AMBIGUITIES OF ENERGY POVERTY AND THE SEARCH FOR "HIDDEN ENERGY TRANSFERS". A REVIEW OF ENERGY VULNERABILITY NARRATIVES

LAURA TUFĂ

Several gaps in the conceptual and empirical knowledge of energy poverty have developed during recent years. This article aims to depict these inconsistencies, as well as to undertake a brief analysis of the current state of the practices and policies that build around this concept. The way energy use in household consumption contributes or not to the development and reproduction of energy poverty will be addressed though a short analysis of how different definitions employed succeed to measure energy deprivation, as well as of how these definitions are engaged as practicalities in different social contexts. To meet this purpose, I use data from European Quality of Life Survey 2003–2016, Eurostat, and EU Buildings Database, and I also focus on narratives around energy vulnerability, traced in several policy documents. This is relevant in order to highlight gaps and ambiguities that will illustrate the links between the macrosocial layouts of the geographical and political distribution of energy for residential consumption and the scaled-down realities of energy consumption in households. Patterns of energy use are influenced by access to adequate and sufficient energy sources for home maintenance and for increasing housing quality, as well as by the other variables related to the dynamics of knowledge of efficient energy sources, the evolution of the purpose of energy policies, and the holding of energy assessment strategies for household consumption. Furthermore, to advance the understanding of energy poverty mechanisms, as well as practices around energy use, a new concept of "hidden energy transfers" is proposed as an analytical tool that highlights the social embeddedness of energy, particularly how social connectedness is vital for the energy deprived households. As demonstrated, the concept builds upon previous studies and can address a more inclusive and contextual understanding of coping strategies around energy deprivation and energy poverty, that considers not only behaviours within the household, but also those outside of it.

Keywords*: energy poverty; energy justice; energy vulnerability; hidden energy transfers; energy literacy.*

Address of the corresponding author: Laura Tufă, Research Institute for Quality of Life Romanian Academy, Calea 13 Septembrie, nr. 13, sector 5, 050711, Bucureşti, România, e-mail: laura.tufa@gmail.com, laura.tufa@iccv.ro.

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INTRODUCTION

Energy production, distribution, access and use make up for a fruitful field of study for social scientists (Günel 2018; Johnson 2019), because these processes can gather around behaviours, institutions and social relationships in ways that reflect the ability of objects, be them physical or not (as it is the case with energy), to convey structural and individual inequalities in access and possibilities to use them for reaching wellbeing. Lack of energy has been subsequently used as a reason to gather policy interventions in the developmental discourse that succinctly highlight energy is needed for progress (Buzar 2007; Clarke 2015; Zamfir *et al*. 2015). As pointed out by Laura Nader in her work on energy (2010), humans are particularly vulnerable to resource crises. In many cases, what resource crises reflect is not so much the importance of those resources in increasing quality of life (a rather common vocabulary in developmental discourses), but how their absence indicates multiple ways in which many institutions fail to justly manage the inclusive distribution of those resources.

CONCEPTUALISATIONS AND MEASUREMENTS OF ENERGY POVERTY. THE GEOGRAPHICAL AND SOCIAL DISTRIBUTION OF ENERGY INEQUALITIES

Energy poverty is a relatively new concept, present in the European public discourse since the 2000s, when energy sources, such as gas, have become increasingly precarious. Energy use, consumption, and the whole discourse of empowerment around it has contributed to the agenda of equating progress with energy access and accessibility (Johnson 2019). Energy poverty measurements indicate conceptual similarities to vulnerable consumption and material deprivation, and the current effort is moving towards advancing appropriate energy poverty measurements, by addressing the robustness of indicators used in national and international benchmarks at European level (Thomson *et al*. 2017). Moreover, as we shall see, several indicators used are more or less inclusive, and may ignore the needs of certain social categories of consumers. Thus, depending on the restrictive or extensive definitions of energy poverty (by including the measurement of energy vulnerability, for example), some of the social realities of precarious energy consumption in households may be absent from the current state of policies addressing the regulation of distribution and the coverage of energy needs within population.

As a basic definition, energy poverty refers to the inability of a household to secure energy necessary for doing household chores or for a comfortable temperature for living at home, either for heating, or cooling (Teschner *et al*. 2020; Thomson, Bouzarovski, and Snell 2017; Petrova 2018). Various definitions have some political choices of narrowing it down to the securitization of basic needs or to only heating in winter, but the whole spectrum of needs might be worth

considering in order to reveal the pitfalls of the intervention policies. Furthermore, extreme energy poverty is highly associated with the precariousness of various life spheres, like lack of employment, lack of secure and formal access to electricity grids, lack of documentation (Teschner *et al*. 2020).

