their own opinion or in the perception of their community, excluded from social life. This state violates the dignity of the human person protected by international law (UN, 1948), EU law (Charter of Fundamental Rights of the European Union, 2010), as well as, e.g. by the Constitution of the Republic of Poland.

Polish researchers (Panek, 2007; Szarfenberg, 2011) agree that what lies at the heart of poverty is the **incapacity of individuals to meet their basic needs**. This very basic definition raises two key questions: what are the basic needs and what causes failure to meet them?

## Basic needs and energy needs

The Basic Needs Approach (BNA) emerged in the study of poverty at the end of the 1970s (Streeten and Burki, 1978). It was spurred by the criticism of the existing approach to combating poverty, measured by economic growth and intended to counteract by employment and redistribution policies. BNA was focused on the assumption that each and every person has the right to a certain universal set of resources necessary for human existence. This catalogue was topped by food, water and shelter. Over time, it was expanded to include e.g. clothing, health care and education (Denton, 1990), information and sanitary infrastructure (UN, 1995). Although BNA ceased to be the leading poverty research concept, it still serves as a useful tool for studying the causes of energy poverty (e.g. increase or decrease in income or dwelling quality). The new *capabilities* approach

formulated by Amartya Sen (1985) focuses on individuals' capability of achieving the goals they value, e.g. being in good health, finding employment and having loving relationships with others (*functionings*). This approach contributes to energy poverty research by supplementing it with the aspect of purpose (e.g. adequate levels of warmth in the home) (Buzar, 2007).

Although no key international document on combating poverty (UN, 1948; UN, 1966; UN, 1995; CFHR, 2010) lists **energy** as one of the basic universal goods, research on poverty related to unfulfilled energy needs has witnessed increased attention since the 1980s (Isherwood and Hancock, 1979; Lewis, 1982; Bradshaw and Hutton, 1983). Establishing energy poverty as a separate concept, however, remains a source of controversy. Criticism is directed at three issues: 1) existence of a direct link between energy and basic human needs, 2) universality of energy needs, and 3) adoption of a different approach to energy expenditure vs. other household expenses, e.g. those related to clothing or entertainment (Kanschik, 2015).

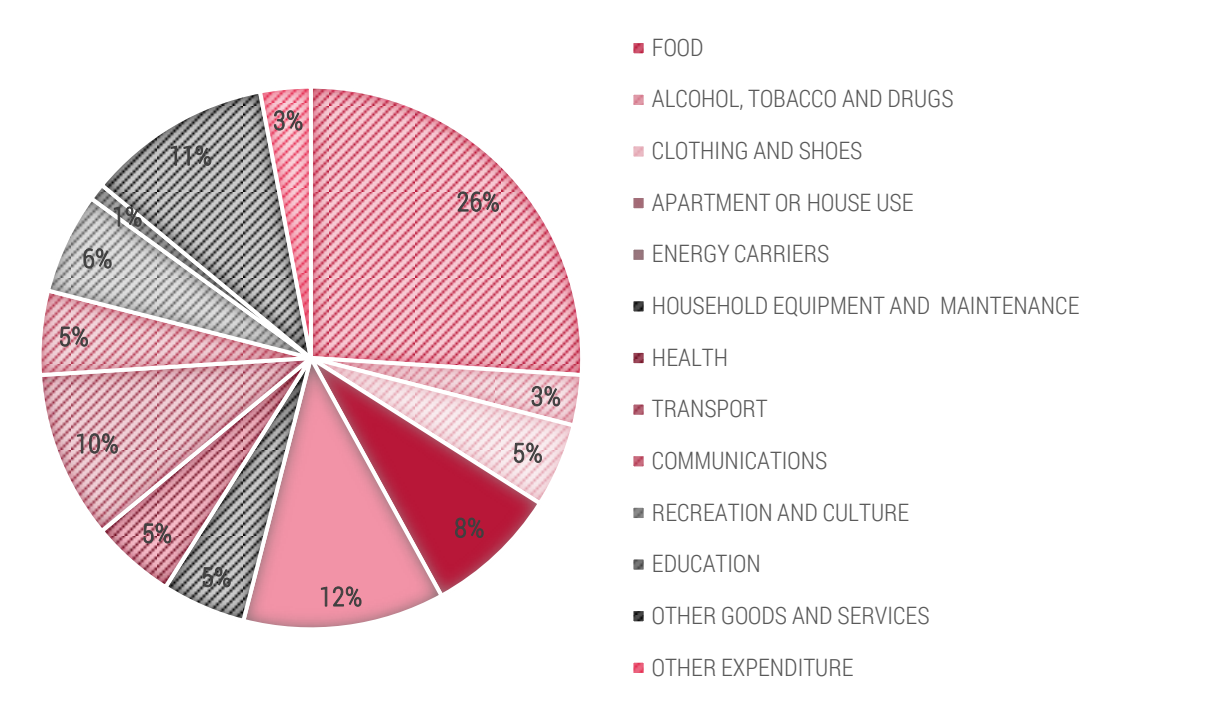
As a matter of fact, neither thermal nor electrical energy directly meet any of man's **basic physiological needs**, e.g. energy does not quench thirst or provide shelter. However, similarly to the above-mentioned sanitary infrastructure, energy is an indispensable means of satisfying these basic human needs. To provide an example: the basic universal need of being in good health is satisfied by ensuring an adequate level of domestic heating or cooking food to avoid food poisoning. Energy is also prerequisite for satisfying higher-level needs, such as lighting and access to mass media.

