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Abstract

The importance of energy as a common good becomes especially pronounced during crises. This paper reconstructs the response of housing cooperatives to the energy crisis by applying Kenneth Burke's five categories of theatre interpretation and eighteen impression management strategies inspired by Erving Goffman's dramaturgical sociology to assess the dominant cooperative approaches. We analyse a unique dataset of 215 annual reports of Polish rural housing cooperatives, which display a range of reactive, proactive, and collaborative attitudes to high energy prices and fuel shortages resulting from the embargo on Russian coal. The unexpected nature of the crisis led four out of five rural housing cooperatives to adopt defensive impression management strategies. The three most common strategies were crisis attribution (66%), resourceful management (18%), and deliberative silence (12%). Our findings portray housing cooperatives as solitary and routine actors, undertaking an extraordinary effort often beyond their capacities. While cooperative efforts were partially supplemented by solidarity, particularly within micro-cooperatives reliant on coal with a stronger sense of community, the uncertain future of these entities calls for louder advocacy, targeted financial support, and better recognition of rural cooperatives as heating communities and intermediaries essential for ensuring local energy security.

Keywords: housing cooperatives, heating, local communities, energy transition, dramaturgical sociology

JEL: P13, O18, P28, P48, P31

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1. Introduction

The importance of energy as a common good becomes more pronounced during crises. In light of challenges such as the sudden rise in energy prices, scarcity of resources, and changes in legal regulations, adaptation is particularly difficult for individuals who require advocates for their interests to prevent shifting the crisis's costs onto citizens. Therefore, crises increase the need for intermediary actions (Hodson et al., 2013; Kivimaa et al., 2019). Intermediaries balance different priorities and social interests between households and energy suppliers (Boyle et al., 2021; Sovacool et al., 2020). They also facilitate the application of policies and legislation (Kivimaa et al., 2020; Zaunbrecher et al., 2021). The critical intermediaries in the residential sector closest to the household's everyday interests are housing entities, such as cooperatives and associations responsible for common energy services and investments in multi-family buildings. Their role and responsibility grow with the decentralisation of the energy system, which is one of the conditions of low-carbon energy transition; however, the role of housing entities has not yet been extensively researched in the context of the energy crisis.

Our paper aims to reconstruct the energy crisis strategies and attitudes in housing cooperatives. We reveal cooperative activities and impression management strategies and assess the attitudes of cooperative decision-makers towards skyrocketing prices and fuel shortages. Therefore, we contribute to a nuanced understanding of the energy crisis response mechanisms among intermediary housing institutions responsible for delivering energy services. In contrast to large and well-networked urban housing cooperatives, we found that rural ones that independently produce and supply heat experienced higher increases in energy expenditures and received poorly allocated support despite weaker financial, networking, and political resources. Consequently, undertaking development efforts such as energy transition requires recognising housing cooperatives in state policies, providing targeted financial support, and reversing the policy attention from energy cooperatives based on electricity production towards those responsible for heating production, which is crucial for ensuring local energy security.

This study investigates the strategies and attitudes of rural housing cooperatives in Poland, where the consequences of the energy crisis heavily impacted heating services. The embargo on coal introduced in April 2022, two months after the full-scale Russian military invasion of Ukraine, led to price increases and posed a risk of fuel shortages (Černoch et al., 2024). This situation was particularly severe for households relying on individual coal-based heating systems and those in multi-family buildings, where various public and private housing intermediaries remain crucial as heating producers or providers. In response to the energy crisis, households began to explore multiple adaptive strategies: reducing energy consumption, renegotiating contract terms, and investing in self-generation technologies (Liobikienė et al., 2023; Brauer et al., 2024; Blumberga et al., 2024). However, the capacity to make decisions regarding energy use and to select appropriate adaptive strategies varies significantly depending on the type of building and form of ownership (Einolander et al., 2024). While considerable academic attention has been paid to national (Kuzemko et al., 2022; Osička and Černoch, 2022; Steffen and Patt, 2022; Żuk and Żuk, 2022) or individual households' responses to the energy crisis (Brauer et al., 2024; Burlinson et al., 2024; Kirchler et al., 2024), the decision-making processes within housing intermediaries remain underexplored. Understanding attitudes at this level is also crucial for comprehending energy transitions in common institutions, where various logics of undertaking decisions occur. Therefore, this article addresses this gap by focusing on the strategies and decisions made within housing cooperatives – specifically post-socialist housing institutions – in the 2022 energy crisis context.