In post-socialist countries energy poverty has been proven to be particularly high, mostly because of liberalization of energy prices, an economic process that created an even higher accessibility gap for the more deprived, creating what would be known as *energy poverty divide* (Stoerring 2017). Adding a rather precarious housing stock owned by a population unable to afford maintenance costs, the energy inequality by context and design deepened even more (Zamfir *et al*. 2015).

Energy vulnerability is rather considered a function of social characteristics, but in social science studies, energy vulnerability is commonly examined at the household level (Horta *et al*. 2019; Betto, Garengo, and Lorenzoni 2020; Papada and Kaliampakos 2020; Teschner *et al*. 2020). As Petrova (2017) notes, the concept of energy vulnerability encompasses only the adaptive behaviours of individuals at the household level, rarely addressing aspects outside it. In her work, Petrova (2017) goes further the domestic household space to establish a useful and important connection between energy deprivation, social relations, and the social identity of people. She discovers that, in order to address the need to control energy costs in their own homes, many of those interviewed in her study have the following strategies: planning for energy costs with a limit threshold and energy consumption for a limited period of time; spending working hours (especially for those who work from home) in the space of some friends' homes; working in external spaces dedicated to collective work (co-work spaces), especially during periods with outside temperatures that require either heating or cooling of their own space; practising a selection of dwellings around family and friends to provide socioeconomic support (e.g. intergenerational transfers of cooked food, money or money loans between friends); representation of own energy situation as temporary, as a coping strategy (especially for people living in rented homes). As the author notes, this results in a geographical redistribution of energy consumption (Petrova 2017), which is often not considered for the accurate assessment of household-related energy consumption behaviours. Variations of these ideas can be found in the capability approach that focuses on the connection between social relationships and energy poverty, more precisely on how material goods help people achieve wellbeing. According to a previous study (Middlemiss *et al*. 2019), energy services can both enhance social relationships, but they can also be a product of those relationships, because social relationships can help foster people abilities to access energy services. In several instances, this approach shares common theoretical ground with the concept of energy literacy, that also includes a dimension focusing on knowledge about various ways to access energy services and energy saving strategies. However, the dynamics between these two (energy poverty and social relations) are far more complex, should we consider the policy framework, as well as various measurements of energy poverty, that could restrain or expand people's agency.

There are several general methods of measuring energy deprivation, each of which is based on different understandings of the need for energy consumption, as well as for the need to ensure clear standards. Each measurement method privileges some realities while hiding other (Sareen *et al*. 2020), therefore there is an ongoing debate about the proper measurements (Thomson, Bouzarovski, and Snell 2017; Teschner *et al*. 2020; Papada and Kaliampakos 2020; Bădescu *et al*. 2017). Moreover, as a general rule, they are used according to the purpose of the proposed policies, not the other way around (focusing on an accurate and inclusive measurements followed by evidence-based policy). There are three methodological guidelines for measuring energy deprivation: a) cost management; (expenditure approach); b) consensual approach; (c) direct measurement (Thomson, Bouzarovski, and Snell 2017). Obviously, each of them has different consequences. For example, direct measurement of energy consumption may be used particularly in buildings that do not have adaptations to reduce energy losses, or where the household makes substantial efforts to reduce energy consumption for financial reasons, despite the unfulfilled need.

Table no. 1

Energy vulnerability factors and types of institutionalized inequalities

Factors	Indicators	Injustice
Access	*Poor availability of energy distributors in the area, to meet household needs*	*Distributional injustice*
Accessibility (financial)	*High fuel costs in total household costs; including energy taxation and the role of social assistance schemes; inability to invest in the construction of new energy infrastructures*	*Distributional injustice*
Flexibility	*Inability to change the type of insurance of household energy needs (change of distributor and/ or change of energy type)*	*Procedural injustice*
Energy efficiency	*Disproportionate loss of energy in the household*	*Procedural injustice*
Needs	*Mismatch between available energy and household needs for social, cultural or health reasons*	*Recognitional injustice*
Practices	*Lack of knowledge and awareness of energy policies or support programmes, as well as lack of knowledge about the efficient use of energy at the level of one's own household*	*Recognitional and procedural injustice*

Note: The connection between energy vulnerability factors, conveyed by Thomson et al. 2017 (p. 880) and types of injustice (based on Teschner et al. 2020), author's correspondence of categories.