Is the need for thermal and electrical energy a **universal** one? Problems encountered by the poor South (developing countries) are related mainly to lack of basic electricity generating and distributing infrastructure. In the rich North, where such infrastructure is commonplace, the challenge is posed rather by low temperatures and related heating costs (cooling-related issues have recently been addressed also in developed countries (Pye and Dobbins, 2015)). Therefore, it is justified to maintain the differentiation between energy poverty (developing countries) and fuel poverty (developed countries), as this helps emphasize not only the divide between less and better developed countries, but also divergent climatic conditions and types of energy, access to which is a major problem. It is at the same time underlined that energy and fuel poverty share certain significant features. Both concern the housing sector. Low income is the main component of the problem, whilst both energy and fuel poverty exacerbate poverty, negatively impact (quality of) health, infringe on the principles of fairness and equal treatment and hamper social development (Li et al., 2014). What is more, differentiating between electrical and thermal energy in poverty research is a methodological problem and measures of both of these aspects reveals similar structural features (Kanschik, 2015). While noting the benefits of researching on specific regional contexts, it ought to be underlined that both in developing and developed countries limited access to any energy type finally leads to the universal problem of the state of deprivation.

Although in the context of social policy energy may be classed as one of the universal goods corresponding to basic human needs, in economic terms it is perceived as a consumer (final) good. The dominant microeconomics theory assumes that households have freedom to select such goods and are capable of reasonable household budget management. Thus, they are able to adjust **expenditure** to their income and choose between, e.g. purchasing energy for household heating and food, household equipment, clothing, recreational activities, etc. However, results of household budget research (Lis and Miazga, 2015) show that energy falls in the group of fixed-demand goods. In other words, any change in a given household's (monthly or annual) income will be directly reflected in amounts spent on food, clothing, household equipment, recreational activities, etc., but will

only slightly impact energy spending levels. Although detailed research has yet to be conducted, it is believed that energy cost optimisation is to a large extent a behavioural issue, as it concerns such issues as making savings or making medium- or long-term investments in residential infrastructure.

Chart 1. Structure of expenditure in Polish household budgets (2013)



Source: own elaboration based on BBGD

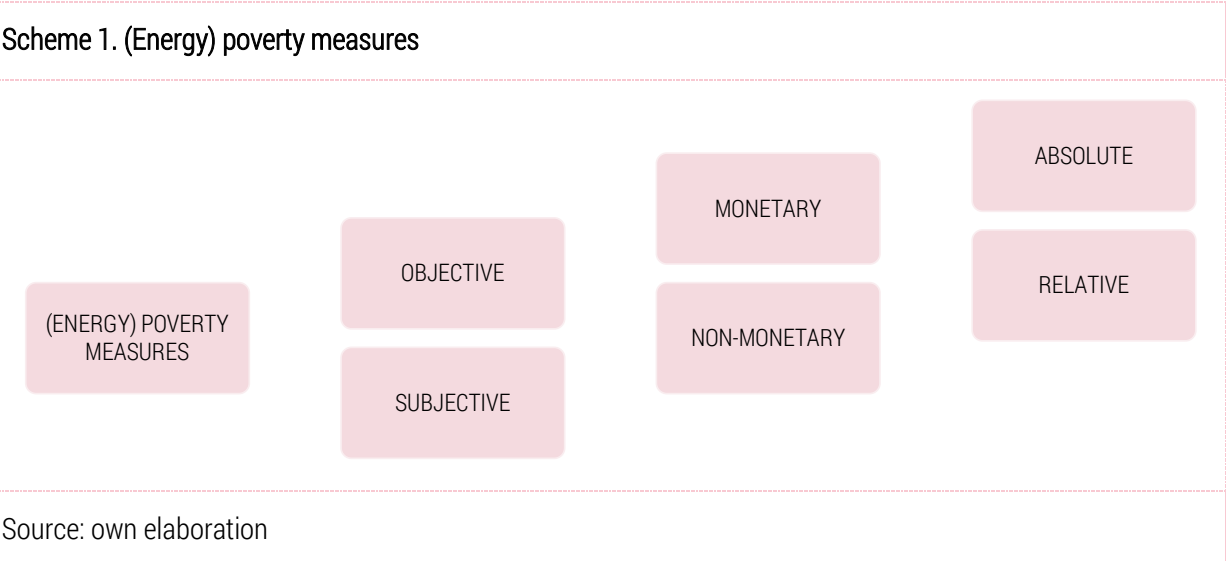
The above arguments make a case for dismissing criticism of recognising the energy aspect of basic needs. They also make a case for stating that, first and foremost, energy is one of the prerequisites for satisfying basic human needs, both physiological and social. Secondly, energy needs are of universal nature, though they are strongly diversified in geographical and structural terms. Finally, energy – being a final good – is vastly disparate from other goods consumed by households. We may therefore conclude that energy needs fully deserve to be separately addressed in scientific research and in the general political debate on poverty. For these reasons, it seems justified to apply the term “energy poverty” as a broader concept which also embraces fuel poverty.

