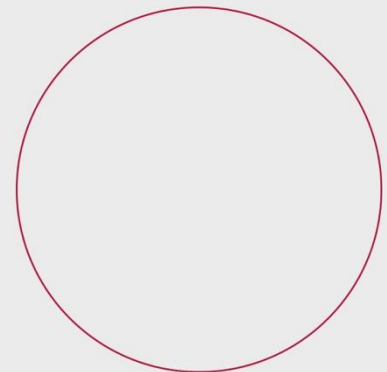


HOW TO ENSURE A JUST APPROACH TO RETROFITTING SOCIAL HOUSING?



Jan Frankowski, Jakub Sokołowski, Joanna Mazurkiewicz

Abstract

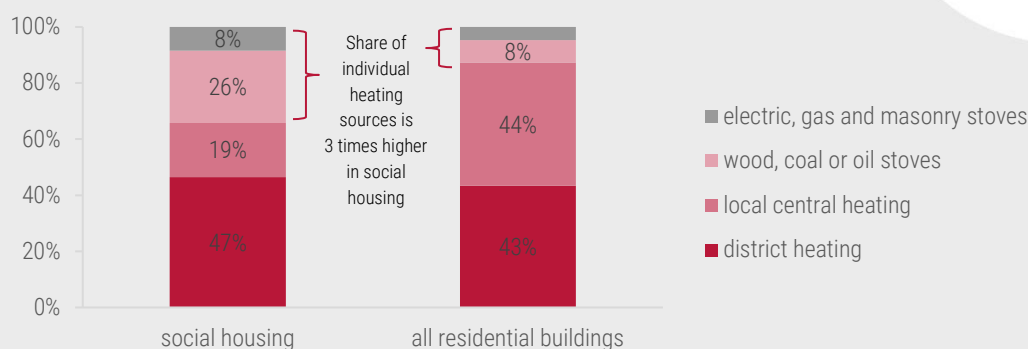
Widespread modernisation of social housing is essential if the country is to avoid exacerbating energy poverty in its cities. In Poland, the inhabitants of social housing estates are people with low and insecure incomes; their homes are often in poor condition and are usually heated with either coal stoves or electric heaters. Social housing flats are owned by municipal governments. It is therefore up to them to improve the living conditions of residents in a sustainable manner. However, municipal governments have limited resources for modernisation, and the current energy crisis will only tighten their pockets further.

We propose that three key social criteria are considered when assessing and implementing social housing energy efficiency investments: 1) Efficiency, 2) Solidarity, and 3) Reduction of External Costs. Adhering to these criteria will make it possible for municipalities to retrofit social housing more equitably – meaning that investments will serve those most in need while limiting their environmental impact.