Some opponents of relative measurements of energy poverty criticize these methods as risky because they can lead to the classification of small households as automatically outside the risk of energy poverty, in reality energy consumption depending substantially on the physical size of the home, but not necessarily on the ratio of the energy budget to household income (Thomson, Bouzarovski, and Snell

2017). As is the case in Romania, only a small percentage of households are considered energy-poor, because the selection of the classification criteria includes only a few indicators (minimal, restrictive definition), the household income and the existence of social benefits (social assistance) in the household. If we use more indicators, Romania could have almost 19% of households as being in a situation of energy deprivation (Bădescu *et al*. 2017). Variations in measurement and the prioritization of only certain indicators mean that, at the social policy level, only a part of energy-deprived households end up with visible and addressed difficulties. Other social strata, slightly above the poverty line, are at risk of not being recognized as experiencing energy deprivation. Taking this into consideration, these vulnerabilities related to different factors indicate larger institutional mechanisms that could address different types of justice, in order to holistically tackle energy inequalities (Teschner *et al*. 2020): a) distributional justice, referring to "equal allocation of benefits, costs, and externalities across space and society" (Teschner *et al*. 2020, 2); b) procedural justice, indicating inclusive decision-making processes that could correct previous unfair access and could also prevent future inequalities; c) recognitional justice, that refers to recognition of needs across social backgrounds.

Therefore, considering multiple definitions and indicators for measuring energy deprivation and poverty may be a more appropriate measure for a good design of an inclusive energy consumption support policy, especially when they are employed with consideration to local contexts. In addition, the inclusiveness of dimensions can also be translated into a more appropriate measurement of the ways in which, at household level, the management of financial costs involves various transfers consisting of money and resources between budget components, in order to fill in the gaps of ensuring energy needs. To discriminate between different forms of energy precariousness some strategies could help, in this case the identification of energy sources, as well as of inequalities that lay inherent in distribution, access, and usage. Various scientific efforts have contributed in nuancing measures of energy deprivation, as it is the case with focusing on energy literacy (Brounen and Quigley 2013).The knowledge of energy services and energy labels people put to use in order to acquire energy needs in their household is one aspect that enables or impedes access to energy use. This knowledge is sometimes deterred by how policies are designed and by institutions that interfere in how providers and users communicate. However, energy needs and knowledge can function as separate conditions in order to achieve the necessary energy, therefore energy needs do not unavoidably translate into efficient use of energy, because there are other factors that can affect energy use (like the quality of insulation). This complex process is conveyed in national studies focused on testing indexes like energy poverty vulnerability index, in Portugal (Horta *et al*. 2019), or DCEN (Degree of Coverage of Energy Needs) index, used in a study for two Greek regions, in order to identify: a) compression of energy needs (how much people actually refrain from usage because of energy costs); b) satisfaction of energy needs; c) energy wastage

(Papada and Kaliampakos 2020). As pointed out, energy wastage is a direct problem in meeting energy needs. For this, many housing markets in Europe use indicators of energy efficiency labels for the properties they advertise, to assess future energy costs and the future energy waste of a household. Moreover, compression of energy needs is widely considered an indicator or hidden energy poverty (Betto, Garengo, and Lorenzoni 2020), as is the fact that some people who restrain their energy use find it both acceptable and normal to feel too hot or too cold in their home (Horta *et al*. 2019). Therefore, efforts for a contextual identification of hidden indicators can result in more inclusive measures (Sareen *et al*. 2020).

Mapping energy vulnerability means an effort to assess energy consumption and use, employing all types of measurement, which is rarely the case. Many difficulties in addressing clear definitions of energy poverty, as well as implicitly proposing realistic measures in addressing it, are also determined by pragmatic causes, namely the (sometimes precarious or confusing) ways in which authorities, distributors and customers communicate (Bădescu *et al*. 2017). Moving the focus on heating needs, for example, was suggested by several authors (Thomson, Bouzarovski, and Snell 2017; Bădescu *et al*. 2017). Thus, instead of paying a special attention to household-level capabilities to provide financially for energy needs, we could address the middle level of access to an energy-efficient dwelling, putting less pressure on the individual, and more on the structural opportunities offered to the household, be they social or geographical, such as: good communication with the energy distributor, advice to address the energy inefficiency problems of the household, and a red tape reduction in dealing with population's energy demands to central or local authorities. Romania is currently focusing more on an endogenous approach to energy vulnerability (Bădescu *et al*. 2017), i.e. an approach that addresses consumer characteristics, ignoring other relevant information, such as the geographical distribution of energy providers, as well as their financial accessibility and energy literacy (Brounen, Kok, and Quigley 2013) of users, more precisely knowledge of energy sources, as well as their alternative and efficient use.