### Energy poverty definition and measurement

Several definitions of energy poverty have been proposed so far. One of the most concise definitions describes this situation as *the inability to attain a socially and materially necessitated level of domestic energy services* (Bouzarovski i Petrova, 2013). This definition encompasses both thermal and electrical energy, and as such encompasses both energy and fuel poverty. It also takes the social and financial dimension of energy needs into account. It points to the fact that humans are not just living organisms, they are also social beings whose needs

are determined by the group to which they belong.<sup>2</sup> Though this definition quite clearly explains the concept of energy poverty, it is not sufficiently precise to be applied for research purposes, and cannot form the basis for counteractive instruments.

In order to achieve the above goal, it is necessary to employ a definition which can also serve as a basis for energy poverty measurement. Similarly as in the case of general poverty research, it is possible to discern two primary measures: the **subjective** one, based on respondent group self-assessment within a scope delineated by researchers, and the **objective** one, based on comparable statistical data (mainly information on income and expenditure). The advantage of subjective measures is that they include respondents' preferences and help determine levels of quality of life satisfaction regarding aspects that are the most difficult to measure such as needs, aspirations and expectations. The Household Budget Survey (BBGD) contains only three questions which refer to evaluating energy comfort of respondents' households. Objective measures, on the other hand, give a full picture of poverty on the basis of relatively easily aggregable data.



Objective measures can be divided into **monetary** and **non-monetary** measures. Monetary measures, especially income-based ones<sup>3</sup>, are dominant in economic research, particularly in developed countries. Availability of accurate data collected over long time intervals allows for accurate material status assessment, both at specific moments and over longer periods of time. Non-monetary measures originate from the sociological dimension of poverty research (Townsend, 1979) and provide insight into social relations, goods held and access to various goods and services. They help comprehend what the symptoms of poverty are, how exclusion and deprivation affect e.g. education, health, quality of housing or labour market position. Monetary and non-monetary measures of exclusion reveal a very similar percentage of poverty and deprivation in different EU Member States (Nolan and Whelan, 2009). At the same time, they reveal that poverty-affected groups determined on the basis of monetary

<sup>2</sup> It is worth noting that this definition is very broad in its scope, in contrast to the definition in force in France, where energy poverty refers only to basic needs, or to the definition of fuel poverty, which refers to energy needed to heat the home. Therefore, the energy poverty definition also includes the notion of social exclusion.

<sup>3</sup> Poverty is based on the measure of so called disposable income, i.e. all sources of household income, net of tax, health and social insurance contributions. This part of household income is allocated to current expenditure or to savings.

and non-monetary measures overlap only partially. Although monetary measures dovetail with non-monetary measures to provide a fuller picture of energy poverty, it is worth noting that both approaches are to a large extent normative ones, as they are based on poverty threshold assumptions which are, to a certain degree, arbitrary.

The divide into **absolute and relative poverty** is of paramount importance for public policy development. The first step towards absolute poverty measurement is to create an abstract minimum set (basket) of goods necessary for meeting basic human needs. Individuals or households whose access to the specified goods is to some extent limited are classed as poverty-stricken. Relative poverty measurement, on the other hand, is based on comparing the financial standing of various households. Households whose financial situation is least favourable are classified as poverty-stricken.

A household is considered to be affected by absolute energy poverty when its energy spending exceeds a certain share of its budget. The first British studies on energy poverty adopted a 10% threshold, and though this assumption is purely arbitrary, many countries recognise this level as optimal (Boardman, 1991; Boardman, 2010).