Our paper integrated two well-established frameworks of Kenneth Burke's dramatism and Erving Goffman's dramaturgical sociology to analyse the settings and positions of housing cooperative management boards. The empirical investigation relies on a unique dataset of over 3,400 financial and technical reports of all housing cooperatives in Poland. We narrowed the sample down to the 215 rural entities almost individually responsible

for providing heating locally. The analysis employed automatic extraction tools and qualitative techniques to collect and analyse acquired data. Next, Goffman's-inspired impression management framework (Dunne et al., 2021) enriched this analysis of annual reports by focusing on the dramaturgical aspects of the performance itself, which enabled us to distinguish the three most common housing cooperative strategies: crisis attribution, resourceful management, and deliberative silence. Then, we discussed managing energy as a common good during the crisis, provided limitations and pointed out the avenues for further research in the conclusions.

2. Institutional setting: rural housing cooperatives during the energy crisis of 2022 in Poland

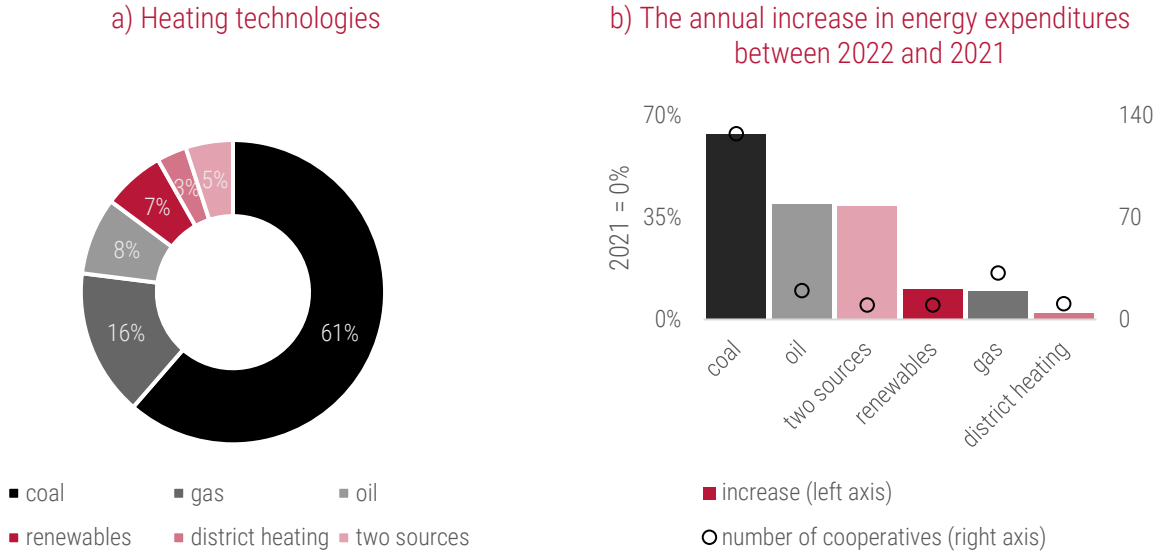
Housing cooperatives in Poland are both voluntary associations and enterprises organised around a common purpose, resources and democratic decision-making. According to Polish law, the primary objective of a housing cooperative is "satisfying their members' housing needs" (Act of 15 December 2000 on Housing Cooperatives). The legal regulations indicate that housing cooperatives perform primarily managerial functions, administrating real estate and maintaining its technical condition. The highest governing body of the housing cooperative is the general assembly, which consists of all cooperative members. This body meets annually to make the most critical decisions and appoints the other bodies – the cooperative management board and supervisory board (Milewska-Wilk, 2023). The management board is responsible for day-to-day decisions. The supervisory board, mostly from the cooperative members, controls the board. The institutional structure of a housing cooperative depends on the cooperative size. These are large cooperatives, mainly in post-socialist housing estates, even with more than 30,000 members, and micro-cooperatives, with only several members living in one multi-family building. While the large housing cooperatives hire professional housing stock managers, the work of smaller cooperative boards is often based on part-time jobs or voluntary involvement.