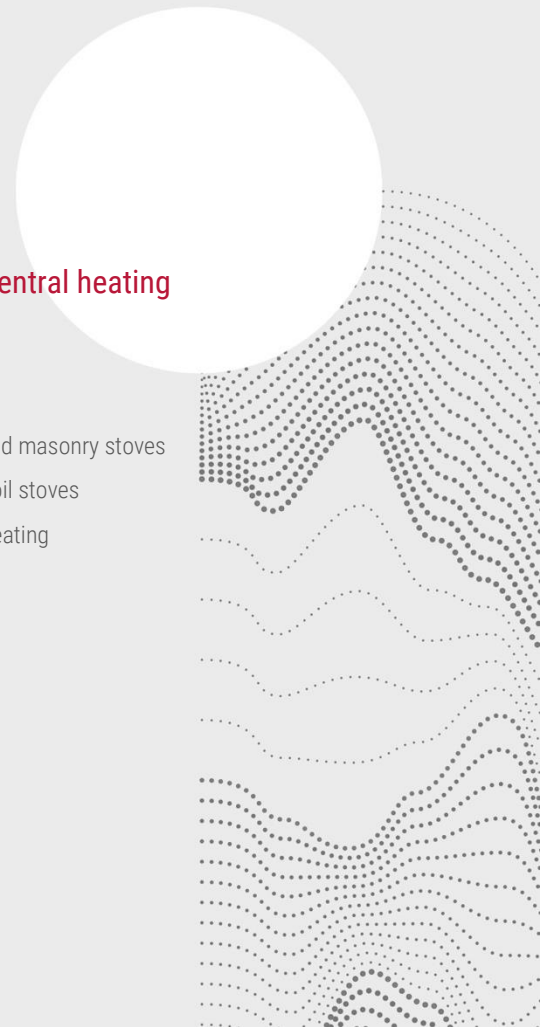
Facts and figures

- **807,000** – the number of social housing units at the disposal of municipal governments.
- **107,000** – the number of social housing units at the disposal of publicly owned housing companies (TBS)
- **34%** of social housing residents do not have central heating.
- **12%** of social housing residents live in homes with damp walls, floors or foundations.

More than a third of social housing residents in Poland do not have central heating



Source: own elaboration based on Household Budget Survey (2020)



1. Introduction

The looming energy crisis will severely impact people living in social housing, i.e. rental housing owned and managed by municipal governments and provided to people with low incomes at preferential rates. Moreover, social housing residents are more vulnerable to hikes in heating and electricity prices, both in the coming winter months and further into the future. The costs of these utilities are usually independent of rent, so the best way to mitigate any increases in energy expenses in the long term is to invest in energy efficiency. Decisions on such investments are left to municipalities, which are saving every penny in light of the current economic climate. So, what can be done?

Our Policy Paper includes suggestions on how to retrofit social housing in situations where funding is limited.

By 'fair' retrofitting, we understand careful and planned-out investments that keep external costs to a minimum while benefitting those who need them most. To this end, we propose using **three of the following social criteria to assess investments in energy efficiency, as these factors will ensure an equitable approach to spending public funds:**

- **Efficiency** – helping as many people as possible within a defined budget,
- **Solidarity** – helping as many most-vulnerable people as possible,
- **Reducing external costs** – reducing exposure to external environmental risks for as many people as possible.

We have demonstrated in previous publications that investments in energy efficiency are key to reducing energy poverty in Poland (Sokołowski and Frankowski, 2021). In this paper, we specify what conditions **should be met by urban municipal governments to make their investments more efficient** and postulate that **administrative data be used** for this purpose. These solutions will foster the following:

- more effective management of funds earmarked for energy efficiency improvements,
- an improvement in living conditions for the most disadvantaged residents,
- a decrease in urban air pollution levels.

This Policy Paper consists of five sections. In section two, we explain why heating happens to be one of the most significant problems faced by social housing residents in Poland. Next, we diagnose the causes behind deficiencies in municipal policies in social housing and proceed to demonstrate how these can be improved. Section five summarises our findings.

2. Why is heating such a problem in social housing in Poland?

In this section, we discuss the main problems associated with heating in social housing. In almost all cases, these issues have their roots in the age and poor state of the buildings themselves, as well as in the low incomes of their inhabitants. The consequences are energy poverty and, in dire situations, compulsory evictions.

Buildings that offer social housing in Poland are old and energy inefficient. Almost half of all people living in social housing (46%)¹ live in buildings erected before World War II (Muzioł-Węclawowicz, Nowak, 2019). Moreover, 12% are plagued by damp walls, floors or foundations. Solid fuel stoves or electric heaters are used in every third social housing unit in Poland. Heating with coal or wood, especially in multi-family residences, requires time and a physical aptitude, which are increasingly difficult to meet in an ageing demographic. On the other hand, electric heating is expensive, puts a serious strain on household electrical systems, and is a potential fire hazard. Problems with household heating have been exacerbated in social housing even further in 2022 due to rising energy prices and the limited availability of solid fuels, primarily coal.