Relative energy poverty refers to households experiencing the greatest difficulties in ensuring energy comfort, which is determined against the backdrop of other households. When looking at the leader in energy poverty research, the UK, and at the evolution of the governmental approach to energy poverty, it is worth noting the most recent definition of energy poverty: *Low Income High Costs* (LIHC). The authors of this definition propose combining two indicators – **low household income** (falling below 60% of median equated income per household member) and **high energy costs** (exceeding median equated energy costs) to form what is currently the most effective measure for the accurate identification of the target groups of the relevant public policies (Owczarek and Miazga, 2015; Lis and Miazga, 2015).

## Energy poverty in Poland

The biggest source of data for research on energy poverty in Poland is the Household Budget Survey (BBGD) carried out by the Central Statistical Office (GUS). It is characterised by a large number of representative respondents (above 37.000), which allows for a reliable diagnosis for the whole country. Its data sets are primarily related to households' incomes and expenditures. They allow for the development of objective and, to a limited extent, subjective measures of the phenomenon.

According to the definition of energy poverty proposed in the most recent studies conducted in Poland, it is a *phenomenon consisting in experiencing difficulties in satisfying basic energy needs at one's place of residence at a reasonable price. These include: maintaining an adequate heating standard and supply of other sources of energy used to adequately satisfy basic biological and social needs of household members* (Owczarek and Miazga, 2015).

The "reasonable price" was fixed by the definition's authors based on the image emerging from data on energy expenditure and the characteristics of buildings. In order to do this, the available data was regrouped, which helped discern several types of households and dwellings occupied by them. These are not examples of existing households but models presenting differences between households in a representative way. Additionally, the

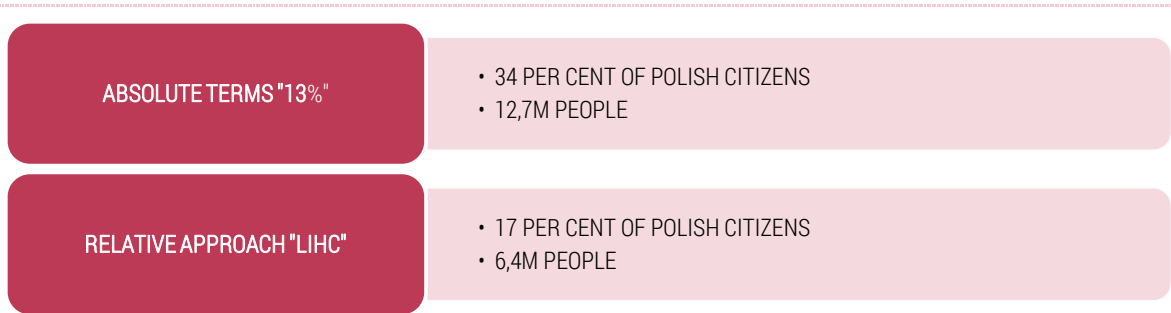


authors, based on the British study, adopted 21 degrees Celsius (recommended by WHO) as an adequate heating standard.

According to the above mentioned studies, energy poverty in **absolute terms** (expenditures for energy of above 10 per cent of household budget) may affect as many as 44 per cent of people in households, i.e. over 17M Poles. If a 13 per cent<sup>4</sup> expenditure level, more adequate for Poland, is used, the phenomenon affects approximately 34 per cent of people in households, i.e. – 12.7M. The scale of energy poverty when applying the **relative approach**, according to LIHC methodology, indicates that approximately 17 per cent of people in households, i.e. 6.4M are affected.

Each of the applied methodologies leads to the conclusion that a very high percentage of people are struggling with the problem of satisfying their energy needs. However one should bear in mind that the problem has a different degree of severity and different durability.

Scheme 2. The scale of energy poverty in Poland



Source: based on (Lis and Miazga, 2015)

The **distribution of energy poverty** among Poles depends mainly on household characteristics and on the features of inhabited buildings. While looking at the first group of features, the energy poverty problem affects mainly households which derive their means of subsistence from non-earned income sources, one-person households (usually belonging to elderly people), households in rural areas, single parent households and households of pensioners and retirees. It is worth noting that applying the "13 per cent" definition exposes energy poverty of elderly people, while LIHC definition points in particular to energy poverty of families with three or more children (Owczarek and Miazga, 2015).