Housing cooperatives account for 15% of the Polish residential housing stock. One in five housing cooperatives is in rural areas (Appendix A2.2). Rural cooperatives can be categorised into three distinct types: suburban, industrial, and post-state collective farming[1] (Frankowski et al., 2023). Since the early 1990s, many of these cooperatives have encountered social, economic, and ownership challenges. when the state offered residents the attractive buyout of the apartments as compensation for lost state-led jobs, but without common infrastructure. Therefore, the residual housing cooperatives left providing services to local communities, including heating with boiler rooms as an integral infrastructural component of the estates.

Rural housing cooperatives predominantly rely on fossil fuels. The residential coal phase-out process there remains slower compared to individual buildings**.** We estimated that over 60% of these cooperatives use coal as a primary heating source (almost twice the share of single-family buildings using coal in Poland; Statistics Poland, 2023a). Only 7% of rural housing cooperatives have adopted renewable energy sources (Figure 1a), with biomass (wood or pellet) being the most common. Advanced heating solutions like heat pumps or biogas remain rare (2%). Some cooperatives, primarily industrial and suburban, utilise network solutions such as district heating or gas (19%). The energy crisis in 2022 had a pronounced impact on housing cooperatives' expenditures, especially those that rely on coal. These cooperatives experienced the largest increase in energy expenditures. In 2022, energy costs for these cooperatives were nearly 60% higher than in 2021 (Figure 1b). Cooperatives dependent on gas or district heating experienced only slight increases in their expenditures.

[1]. Post-state collective farming cooperatives—cooperatives are a remnant of the PGR (State Agricultural Farms) that existed in Poland until the economic transformation in the first half of the 1990s.

Figure 1. Energy sources in rural housing cooperatives



Source: own elaboration based on administrative data on housing cooperatives.