In Romania, the lack of proper definition of the concepts of energy deprivation and energy poverty in legislation is precariously counterbalanced by the introduction of the vulnerable consumer concept, which has a number of disadvantages, because it does not take into account the social and geographical disparities in energy distribution, and neither the unequal access of different social categories. The concept of 'vulnerable consumer' involves a partial measurement of unfulfilled energy needs, drawing individual explanations for the lack of energy access. Considering these circumstances, definition choices used in legislation documents can hinder efforts in developing appropriate strategies (Bădescu *et al*. 2017). Focusing mostly on individual socioeconomic characteristics of vulnerable consumers, without addressing the social aspects of energy poverty is an indicator of an energy governance marked by data politics (Sareen *et al*. 2020). In many cases, the main argument for this focus is lack of available data. Therefore, some of

the most common available indicators across Europe for measuring energy poverty are unpaid bills for public utilities and lack of adequate home heating (Bădescu *et al*. 2017; Papada and Kaliampakos 2020; PNIESC 2020).

ENERGY INEQUALITIES BY POLICY DESIGN. SOME NOTES FROM LEGISLATION AND SOCIAL POLICIES

Energy consumption has become one of the mandatory consumption categories in modern society, meeting several needs that can be hard-to-avoid, from primary consumption needs and biological subsistence to tertiary, cultural and entertainment needs (Zamfir *et al*. 2015). Energy poverty therefore includes a consequence of the failure to meet these needs. According to the European Energy Poverty Observatory, "adequate heat, coolness, light and energy required for household appliances are essential services to guarantee a decent standard of living and citizens' health" (EU EPO 2019). The latest Eurostat data show that more than seven million Romanians, meaning more than a third of the population, are at risk of poverty or social exclusion. About 20% of Romanians are very seriously affected, having difficulty paying bills and heating their homes. According to National Energy Regulatory Agency (ANRE) statistics, however, only 937 337 consumers benefited from the social tariff out of a total of 8 550 624 consumers, or 11%, at the level of 2016 (ANRE 2017). This means that close to 9% of the population struggles with finding the means to counterbalance unfulfilled energy needs through various individual and household strategies.

A specific aim of policies is to convey regulations of how goods and services are distributed among the population. As Johnson points out, energy policy "is a system of knowing and regulating the world which extends from natural resource extraction to appliance use in the home" (Johnson 2019, 1). In this line, the very definitions conveyed by legislation hint to a poor and ambiguous description of what constitute energy poverty (Teschner *et al*. 2020) that, in return, switches the focus to a more measurable unit of intervention: the "vulnerable consumer". Vulnerable consumers are defined in the Electricity and Natural Gas Act *123/2012*, which forms the basis of the legal framework for the protection of vulnerable consumers. Thus, according to this legal act[4], *"vulnerable customer − the final customer belonging to a category of domestic customers who, for reasons of age, health or low income, are at risk of social marginalization and who, in order to prevent that risk, benefit from social protection measures, including financial protection. Social protection measures and eligibility criteria for them shall be established by regulatory acts;*". There is a severe lack of acknowledgement of the accessibility of various physical energy production and distribution infrastructures in this core definition of vulnerability, pointing to a rather micro-intervention framework.

[4] Article 3. Point 16 from Electricity and Natural Gas Act 123/2012.

Article. 64 of the same Act establishes that under the law, vulnerable customers benefit from certain facilities:

"1. Vulnerable customers shall benefit from facilities for providing the electricity supply and access service to the grid.

2. The types of facilities for each of the vulnerable categories of customers, except for financial measures and the arrangements for their implementation shall be determined by ANRE.

3. Disconnection of vulnerable customers from the electricity grid is banned, including in energy crisis situations".

Previous research on access to public utilities indicates that historically, protection of vulnerable groups from certain areas that didn't cope with utilities costs (electricity bills) was not established in regulatory acts, and that delays in payments were "tolerated" from rather pragmatic reasons, like lack of personnel that could disconnect households and, in some areas, a high proportion of customers that were unable to pay in time (Voicu and Voicu 2005).

It is important to note that we cannot encounter the precise definitions of energy poverty in Law 123/2012. Energy poverty is mentioned only in secondary legislation and Law 196/2016. However, Law 123/2012 has stated the legal obligation of the authorities to draw up a plan to combat energy poverty, although the competent authority is not mentioned.

Law 196/2016 On Minimum Income of Inclusion also defines the vulnerable consumer[5] as *"the domestic customer, single person or family who cannot ensure from its own budget the full coverage of expenditure related to the heating of the home and whose income is within the limits laid down in this Law*". Energy poverty is also defined here as "*the impossibility of the vulnerable consumer in covering the minimum energy needs for optimal heating of the dwelling during the cold season*". The definition of energy poverty here is restrictive to only one of the most visible problems vulnerable families encounter: heating problems. However, there can be more than one indicator of energy poverty/ deprivation: not being able to secure the cooling function of homes, or not being able to secure energy needs because of distribution problems. Law 196/2016 sets out exceptions where beneficiaries of energy aid can also benefit from social electricity tariffs. There are a few secondary regulatory acts, like ANRE Orders, that regulate the status of vulnerable consumers in Romania. Among these, perhaps the most important ones are those laying down the procedure for the conditions and manner of granting the social tariff to domestic electricity consumers[6]. However, the effective legal framework for granting heating subsidies to vulnerable people is still established based on OUG 70/2011 until 31 March 2021, when it will be replaced by the

[5] Point v of art. 6.