In terms of the characteristics of inhabited buildings, neither of the definitions differentiates the constituent groups. They indicate that the problem affects in particular old houses, detached houses, apartments in rural

<sup>4</sup> The 10 per cent threshold that was adequate for the UK was set on the basis of two arguments. Firstly, due to the fact that the first three deciles of poverty-stricken persons spent over 10% of their income on energy. Secondly, it was agreed that energy expenditures are excessively high if they amount to double the median for all households (Schuessler, 2014). For Poland, this threshold was deemed too low as the average share of energy expenditures in incomes in the last decade was precisely around 10 per cent, and the energy expenditure curve does not show clear collapses between individual income deciles. The 13 per cent threshold is more meaningful for Poland, even though it represents a technical adjustment of the average calculated on a truncated database. The number of the energy poverty-stricken estimated based on this threshold is also more acceptable from the point of view of possible redistributive mechanisms. The designated threshold level will likely remain a topic to be discussed (e.g. 15 per cent level), however it does not give sufficient grounds for questioning the definition of poverty.

areas and small towns, houses with stoves heating one or several rooms and apartments heated by electric or gas stoves (Owczarek and Miazga, 2015).

Studies show that income poverty according to the “relative” definition and energy poverty as defined by the LIHC measure overlap by only 33 per cent, and by only 20 per cent if the “13 per cent” measure is used. Therefore energy poverty appears not only in households with the lowest income. This is partly due to the specificities of the monetary measures of poverty, which do not always coincide with the phenomena of exclusion or deprivation.

When considering the situation of persons experiencing **both energy poverty and income poverty**, it is pointed out that this group should be regarded as particularly important. According to studies, incomes of such households are significantly lower than incomes of poverty-stricken households that do not belong to the group experiencing energy poverty (Owczarek and Miazga, 2015).

**Table 1. Average and median equated income of households experiencing income poverty only vs. households experiencing both income poverty and energy poverty in Poland in 2013, broken down by definition type.**

	HOUSEHOLDS	EQUATED INCOMES OF HOUSEHOLDS	
		AVERAGE (PLN)	MEDIAN (PLN)
RELATIVE DEFINITION	Income poor	1078	1197
	Income poor and energy poor <sup>1</sup>	847	825
	Non-poor	2341	2001
ABSOLUTE DEFINITION	Income poor	1213	1111
	Income poor and energy poor <sup>1</sup>	836	779
	Non-poor	2421	2094

<sup>1</sup> Relative income poverty and relative energy poverty (LIHC).

<sup>2</sup> Statutory income poverty and absolute energy poverty (“13 per cent of income”).

Source: (Miazga, Owczarek 2015) based on Household Budget Survey (BBGD) data and estimates of required energy expenditure published by the Polish National Energy Conservation Agency (KAPE)

Households experiencing both energy poverty and income poverty are primarily couples with one child, single parents and persons living alone. They live mostly in older, detached or terraced houses, heated by solid or liquid fuel stoves. These characteristics differ from those of persons stricken by income poverty only, which suggests there is a need for a separate strategy to combat this phenomenon.

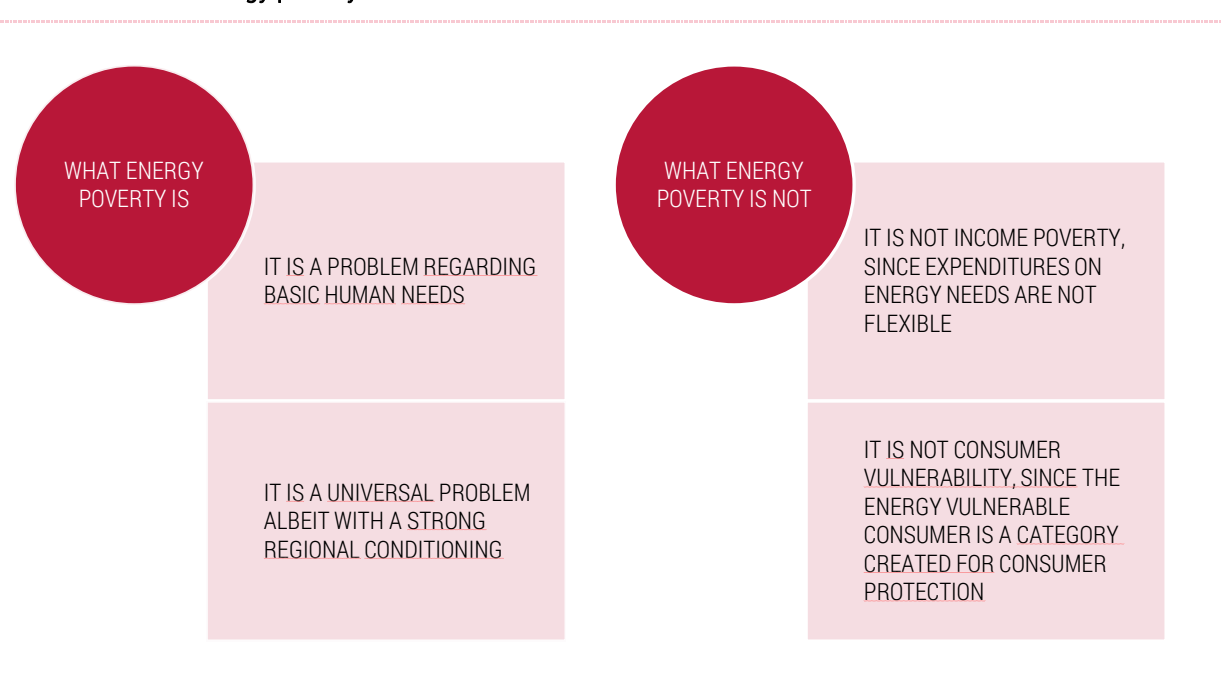
Determining the circumstances of falling into energy poverty is crucial in order to understand the essence of energy poverty. In practice, this can happen in one of three ways: a) the household resigns from ensuring minimum energy comfort in its own home due to high costs, b) after paying all bills related to the use of energy the household is unable to cover other expenses, c) the household does not want to resign from satisfying its basic energy needs and stops paying for energy.