3. Methodology

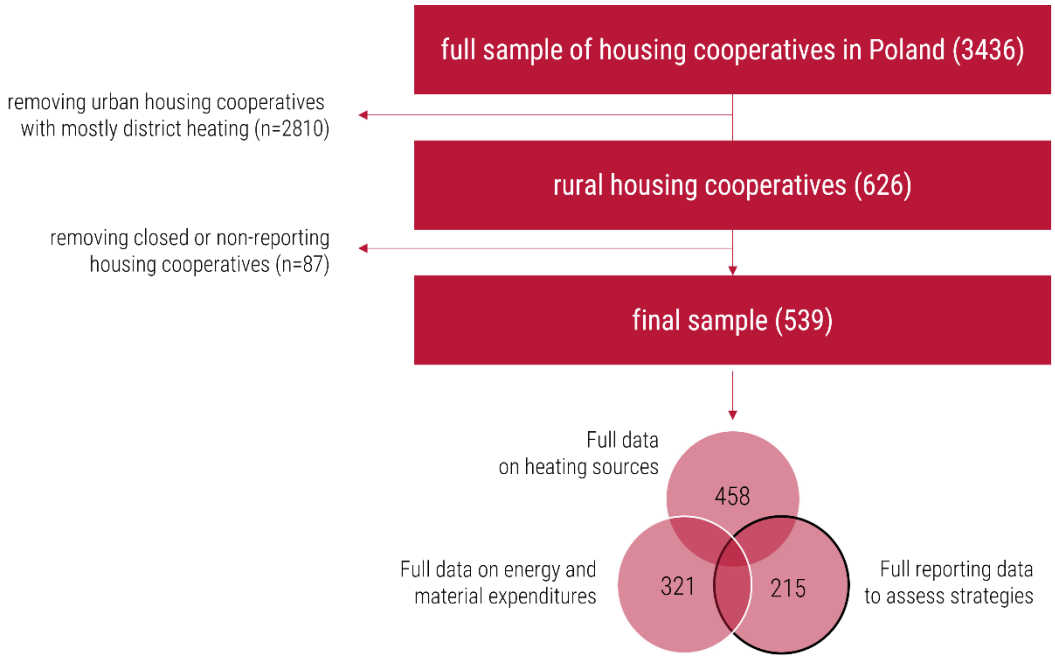
Our paper integrated two well-established frameworks based on Kenneth Burke's dramatism and Erving Goffman's dramaturgical sociology to analyse the strategies and attitudes of housing cooperatives. These frameworks complement each other and provide valuable insights for studying organisations, particularly during the time of crisis (Manning, 2008). Burke's dramatic pentad helps uncover and arrange any narrative's core architecture. The five elements – agent, act, scene, purpose and agency serve as categories to structure and analyse the content of annual reports. In our analysis, the cooperative annual report can be understood as a detailed summary that addresses unexpected events (scene) carried out by agents whose leadership and survival efforts (purpose) are crucial, along with their mitigation activities (agency), culminating in a closing speech that requests discharge for the subsequent year (applause, which is necessary for the next act). In the previous studies, Burke's pentad has been successfully adapted to analyse presidential speeches (Birdsell, 1987; Dunn, 2018) and environmental corporate reports (Solomon et al., 2013; Bąk and Strojek-Filus, 2023), particularly in capturing strategies to address financial, health (Mroz et al., 2021), insecurity (Zurutuza-Muñoz, 2014) or climate crisis. Similarly, we found it relevant to examine the responses to fuel shortages and skyrocketing energy prices. Next, Goffman's impression management framework enriched this analysis of annual reports by focusing on the dramaturgical aspects of the performance itself (Dunne et al., 2021). This framework shifts the emphasis to the aesthetic elements of the performance – specifically, the techniques used by the reporter to shape their image and influence how they are perceived and assessed by the audience (Schmidt and Deppermann, 2023). Goffman's dramaturgical perspective and impression management framework thus support the application of discourse analysis elements, such as language, rhetoric, and framing, to describe and evaluate how institutional representatives present themselves in specific social contexts. While this approach has traditionally been applied to corporate reports, we also found it well-suited to housing cooperatives, which are also expected to achieve economically driven goals. Therefore, both approaches can provide a solid interpretation framework for analysing what happened in housing cooperatives and how they responded to the crisis.

Our study is based on a unique dataset of housing cooperatives in Poland comprising information from over 3,400 annual financial and technical reports. These reports include quantitative data and cooperative management narratives, summarising the activities throughout the year[2]. The format of economic and technical reports varies according to established accountancy and managerial practices and routines. In the first type, the cooperative submits simplified reporting, which includes only accounting tables or standard generic information about the previous year. In the second type, housing cooperative boards report official and factual information without a specific narrative. In the third, most popular and extensive type, the cooperatives submit technical reports from board activities with narratives intended for internal communication and future controllers from cooperative audit unions. Therefore, the length and elements of annual technical reports vary significantly between types of cooperatives. Professional reports prepared by medium-sized housing cooperative boards often include visual elements like figures and tables. Conversely, small and micro cooperatives mostly use short, brief, and dense narration. Despite these differences, a common structure can be observed. It has a theatrical beginning, development (usually revealing behind-the-scenes details), and a predictable conclusion, typically requesting residents (the audience) to accept it. As Dunne et al. note, this format is also shaped by the need to maintain legitimacy, which "secures acceptance of controversial changes and manipulates perceptions of corporate achievement" (Dunne et al., 2021). The financial and energy crisis disrupted routine operations, forcing housing cooperative managers to act as standard procedures could have jeopardised their reputation, image, and legitimacy. In that way, we claim that unexpected events made these reports a rich and interesting data source for organisational ethnography exploration.