Box 1. Social housing in Poland – legal framework

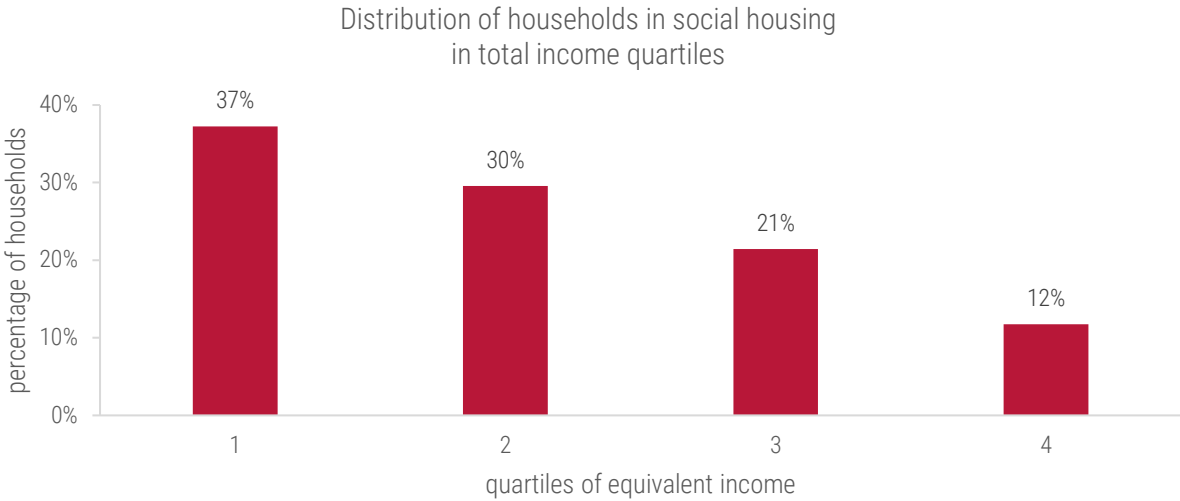
Social housing provides affordable housing to a country's indigent residents. In Poland, municipal governments are legally obliged to 'construct social housing' (Article 7 s (1) pt (7) of the Local Self-Government Act of 8 March 1990) and 'create conditions for satisfying the housing needs of the local community' (Article 4 of the Act on the Protection of the Rights of Tenants of June 21, 2001). To this extent, municipal governments manage social housing and, in most cases, have a dedicated department for this purpose. They may also subcontract this task to specialised entities such as real estate management companies or social housing associations.

Delaying investments in energy efficiency in municipal buildings can lead to energy poverty² and health and safety risks. Poor housing conditions, including a lack of central heating, place residents of social housing at greater risk of suffering from long-term health conditions (Sokołowski et al., 2021), such as asthma and rheumatism. They may also experience stress, insecurity and social stigma (Simcock et al., 2021; Grossmann et al., 2021). Increased energy bills often lead to utility and rent arrears, which could result in evictions if left unsettled. Poor housing conditions also force residents to replace their rusty appliances and mildewed furniture and clothing more frequently, which increases the cost of living. Meanwhile, household incomes of families living in social housing remain low – in terms of income distribution, as many as 37% of social housing residents are in the first income quartile, and 30% are in the second quartile (Figure 1).

¹ In 2020, there were 807,000 municipal dwellings in Poland and 107,000 social housing units at the disposal of publicly owned housing companies (TBS). According to the 2011 National Census, about 1 million households lived in municipal housing in Poland; estimates based on surveys in 2015 and 2016 indicated that 7.1%-7.5% of the urban population in Poland lived in municipal housing (Muzioł-Węclawowicz, Nowak, 2019). The official data of the National Population and Housing Census 2021 on the number of households in municipal housing were unavailable at the end of 2022.

² Energy poverty is defined as a situation in which a household cannot afford sufficient heat, cooling or electricity to power appliances and lighting, and its members collectively meet the following conditions: 1) they have low incomes, 2) they have high energy expenses, 3) they live in a dwelling or building with low energy efficiency.

Figure 1. More than two-thirds of households in social housing have below-median incomes



Source: own elaboration based on Household Budget Survey (2020)

Why is heating such a problem when it comes to social housing? This is because social housing buildings are usually old, decrepit, and in a poor and unmaintained state. Their residents cannot afford to pay higher rent rates which could partially be used to cover investments in retrofitting and energy efficiency.