## Energy poverty and energy vulnerability

Another term related to energy poverty is the **energy vulnerability**. The definition of vulnerable consumer was introduced in Poland (and other EU countries) based on the directives of the Third Energy Package with respect to gas market liberalisation (2009/73/CE) and electricity market liberalisation (2009/72/CE). Contrary to initial plans, the provisions adopted in Poland in the Act of 10 April 1997 - Energy Law linked the term of vulnerable consumer and energy allowance to the household allowance granted under the Household Allowance Act of 21 June 2001. This instrument is an *ad hoc* measure and in practice does not provide any chance for a way out of the problem.

Therefore, the report commissioned by the EC (Pye and Dobbins, 2015) indicates that while the concept of energy vulnerability related to securing full access of such a consumer to the energy market by offering support instruments, energy poverty refers to the ability of persons or households to purchase energy services and requires more complex long-term preventive measures.

**Scheme 3. What energy poverty is and what it is not**



Source: own elaboration

## Energy poverty in 2030 - preliminary forecasts

Although the issue of energy poverty has not yet been legally regulated in Poland in any way (among EU countries only the United Kingdom, Ireland, France and Cyprus have done it so far), the medium-term *Strategy for Energy Security and Environment 2020* specifies that by 2020 "the country's so-called energy poverty should be evaluated and a programme to reduce the scale of this phenomenon should be developed" (ME and ME, 2014). The Strategy indicates that the future prevention system would make it easier for consumers to make rational decisions based

on market signals. The liberalisation of the household energy market is conditioned by prior introduction of a safety net protecting the poorest group of customers. In the light of the above analysis of energy poverty, it appears that the proposed approach sticks to a market approach towards poverty and promotes further development of instruments protecting vulnerable consumers, which does not meet the requirements of properly understood social support.

An explanation (albeit modest) of the above assumptions can be found in the guidelines to *Polish Energy Policy until 2050* adopted in 2015 (Ministry of Economy, 2015). This document assumes the likelihood of a situation in which GDP growth is too low compared to the growth rate of energy prices. In conjunction with the unfavourable demographic trend - ageing of the population, it would translate into an increase in the number of people who cannot afford to cover their energy bills. However, the assumptions indicate the need for further action.

As an indirect response to this need, the first forecast of energy poverty in a perspective towards 2030 was conducted (Lis, Ramsza, Miazga, 2016). This forecast is based on the assumptions made in the publications of the Central Statistical Office, the Social Insurance Institution and the National Energy Conservation Agency as well as on extrapolation of the current trends. The authors of the publication indicate four main factors affecting energy poverty and predict that by 2030 significant changes will occur in Poland in the following areas: (1) the age structure of the population due to aging of the society, (2) residential building stock - as a result of the construction of new buildings with other thermal parameters than old ones, (3) increased income and (4) changes in energy prices.

According to the forecast, the scale of energy poverty in 2020 will amount to 15.0 per cent and in 2030 – to 14.9 per cent as compared to the present level of 15.3 per cent<sup>5</sup> (cf. Table 2). This means that the probable increased income of households and the 'rejuvenation' of the technical structure of buildings in Poland will not significantly reduce the scale of the energy poverty problem. Focusing on one of the options, i.e. total thermo-modernisation (i.e. insulation of all non-insulated buildings) will not bring significant benefits either. The percentage of the population stricken by energy poverty between 2015 and 2020 will drop by 0.5 p.p. (from 15.3 per cent to 14.8 per cent), and by 2030 - by 0.9 p.p. (from 14.8 per cent to 14.4 per cent). This suggests the need to consider other solutions to this problem in Poland. Otherwise, the phenomenon of energy poverty will remain close to the present levels, which means the state will bear the same costs of counteracting the problem.