[6] ANRE Order No 38/2005, as amended and supplemented by ANRE Order No 6/2006), in conjunction with ANRE Order No. 176/2015, as amended and supplemented by ANRE Orders No 176/2015. 115/2016 and No. 50/2017.

framework specified in Law 196/2016. Help can currently be requested at the town hall either in person or through the apartment block manager. According to OUG 70/2011 Art. 6(a) the vulnerable consumer shall be "*the person alone/ family who cannot ensure that the dwelling is maintained under appropriate temperature conditions, i.e. 21°C and whose income is within the limits laid down*" in the previous article[7], which means an "*average monthly net income per family member is up to 786 lei for families and 1,082 lei in the case of the single person*." It may benefit during the cold season, the period between 1 November and 31 March. This period may be extended depending on conditions not mentioned. As pointed out, this heating aid is beneficial for a population who uses centrally supplied heat, state-supported distribution, which rather constrains the family and is detrimental for those living in areas where energy infrastructure is rather precarious (areas with extreme marginalization and poverty). This aid fluctuates drastically depending on income and the methods of home-heating.

In 2020, as a change, new mentions of energy poverty and two indicators to measure it (unpaid bills and the inability to adequately heat one's home) appeared along the concept of "vulnerable consumer", throughout a new policy initiative − Integrated National Energy and Climate Change Plan for 2021–2030 (PNIESC 2020). One of the aims of this plan is to reduce energy poverty. However, when conforming to only wide available data as energy poverty proxies (the vulnerable consumer characteristics and the two indicators), some social realities of behaviours and accessibility of energy services still remain hidden. So, despite the extensive legislation in this area, energy poverty in Romania is addressed through inadequate instruments. Various jurisdictions of the European Union provide integrated facilities, ranging from the prohibition of disconnection from energy grid during winter months, to pre-allocated social credits for energy consumption (Bădescu *et al*. 2017). In Romania, the only social benefits are the financial ones mentioned in the legislation (social tariff and heating aid), social benefits that do not consider structural factors, such as fluctuations in market prices, energy market structure. Non-financial facilities applied in the various EU jurisdictions are considered to be a source of good practice for Romania which does not currently offer any protection to energy vulnerability (Bădescu *et al*. 2017). In some countries, the situation of energy poverty is poorly identified because of the practice of reporting not to the percentage of household income spent on energy but only having in mind the absolute income of the household (Bădescu *et al*. 2017; Papada and Kaliampakos 2020), which hides the understanding of an important variable, the energy needs, and how they take the shape of final financial costs for energy within a household. Beyond the consumption costs borne by households for heating, it is important to point out that there are data indicating a greater vulnerability of homes (not being connected to an electrical grid) situated in demoted rural and urban areas (Teşliuc, Grigoraș, and Stănculescu 2016).

[7] In Article 5 of Regulation (EEC) No 2081/92.

The size of energy aid is another fundamental problem of energy poverty signalled in Romania (Bădescu *et al*. 2017). Most heating aid covers wood heating of poor households but in an amount that can also be five times lower than necessary, which can be an argument for the inability of welfare support to fully address energy vulnerability. Moreover, although more than half of the aid reaches the poorest 20% of households, only 30% of those who should receive aid under OUG 70/2011 receive it (Bădescu *et al*. 2017). There is an underlining greater vulnerability that lays hidden for people pertaining to the energy vulnerable groups: they are located in marginalised areas, where lack of public utilities is rather systemic, being a community problem (Teșliuc, Grigoraș, and Stănculescu 2016), and they can be further deprived in emergency contexts, like natural disasters (Mihai 2019). As pointed out by previous research, in post-socialist countries, energy poverty develops under the influence of a combination of macrosocial processes resulting at the intersection of embedded energy infrastructures, social welfare and the evolution of housing reforms (Buzar 2007). One of the priority axes at both Romanian and European level for combating energy poverty is to address energy efficiency of housing (PNIESC 2020). In recent years, important steps have been taken to make housing more efficient through government thermal insulation programs. However, there is no re-evaluation of the level of efficiency of these thermal insulation programs, nor is there any way for individual dwellings to benefit from subsidized thermal insulation.