3. Why are measures taken to modernise social housing often ineffective?

In this section, we show that a lack of resources and insufficient attention paid to the social aspects of municipal investments render existing efforts to modernise social housing largely ineffective. We look at two major cities in Poland, Warsaw and Gdansk, and use them as examples to demonstrate the negative consequences of the current municipal approach.

Poland’s social housing policies are painfully underfunded. The annual operating costs of social housing in 2020 (PLN 750 million) exceeded the costs of maintenance and repairs (PLN 650 million; CSO, 2022). This amounted to an average of PLN 1,000 per year (less than EUR 250) for the maintenance and renovation of one rented social housing unit in Poland. Failure to invest in and renovate municipal flats only results in their further deterioration (NIK, 2021). Moreover, decisionmakers demonstrate low awareness of the living conditions in social housing, with social dwellings consistently being perceived as a cause of, rather than a solution to, housing and social problems (Cauvain and Bouzarovski, 2016).

Social housing modernisation measures pay too much attention to technical and environmental objectives. Municipal governments tend to set the goals of retrofitting social housing to reduce carbon emissions or combat smog, as these are often the main assumptions of programmes that co-finance such investments. Such an approach marginalises the core social purpose of public housing (Abbasi et al., 2022), which is to meet the housing needs of less affluent urban residents.

Poorly planned energy efficiency investments can negatively impact the urban social fabric. Improved energy efficiency, coupled with a significant increase in rent or utility charges, could trigger gentrification, i.e. a change in social structure whereby fewer people with low incomes and more well-off people begin living in an attractive neighbourhood or a district that is gaining popularity. Municipal governments can use energy efficiency investments as a pretext to raise the rent, demolish council buildings, or replace them with brand-new housing estates to boost their budgetary revenues (Bouzarovski et al., 2018). As a result, poorer residents are faced with a choice: either pay more for rent and utilities or leave and search for a home elsewhere. Gentrification is detrimental to the social fabric and leads to situations that privilege those who are more affluent. Such cases have already occurred in two major Polish cities:

- **Gdansk** – renovation works on a former workers' housing estate in Letnica created a higher standard of municipal buildings, forcing poorer residents, who became concerned with rising gas and utility prices, to move to other neighbourhoods (Bouzarovski et al., 2018). The renovation became an impetus for gentrification in the area, which saw the construction of a new housing estate and a radical change in the overall social structure (photo 1).
- **Warsaw** – the municipal government and a district heating operator refused to connect several municipal dwellings to the district heating network due to issues with the property's unregulated ownership and the investment's overall unprofitability. As a result, residents had no choice but to heat their homes with electric heaters, which pushed them into energy poverty (photo 2), or had to apply to move to social housing in other districts.

Photo 1: Gdańsk: The “New Letnica” housing estate can be seen in the background. It was built after several social buildings were renovated and connected to urban gas pipelines, which resulted in the eviction of some of the neighbourhood's residents.



Photo 2. Warsaw: Residents of municipal buildings hang banners on balconies as tenants' organisations protest high heating costs (on the banner: “Mayor! It is enough of drastic heating costs”)



Source: own materials

Why are social housing renovation policies so ineffective? This is because they are underfunded and rarely perceive social objectives as a priority. Inadequate and poorly planned social housing modernisation measures (or a lack thereof) may lead to energy poverty and catalyse gentrification in urban neighbourhoods.

4. What constitutes a just approach to retrofitting social housing?

In this section, we indicate which social criteria should be applied when planning energy efficiency investments and provide indicators that will help assure said criteria are used in practice. Assuming such measures should promote a more just approach to social housing modernisation and retrofitting.