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<sup>5</sup> The scale of the phenomenon in those studies is different from what was stated earlier. This is due to the fact that insulated buildings as a separate category were taken into account in the model energy expenditures.

Table 2. Energy poverty counteracting scenarios.

BASE SENARIO WITHOUT THERMO-MODERNISATION			
YEAR	LIHC – RELATIVE MEASURE	>10% OF INCOME, ABSOLUTE MEASURE	SUBJECTIVE MEASURE
2015	15.3%	38.8%	11.7%
2020	15.0%	39.8%	11.1%
2030	14.9%	42.9%	10.0%

BASE SCENARIO WITH THERMO-MODERNISATION			
YEAR	LIHC – RELATIVE MEASURE	>10% OF INCOME, ABSOLUTE MEASURE	SUBJECTIVE MEASURE
2015	15.3%	38.8%	11.7%
2020	14.8%	38.9%	10.9%
2030	14.4%	40.5%	9.6%

Source: Lis, Ramsza and Miazga, 2016

## Towards a strategy to counteract energy poverty

1. Energy poverty is not a new problem, but from the research perspective it constitutes a new approach that will allow to solve the problem of multidimensional exclusion more accurately and efficiently. Although the regulatory definition of energy poverty includes some universal features, today it is difficult to imagine a single, universal measure of this phenomenon.
2. Successful counteracting energy poverty requires a two-pronged strategy based firstly on further improvements of its definition (including definitions of "13 per cent" and LIHC), and, secondly, on examination of its local conditions. From the Polish perspective such measures should lead to a search for solutions both at the central level (EU and Member States), as well as at regional and local level.
3. Hitherto attempts to solve the problem of energy poverty at EU level have been impeded by the research results showing strong regional differences. The Polish government has not yet adopted a legal definition of energy poverty, nor created any instruments aimed at directly counteracting this problem (although some existing instruments may indirectly contribute to its limitation). Although the Ministry for Development is formally responsible for the problem of energy poverty, it should be sought to transfer

this competence to the Ministry for Family, Labour and Social Policy, or to create a strong interdepartmental team cooperating with the Ministry for Energy and the Energy Regulatory Office.

4. Studies carried out in Poland are a good basis for the government administration to participate more actively in developing solutions in accordance with other priorities related to social and energy policies. Promotion of this effort at the European level could be the basis for additional resources assigned at the EU level for counteracting this type of poverty.
5. Issues related to the universalisation of energy poverty definition and the creation of public policy instruments at the EU and Member States level should not slow down activities undertaken regionally and locally. The developed definition of energy poverty should be confronted with the results of qualitative studies and expertise of social practitioners directly dealing with people stricken by poverty. Activities carried out by Social Welfare Centres or NGOs (Caritas, Habitat, etc.) may form the basis for the elaboration of pilot strategies and good practices. An interdisciplinary perspective would certainly contribute to a deeper understanding of this problem by integrating different approaches to poverty measurement, primarily subjective and objective measures, but also monetary and non-monetary measures.
6. Research results regarding the scope of energy poverty in Poland as well as definitions adopted in that research indicate a high percentage of people affected by this problem. Keeping in mind the arbitrary character of the definition of poverty and the internal diversity of the group stricken by energy poverty, prioritising potential public policy actions is worth considering. In particular, one should rely on the measurement of depth (measured e.g. through the financial gap in household budgets necessary to get above the threshold of energy poverty) and severity of this phenomenon (comparison of situation between poverty-stricken groups). The extent to which it overlaps with other poverty dimensions should also be taken into account. Such research would allow to adapt the appropriate tools to the needs and to select households and buildings that require the most urgent attention.
7. It is also crucial to prepare a dynamic research approach to give insight into the durability of the problem and the effectiveness of policies to tackle it. It would help to better discern problems of vulnerable consumers and energy poverty. This issue is important for instruments that can take both short-term (e.g. one-off benefit or training) and long-term (e.g. preferential investment loan for long-term thermo-modernisation projects) form. The operating timeline of such instruments should be adapted to the durability of the phenomenon.
8. Although the studies conducted to date have focused on the possible benefits of combating energy poverty, an interesting perspective could be gained by calculating the costs of non-action by the state, as combating energy poverty has, in a broader context, a large potential of bringing savings to the State budget. Helping the poverty-stricken, for whom energy poverty may be a reason for becoming dependent on state support (nursing home, single mother's home, care home for the disabled, etc.), may prove an opportunity for significant savings.
9. Finally, it is also necessary to carry out research among the energy poor group in terms of their title to inhabited premises. Residential ownership or lease profiles - as evidenced by the studies conducted in France (ONPE, 2014; Pye and Dobbins 2015) - can be crucial for the occurrence of energy poverty.