ENERGY CONSUMPTION AND ENERGY LITERACY

Concerns for measuring the energy deprivation of the population are recent, a proxy indicator has been introduced in the European Quality of Life Survey (EQLS) in 2016: the indicator addressing *the lack of facilities (heating or cooling installations) to maintain a comfortable temperature in the house,* an indirect indicator of energy poverty. According to the latest European reports, the proportion of people reporting they lack these facilities is also increasing, either because of the need to transfer spending to other areas of the budget, or because of increasing electricity costs (EQLS 2016).

Table no. 2 shows the sociodemographic groups affected more by the lack of possibility of heating/cooling their home. In this case, age does not discriminate strongly between those who can and those who cannot maintain a comfortable temperature of the house. Income and residence, on the other hand, seem to be more associated with this impossibility. Moreover, although age, income and residence portray the possibility of recognizing categories that are at risk of being energy poor, data also indicates a strong geographic differentiation of unequal access to energy for a comfortable temperature of the house. Thus, 35% of those in rural areas are affected by this problem, compared to 5% of people from urban areas. At the same time, most neighbourhoods, cities, towns, or villages are not

particularly segregated by age, but most definitely, by their level of income. As pointed out by previous studies, geographical areas can be used as proxies for forms of hidden energy poverty (Horta *et al*. 2019; Sareen *et al*. 2020; Teschner *et al*. 2020)

Table no. 2

Proportion of people who say they lack facilities, by sociodemographic categories in Romania − 2016 (%)

Social categories (by age, income classes and residence environment)	Lack of facilities (heating or cooling facilities) to maintain a comfortable temperature in the home
18–24	21
25–34	12
35–49	28
50–64	17
65+	27
Quartile 1	51
Quartile 2	21
Quartile 3	13
Quartile 4	6
Rural	35
Urban	5

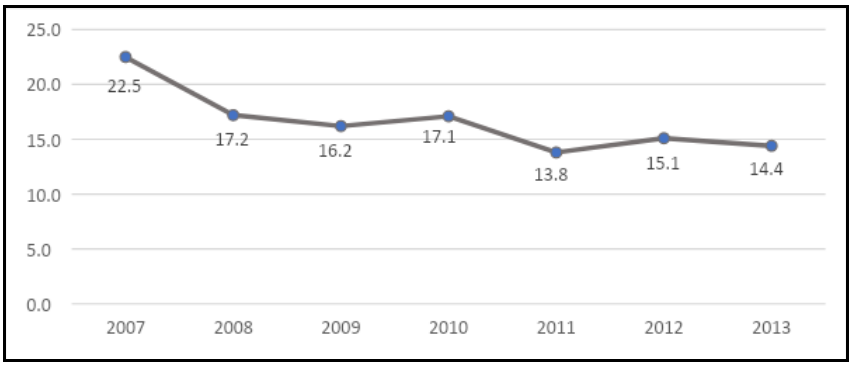
Data source: EQLS 2016.

Therefore, those well positioned on the financial spectrum have a better access to a wide range of possibilities to secure energy – home heating/cooling off –, whether they can simply be able to afford to pay more for energy, no matter the amount of it, or they can own homes that are more energy efficient (better insulation, better maintenance of this insulation, as well as the possibility to assume other related costs, like for example, to switch providers or to equip their home with more energy saving electronic and electrical devices).

According to *Figure 1*, the cost of energy needed for adequate space heating decreased in Romania. Specifically, in 2007, 22.5% of household disposable income would have been necessary to cover heating costs, compared to 14.4% in 2013. Data do not reflect the cost of actual consumption, but show us a number of changes in both electricity costs and changes in the energy structure of buildings: on the one hand, the increase in the population's income, on the other hand the general population's access to energy sources with efficient energy consumption (for energy conservation and lower financial costs), as well as various modification of buildings to contain energy waste.

Figure 1

Proportion of disposable household income spent on adequate energy for space heating (theoretical energy demand) in Romania (2007–2013)