4.1. Social criteria for evaluating energy efficiency investments

We propose that the following social criteria are given due consideration when planning the modernisation of social housing:

- The “Efficiency” criterion – as many people as possible should reap the benefits of an investment to be realised within a defined budget. Therefore, multi-family residences and municipal flats should be modernised first.
- The “Solidarity” criterion – those worst off or most vulnerable should be helped to the greatest extent. Therefore, priority would be given to buildings home to the greatest number of poor or financially dependent (e.g. children).
- The “External Cost Reduction” criterion – the objective here is to limit the exposure to external, environmental risks for as many people as possible. In line with this criterion, a solid fuel stove, which generates the most pollution and affects the largest number of people, should be the first appliance that is replaced in a given building.

Applying these criteria when planning energy efficiency investments will bolster the social effects of **thermal modernisation, heat source replacement and revitalisation schemes**. These will improve living conditions for social housing residents and their quality of life. Such investments will benefit those living in social housing the most while also positively impacting all nearby residents (e.g. through improved local air quality in the winter). We use the above criteria to identify priorities for replacing heating sources in Warsaw (Box 2). The weighing of each criterion or their operationalisation (e.g. the means of selecting which groups/people are most disadvantaged) should be left up to a given municipality and depend on the goals they wish to achieve.

Box 2. Application of social criteria to evaluate heat source replacement

The City of Warsaw plans to replace coal-burning stoves in municipal dwellings with cleaner heating sources. Below is a table presenting how the three social criteria described above can be applied based on measurable and transparent administrative data. Administrative data sources constitute the PESEL register and a database of addresses of social housing units that use solid fuel stoves.

Table 1. Social criteria operationalisation – an example of coal stove replacement in Warsaw

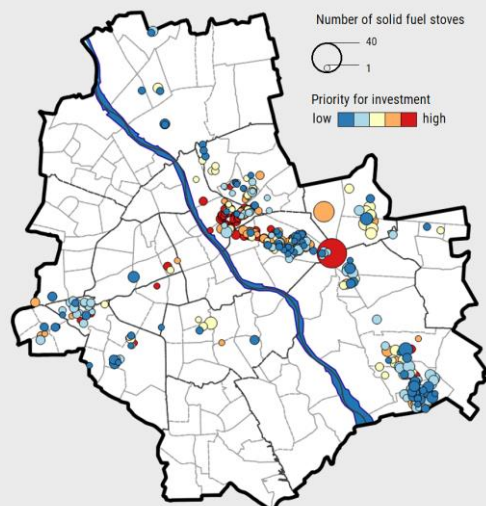
Social criterion	Criterion operationalisation– indicator	Weight
Efficiency	Number of people who live at a given address	
Solidarity	Percentage of dependents at a given address	33.3%
Reducing External Costs	Number of people living within a 50 m radius of a building with a solid fuel heating source	

Box 2. Application of social criteria to evaluate heat source replacement in Warsaw (cont.)

Our ex-post analysis partly confirms that the measures chosen by Warsaw's municipal authorities were right. First off, the city should replace heating sources in the densely populated central district (Praga Północ) due to the higher number of dependents (young and old) that live in multi-family municipal dwellings heated with solid fuels, as well as the significant number of other residents in their immediate vicinity. The criteria also confirm that modernisation is needed in social housing units in Eastern parts of the city, as these have the highest numbers of solid fuel stoves. By contrast, modernisation seems like a less urgent issue in neighbourhoods in South-East Warsaw due to its relatively low proportion of dependents and its remote location from densely populated residential areas.

Source: own elaboration based on a synthetic indicator. The indicator was developed using data from the PESEL register and the City Office of Warsaw (2018). As per the weights in Table 1.

Map 1. Municipal buildings with a large number of dwellings in densely populated areas of the city should be upgraded first



4.2. Using existing administrative data registers

Existing administrative data registers should be used when applying social criteria to energy efficiency investment planning. These registers contain data on buildings and households collected by state and municipal institutions. Creating, using, and expanding such registers, coupled with access to other external data resources, will eliminate ad hoc data collection and provide decision-makers with up-to-date statistics (Łachowski et al., 2022). Geodetic data on buildings and the PESEL register can be used when applying social criteria.