## Literature

Act of 10 April 1997 - Energy Law, tekst jedn., Dz. U. z 2012 r. Nr 0, poz. 1059.

Act of 21 June 2001 on the Household Allowance, tekst jedn., Dz. U. z 2013 r. Nr 0, poz. 966.

Boardman, B. (1991). *Fuel Poverty: From Cold Homes to Affordable Warmth*, London: Belhaven Press.

Boardman, B. (2010). *Fixing fuel poverty. Challenges and solutions*, London: Sterling VA.

Bouzarovski, S. and Petrova, S. (2013). *A global perspective on domestic energy deprivation: Overcoming the energy poverty–fuel poverty binary*, Energy Research & Social Science, No 10, 2015, pp. 31–40.

Buzar, S. (2007). *Energy poverty in Eastern Europe: Hidden Geographies of Deprivation*, Aldershot: Ashgate.

Bradshaw, J. and Hutton, S. (1983). *Social-Policy Options and Fuel Poverty*, w: Journal Of Economic Psychology, Vol. 3, No 3-4, 1983, pp. 249-266.

Council of Europe (2010). *European Convention on Human Rights*, as amended by Protocoles Nos. 11 and 14, supplemented by Protocols Nos. 1, 4, 6, 7, 12 and 13

Denton, J. A. (1990). *Society and the official world. A Reintroduction to Sociology*, Oxford: General Hall.

Directive 2009/72/EC of the European Parliament and of The Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, Official Journal of the European Union L211/55.

Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC, Official Journal of the European Union L211/94.

Isherwood, B. and Hancock, R. (1979). *Household Expenditure on Fuel: Distributional Aspects*, London: Economic Adviser's Office.

Kanschik, P. (2015). *Defending the Concept of Energy Poverty*, Available at: [www.academia.edu](http://www.academia.edu)

Lewis, P.(1982). *Fuel poverty can be stopped*, Bradford: National Right to Fuel Campaign.

Li, K., Lloyd, B., Liang, X.J. and Wei, Y.M. (2014). *Energy poor or fuel poor: What are the differences?* Energy Policy No 68, 2014, pp. 476–481.

Lis M. and Miazga, A. (2015). *Who will be affected by rising energy prices? Map of energy expenditures of Poles*. Institute for Structural Research, IBS Working Paper No 11/2015.

Lis, M., Ramsza, M. and Miazga, A. (2016). *Dynamic properties of energy poverty measures*. Institute for Structural Research, IBS Research Report No 1/2016.

Miazga, A. and Owczarek, D. (2015). *It's cold inside. Energy poverty in Poland*, Institute for Structural Research, IBS Working Paper No 16/2015.

Ministry of Economy (2015). *Projekt Polityki Energetycznej Polski do 2050 r.* (version of 7<sup>th</sup> of August 2015 r.).

Ministry of Economy and Ministry of Environment (2014). *Bezpieczeństwo Energetyczne i Środowisko - perspektywa do 2020 r.*”.

- Nolan, B. and Whelan, C. (2009). *Using Non-Monetary Deprivation Indicators to Analyse Poverty and Social Exclusion in Rich Countries: Lessons from Europe?* Working Paper Series 09/11, UCD School of Applied Social Science.
- l'Observatoire National de la précarité énergétique (2014). *Premier rapport de l'ONPE observatoire national de la précarité énergétique*.
- Panek, T. (2007). *Ubóstwo i nierówność. Dylematy pomiaru*, in: Statystyka Społeczna, ed. T. Panek, Warszawa: PWE.
- Pye, S. and Dobbins, A. (2015). *Energy poverty and vulnerable consumers in the energy sector across the EU: analysis of policies and measures*, Insight\_E Policy report, May 2015.
- Schuessler, R. (2014). *Energy Poverty Indicators: Conceptual Issues. Part I: The Ten-Percent-Rule and Double Median/Mean Indicators*, Discussion Paper No 14-037.
- Sen, A. (1985). *Commodities and Capabilities*, North-Holland.
- Streeten, P. and Burki, S. J. (1978). *Basic Needs: Some Issues*. World Development, Vol. 6, No. 3, pp. 411-421.
- Szarfenberg, R. (2011). *Status społeczno-ekonomiczny w kontekście polityki antidyskryminacyjnej oraz społecznej*, Warszawa: Towarzystwo Edukacji Antydyskryminacyjnej.
- United Nations (1948). *Universal Declaration of Human Rights*.
- United Nations (1966). *International Covenant on Economic, Social and Cultural Rights*.
- United Nations (1995). *Copenhagen Declaration*.
- Townsend, P. (1979). *Poverty in the United Kingdom*, Harmondsworth: Penguin Books Ltd.





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