Our final sample consisted of rural housing cooperatives that provided reliable reports for analysing narratives. We initially analysed a total sample of rural housing cooperatives in Poland (Figure 2). After excluding those already closed or without the report from 2022, we obtained 539 records. Among these, some cooperatives provided data on heating sources or energy expenditures but lacked narrative parts. Finally, we thoroughly analysed the 215 reports, carefully reading and classifying narratives relevant to the energy issues according to Burke's pentad to find the most common denominators or typical imaginaries. The five elements – agent, act, scene, purpose and agency serve as categories to structure and analyse the content of annual reports. This also allowed us to reconstruct the scene and other pentad settings.

[2] Each housing cooperative board must submit reports to the National Registry Court; in terms of the smaller, the shorter list of documents is required. There is a lot of effort to find these publicly available data; more convenient access to them is behind a paywall or restricted. Moreover, they are not indexed in web browsers, and some are still prepared by hand or on a typewriter.

Figure 2. Selection of housing cooperatives to the study



Source: own elaboration based on administrative data.

Next, we applied the impression management framework to a final sample of cooperative reports focusing on the dramaturgical aspects of the performance. The impression management framework allowed us to recognise the cooperative strategies. We used the typology eighteen impression management strategies after Dunne et al., 2021 (Appendix 1) to assess the dominant attitudes based on the energy-related content in the annual reports, which helped us to uncover each housing cooperative's preferred communication style. Faced with a task heavily influenced by the researcher's subjective judgment, we prepared a specific Chat GPT-4 prompt using embedded large language models to classify the annual technical reports' three most probable, pre-defined, hierarchically ordered narratives[3]. Then, the classification was confronted with notes on a personal interpretation of the strategy by the two research team members. Relevant text data about the energy crisis were stored and assigned to cross-reference narrative declarations for future study replication.

4. Results

In Section 4.1, we discussed how cooperative members framed the year 2022, set the scene, and articulated the purpose behind their actions. We also identified the main actors and their activities, paying particular attention to these activities as we considered them to be the unexplored aspect of dealing with the energy crisis. In Section 4.2, we emphasised impression management strategies.

4.1. Socially-constructed crisis year by housing cooperatives

Scene

The scene was set in the energy crisis of 2022, which was especially harsh for housing cooperatives. The energy crisis manifested very acutely in Poland due to the full-scale Russian military aggression on Ukraine (February

[3] The command is available in the Appendix 1 as well as the graph presenting most popular impression management strategies and connections between them.

2022). It led to an embargo on Russian coal in April 2022, raising energy prices and creating fuel shortages (Appendix 2, Figure A2.1). Rural housing cooperatives presented the energy crisis as an enormous challenge they faced: *'external conditions beyond the cooperative's control*, such as *'the drastic increase in fuel prices'*, *'the rampant increase in inflation'*, in the face of which *'the management had to face many challenges'*. Additionally, cooperatives highlighted the impact of the COVID-19 pandemic on their activities, which led to decision-making difficulties, remote meetings and the board's work, despite almost two years since the pandemic's start. Therefore, the scene for housing cooperatives is set as a constant struggle with unusual conditions.

Act

The occurrence of successive crises met a strong public intervention response. In 2021, the Polish government removed the excise duty on electricity for households and transport fuels and reduced VAT for natural gas, district heating, and electricity. A relief allowance (85–310 EUR) was also offered based on the number of household inhabitants and their heating source. However, these solutions collectively called the anti-inflation shield, rewarded high-income households the most due to their higher consumption and neglecting distributional effects (Sokołowski et al., 2021). After the coal embargo, which led to prices skyrocketing due to the high demand, the government offered coal allowance (660 EUR per household) and support for other individual heating sources such as biomass, gas, and oil. However, cooperatives were excluded from state support, as they were only available to individual consumers. Only cooperatives using heating from the district network or natural gas kept the prices stable. In contrast, for those using coal, biomass, and oil, the new realities resulted in the inability to purchase sufficient fuel to heat their buildings within standard budget constraints and higher service fees. According to cooperative boards, they *'closed off the real possibility of support from the state'* and *'cooperatives could not purchase fuel at regulated prices, and fuel shortages caused significant psychological strain, as well as reluctance to continue operations'*. In this act, the role of cooperatives as heating providers became more critical than ever.