Table 2. Examples of administrative data sources at a building/household level

Data set	Data dispatcher
Residential buildings and addresses	Municipal govt. dept. responsible for architecture/geodesy
Gas and central heating connections	Head Office of Geodesy and Cartography (National Integration of Land Records)
Population and structure	Centre for Information Technology (PESEL register)
Technical condition of buildings and their heating sources	Municipal govt. dept. responsible for municipal management
Social aid beneficiaries	Municipal Social Welfare Centre

Source: own elaboration

Using administrative data registers will improve the quality and effectiveness of social housing modernisation schemes. If measurable, transparent criteria and official data are used in the investment planning process, decisionmakers can avoid distributing resources based on a first-come, first-served approach or buckling under pressure from active citizens' groups. In order for this to be effective municipal analytical depts should be involved in cooperating with government institutions (so that data in national registers is readily available to a greater extent) and scientific and social organisations (e.g. for greater social monitoring of various institutive measures).

What constitutes a just approach to social housing modernisation? Investments should target social housing units that are home to the most vulnerable residents. This should be calculated using measurable and transparent criteria while keeping external costs to a minimum, resulting in more effective spending of public finances while improving living conditions for social housing tenants to the greatest possible extent.

5. Summary and conclusions for public policy

We are at high risk of an escalation in energy poverty shortly as rising energy costs consume growing shares of household and municipal government budgets. This crisis will be particularly severe and longer lasting for social housing residents as they have lower incomes, live in poorer conditions, and are more likely to heat their homes with either coal or electricity. Moreover, fewer modernisation and energy efficiency investment schemes are expected due to the prolonged, unstable economic and political climate. In light of this, decision-makers should take every opportunity to make energy efficiency investments more effective to get the most out of every penny spent.

A just approach to retrofitting social housing in urban areas requires that three social criteria be considered: Efficiency, Solidarity, and the Reduction of External Costs. These criteria should be applied when planning such investments as thermal modernisation, heat source replacement or building revitalisation and should be implemented using indicators based on administrative data. Application of such data is becoming increasingly simple as institutions continue to make their resources accessible to a greater extent. Applying social criteria based on measurable and transparent data in the planning and implementing energy efficiency investments will make it possible to achieve a fairer and more equitable approach to retrofitting social housing.

The practical implementation of these proposals requires the involvement of several organisations, and the following groups should be involved:

- **municipal analytical units** – to create registers and collect data on buildings, dwellings and households and provide subsequent information on investment variants to decision-makers,
- **national entities** – so that administrative data held by government institutions is made available to local authorities quickly and free of charge,
- **research organisations** – to map and develop further social indicators related to residential buildings/households and to pursue their operationalisation,
- **social organisations** – to watch over modernisation processes that municipalities have (or have not) implemented.