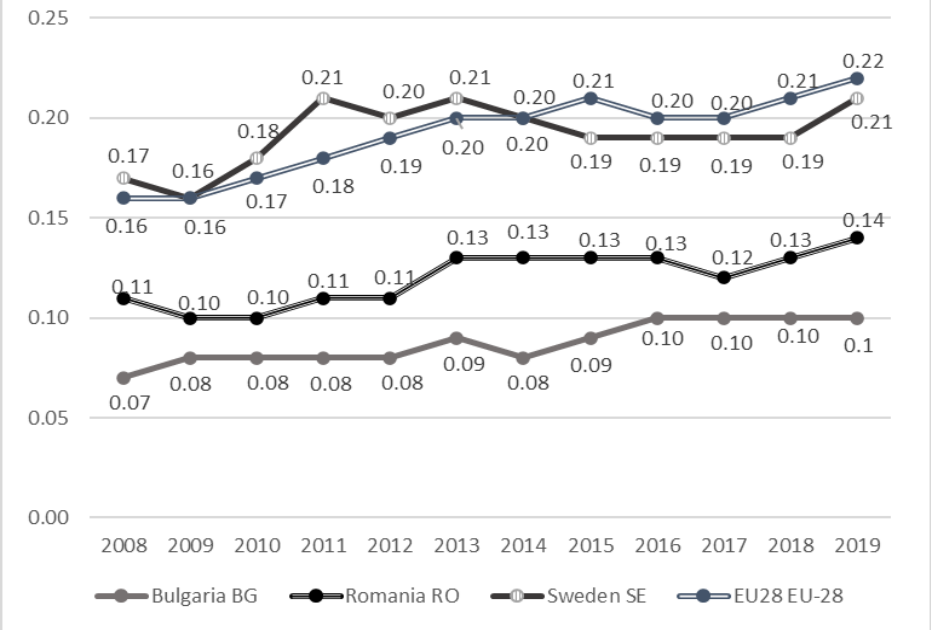


Data source: EU Buildings Database, 2020, EC, own graphs.

Figure 2 shows the cost of electricity for residential buildings, measured in euro/ kWh. Romania has the cost of electricity below the European average (0.14 euro/ kWh, compared to 0.22 euro/ KWh), but on an increasing trend.

Figure 2

The cost of electricity for residential buildings (Eur/ KWh) 2008–2019



Data source: Eurostat 2019, own graphs.

There are three priorities in European energy policy measures, aimed at ensuring sustainable access to energy for consumption in residential buildings and/ or households: a) access to safe energy; b) access to clean energy; (c) ensuring affordable financial energy (EU 2015, EB 492 2019). To achieve these priorities, an important step is to gather knowledge about public representations and attitudes towards energy policies. Recent research (EB 492 2019) indicates several common results about people's knowledge of energy changes. Assessing this knowledge is important to understand both the structural opportunities of the population to improve individual and collective energy consumption, and the understanding of how energy consumption needs are managed individually. Knowledge of the types of energy efficiency labelling is one such indicator, in this respect, for example, one fifth of the European population does not make their decisions on household electronics based on energy labels (EB 492 2019).

According to EB 492, 41% of the European population sees the change of energy sources from fossil fuels to renewable energy sources relevant to European energy policies to protect climate change. Such representation of European energy policies is more common in Scandinavian countries (Sweden, Finland, Denmark). In Romania, most people have a representation of their European energy policy as focusing on competitive prices that offer consumers the choice (35%) (EB 492 2019). Therefore, the main interest of the population goes not so much on ensuring a sustainable level of energy, but on a financially affordable consumption that eases the financial burden of housing maintenance.

HIDDEN ENERGY TRANSFERS

Data from the Special Eurobarometer 492, on Europeans' attitudes on EU energy policy, can be used to show that the need to provide infrastructure for sustainable and affordable energy consumption is generally acknowledged in European countries, although Romania is the country with the lowest share of people who agree with the statement: "The European Union must ensure access to energy for all EU citizens" (only 70% of respondents agree, compared to 92% of the EU 28 European average). Similarly, the agreement with the statement "the European Union has the responsibility to address energy poverty, in order to ensure a just energy transition so that no citizen or region is left behind" is the smallest in the EU (79% of Romanians agreed, compared to 90% of the EU 28 average). Romania has a history of stigmatizing support from State administrative social welfare structures. Also, since a considerable part of the population is at risk of poverty and does not receive social assistance, strategies for resolving precariousness are often individualized or placed on the shoulders of extended family (Precupetu, Preoteasa, and Vlase 2015). From this perspective, measures and studies should address the risk of data flattening (Sareen *et al*. 2020), a process of ignoring regional and local contexts in developing indicators for measurement

(a trade-off between coverage and detail), and which legitimately develops during the quest for comparability, mostly at national and European-level. Such a process of data flattening is also quite common in assessing energy needs of the population, which in turn take a toll on households and families in how they deal with lack of energy.

A proposal to pinpoint these gaps created by data flattening is to search for **hidden energy transfers,** a concept that is reflective of a wide range of behaviours that energy precarious families engage within their own household or with other households for mutual support: doing laundry at other households; using improvised and unsustainable heating/ cooling resources (associated with other indicators of informality at the household level), only for scheduled time; tactics to plan and reduce energy use; purposeful switching between energy types in order to reduce costs; eating fewer cooked meals, doing budget cuts from other areas to meet energy needs; borrowing money from others living outside the household in order to cover electricity/ gas bills and to purchase electronic and electric devices; using knowledge and social capital to increase one's access to energy resources; accounting for differences in energy-use behaviour within the same households; assessing whether the household has a direct debit payment for electric services or it rather provides irregular payments (therefore, being able to skip the payment, if needed); having a disability or a health problem that converts into more energy needs/ use; practicing acceptability and normalization of thermal discomfort; acknowledgment of differences in individual subjective thermal comfort within the household and energy use decision-making based on ranking of individual needs.