Bibliography

- Abbasi M., Abdullah B., Ahmad M., Rostami A., Cullen J., 2022. Bringing fuel poverty forward from post-intervention evaluations to design and decision-making stages, *People, Place and Policy* 16(1), 98–106
- Bouzarovski S., Frankowski J., Tirado-Herrero S., 2018. Low-Carbon Gentrification: When Climate Change Encounters Residential Displacement. *International Journal of Urban and Regional Research* 42(5), 845–863
- Cauvain J., Bouzarovski S., 2016. Energy vulnerability in multiple occupancy housing: a problem that policy forgot. *People, Place and Policy* 10(1), 88–106
- Grossmann K., Jigla G., Dubois U., Sinea A., Martín-Consuegra F., Dereniowska M., Franke R., Guyet R., Horta A., Katman F., Papamikrouli L., Castaño-Rosa R., Sandmann L., Stojilovska A., Varo A., 2021. The critical role of trust in experiencing and coping with energy poverty: Evidence from across Europe. *Energy Research & Social Science* 76, 102064
- GUS (CSO), 2022. Gospodarka mieszkaniowa i infrastruktura komunalna w 2020 r. Główny Urząd Statystyczny, Warszawa
- Łachowski W., Pistelok P., Dziadowicz K., 2022. Zarządzanie miastem z wykorzystaniem danych. Badania Obserwatorium Polityki Miejskiej, Instytut Rozwoju Miast i Regionów, Warszawa–Kraków
- Muzioł-Węclawowicz A., Nowak K., 2021. Raport o stanie polskich miast – Mieszkalnictwo społeczne. Instytut Rozwoju Miast i Regionów, Kraków
- Najwyższa Izba Kontroli (NIK), 2022. Wykonywanie zadań z zakresu gospodarki mieszkaniowej przez gminy w województwie dolnośląskim. Najwyższa Izba Kontroli, Warszawa
- Simcock N., Frankowski J., Bouzarovski S., 2021. Rendered invisible: Institutional misrecognition and the reproduction of energy poverty. *Geoforum* 124, 1–9
- Sokołowski J., Frankowski J., 2021. How to improve the quality of life of the energy poor? *IBS Policy Paper* 01/2021
- Sokołowski J., Frankowski J., 2020. Energy poverty, housing conditions, and self-assessed health: evidence from Poland. *IBS Working Paper* 10/2020
- Urząd m.st. Warszawa, 2018. Odpowiedź na interpelację radnej Aleksandry Gajewskiej do Biura Polityki Lokalowej (maj 2018 r.), Biuro Polityki Lokalowej UM Warszawa, Warszawa
- Ustawa z dnia 21 czerwca 2001 r. o ochronie praw lokatorów, mieszkaniowym zasobie gminy i o zmianie Kodeksu cywilnego
- Ustawa z dnia 8 marca 1990 r. o samorządzie gminnym

Jan Frankowski

Institute for Structural Research
Institute of Philosophy and Sociology, Polish Academy
of Sciences

e-mail: jan.frankowski@ibs.org.pl

Jakub Sokołowski

Institute for Structural Research
University of Warsaw

e-mail: jakub.sokolowski@ibs.org.pl

Joanna Mazurkiewicz

Institute for Structural Research

e-mail: joanna.mazurkiewicz@ibs.org.pl

IBS Policy Paper Series

The IBS Policy Paper series provides an accessible presentation of the findings of economic studies to enhance the quality of the public debate.

Series editor – Jan Rutkowski

IBS Policy Paper 02/2022

ISSN: 2451-4365

Editing – Dorota Ciborowska

Translation (into English) – Tadeusz Dunin, Native Speakers

Additional information

This Policy Paper was funded with the support of the National Science Centre (project no. 2019/33/N/HS6/02565) under a grant from the Institute of Philosophy and Sociology, Polish Academy of Sciences. The presented results from the Household Budget Survey were developed within the framework of a project entitled “Mechanisms of Supporting Environmental Fees in Poland” and funded by the European Climate Foundation.

The authors would like to thank Jan Rutkowski for his valuable comments and help in compiling this report. Jan Frankowski would like to thank the participants of the third Energy Research & Social Science conference in Manchester and the 18th Polish Sociological Congress for their comments.

The views expressed in this publication are those of its authors and do not necessarily represent the views of the Institute for Structural Research. The usual disclaimers apply.

About IBS

The Institute for Structural Research (IBS) is an independent and apolitical research foundation. Our research studies focus on economic analyses and evaluating the consequences of public policies in the following areas: labour markets, demography, education, family policy, public finance, as well as energy and climate. We rely on modern modelling, statistical, econometric and IT tools, and take great care to ensure our research is objective and based on sound methodology.

Since our foundation in 2006, we have conducted almost 200 research projects for such entities as the World Bank, the OECD, various ministries, Chancelleries of the Prime Minister and President of the Republic of Poland, the National Bank of Poland, employers’ organizations, and many other associations and foundations.

The Institute’s research findings are generally available, with two series of publications being specifically responsible for their dissemination: IBS Working Paper and IBS Policy Paper. All articles, reports and information on our upcoming projects and conferences can be found at ibs.org.pl.

e-mail: ibs@ibs.org.pl

twitter: [@ibs_thinktank](https://twitter.com/ibs_thinktank)