In addition, a number of concepts such as "energy poverty" or extensive definitions of consumption energy still lack visibility in public discourses and everyday vocabulary.

CONCLUSIONS

Income-based individual and household differences in ensuring decent energy use in one's home are intricately linked to social inequalities in housing maintenance costs and furthermore, to the possibilities of a household to sustainably benefit from structurally embedded opportunities for energy saving strategies. Energy poverty is generally measured as the extent to which households manage to provide the energy needs to achieve a thermal comfort of the dwelling (heating or temperature cooling, as appropriate). However, a number of structural conditions could adversely affect the household's ways of dealing with energy needs: lack of state support for home maintenance (or excessive bureaucratic procedures), variations in neighbourhood quality, and implicitly, differentiated and unequal access to energy distribution networks and energy sources, as well high costs per unit of energy, relative to household income.

The main argument of this article is that vulnerable families employ a wide range of behaviours to negotiate energy scarcity levels, and that policy narratives around energy vulnerability and poverty tend to render those behaviours invisible through data flattening strategies and the use of restrictive definitions and indicators.

The main definitions used to address energy poverty draw from an endogenous perspective of energy vulnerability. Additionally, this is addressed though consumer characteristics, which reproduces a fragmented and lacunar approach to intervention measures. "Who are those energy transitions will fail?" is also a question of data politics because most interventions are based on limited definitions and a focus on already available data. Moreover, Romania records a low level of energy literacy, concerning both knowledge about legislative regulation of access to energy and knowledge about energy vulnerability adjustment strategies that make use of available opportunities. These management strategies are rather minimal, more individual, centred on moving spending from one part of the household budget to another, and less on institutional support provided by the authorities through the creation of new, inclusive, and sustainable energy infrastructures. To deal with various forms of energy poverty, families develop patterns of behaviours outside their households (extending their social connections with other households) that can hint to what we call **hidden energy transfers**, a middle ground families find to counterbalance various absences: adequate housing, functional and affordable energy services & infrastructure, as well as adequate household material resources.

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În ultimii ani s-au dezvoltat mai multe lacune în cunoștințele conceptuale și empirice privind sărăcia energetică. Acest articol are scopul de a descrie aceste inconsecvențe, precum și de a dezvolta o scurtă analiză a stării actuale a practicilor și politicilor care se construiesc în jurul acestui concept. Modul în care consumul casnic de energie într-o gospodărie contribuie sau nu la dezvoltarea și reproducerea sărăciei energetice va fi abordat printr-o scurtă analiză a strategiilor prin care diferite definiții utilizate reușesc să măsoare deprivarea de energie, precum și a felului în care aceste definiții sunt angajate practic în diferite contexte sociale. Pentru a îndeplini acest scop, utilizez date din Sondajul european privind calitatea vieții 2003−2016 (EQLS), Eurostat și Observatorul UE pentru clădiri 2016 (EU Buildings Database) și mă concentrez, de asemenea, asupra narațiunilor privind vulnerabilitatea energetică, prezentate în mai multe documente de politici. Acest lucru este relevant pentru a evidenția lacunele și ambiguitățile care vor ilustra legăturile dintre structurile macrosociale ale distribuției geografice și politice a energiei pentru consumul rezidențial și realitățile consumului de energie în gospodării. Modelele de consum de energie sunt influențate de accesul la surse de energie adecvate și suficiente pentru întreținerea locuințelor și pentru creșterea calității locuințelor, precum și de alte variabile legate de dinamica cunoașterii surselor de energie eficiente, evoluția scopului politicilor energetice și de deținerea de strategii de evaluare energetică pentru consumul în cadrul locuinței personale. În plus, pentru a avansa înțelegerea mecanismelor sărăciei energetice, precum și a practicilor privind utilizarea energiei, se propune un nou concept de „transferuri ascunse de energie" ca instrument analitic, care evidențiază caracterul social al energiei, în special modul în care conectarea socială este vitală pentru gospodăriile defavorizate din punct de vedere energetic. După cum s-a demonstrat, conceptul se bazează pe studii anterioare și poate realiza o înțelegere mai cuprinzătoare a strategiilor de adaptare în ceea ce privește deprivarea de energie și sărăcia energetică, o înțelegere care ia în considerare nu numai comportamentele din cadrul gospodăriei, ci și pe cele din afara acesteia.

***Cuvinte-cheie**: sărăcie energetică; justiție energetică; vulnerabilitate energetică; transferurile ascunse de energie; alfabetizare energetică.*

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