Purpose

The official purpose of the housing cooperatives is to satisfy their members' residential housing needs. Most cooperatives indicated the purpose of their activities as '*serving the residents and meeting their expectations in the field of housing'*. The other mentioned their purposes *'to improve the quality of the services provided, the living conditions, the aesthetics of the housing estate*', '*to maintain the state of the assets and perform economic tasks'*, and *'to invest prudently in the infrastructure, securing the stability of the operation'*. All of these framings are primarily managerial. A small number of entities declare their identity with the cooperative movement, putting a stronger accent on the commanding role of the cooperative members, indicating among the tasks *'acting for the benefit of the residents'* or *'the common good of the cooperative'* as a whole. Based on this, setting long-term purposes in cooperatives is rare, and most of the energy renovation initiatives are planned on a short-term horizon.

Agency

Faced with rising fuel costs, the most common cooperative response was simple and reactive: increasing housing service fees. Other reactive strategies included cancelling planned investments, drawing from renovation funds, and taking short-term liabilities. In the most challenging situations, cooperatives decided to disconnect delivering hot water during the summer or resign from common heating, which made each resident responsible for heating their apartment.

Table 1. Most commonly undertaken activities by housing cooperatives

Attitudes	Activities	Description
Reactive	Increase in service fees	Increases in heating fees, maintenance fund contributions, or rent
	Suspension of investments	Limitation of long-term and current renovation plans, cancellation of certain investments
	Depletion of resources	Utilisation of resource reserves, reallocation of funds from maintenance reserves
	Getting into debts	Failure to regulate current liabilities, counting on better economic conditions
	Cooperative closure	Discontinuation of heating or hot water provision, conversion or transformation of housing cooperative into association
Proactive	Increase energy efficiency	Reduction of consumption through repairs and maintenance in boiler rooms or changes in fuel types
	Negotiations on the energy market	Negotiations with various suppliers, i.e. direct coal procurement from mines, taking advantage of shield state support (energy price freezes), tariff switching
	Own work	The utilisation of internal resources (e.g., community work of the board members), performing own repairs
	Energy transition	Replacing, supplementing heating source or fuel stacking
Collective	Expecting solidarity	Expectation of targeted heating contributions from residents, funded by government allocations
	Mobilising and educating residents	Meetings with residents, appeals for energy conservation, information on entitled rights (e.g., housing allowances), and education on the necessity of regular payments
	Seeking external help	Poszukiwanie funduszy i dotacji od innych podmiotów oraz apele posłów/senatorów o rozwiązanie problematycznej sytuacji

Source: own elaboration based on registry data. The higher the row with activity within a particular attitude, the more popular the activities are undertaken.

Among proactive attitudes, housing cooperatives increased energy efficiency and supplemented fuel supplies with cheaper alternatives. Cooperatives adapted stoves to accommodate wood instead of coal or started an unused stove designed for a different fuel type. Another proactive attitude involved negotiating with energy companies or coal mines. Many cooperatives also engaged in extensive paperwork, sending official requests to gas suppliers or governmental bodies to secure more favourable tariffs. In some cases, these efforts resulted in lower energy prices, helping to avoid drastic expenditure increases (Table 1). Finally, some cooperatives accelerated their transition to cleaner energy sources, though these efforts originally stemmed from pre-crisis plans with motivations other than high coal prices.

The most popular collective effort of cooperatives was expecting solidarity and coordinating the acquisition of coal allowances. The coal allowance (660 EUR) was a one-time cash compensation for high coal prices from the government. Apart from collecting these allowances, cooperatives mostly encouraged residents to apply and transfer these benefits to the cooperative account to cover collective purchases. In other cases, they asked residents to buy fuel and pass it to the cooperative. For that purpose, most cooperatives actively intermediated between residents and state benefit distributors. Another form of collaborative activity involved mobilising and educating residents about energy savings. These efforts included announcements on staircases, appeals and

discussions during meetings, often framed around the idea of the common good. These two internally focused activities were more popular than seeking external help from other actors.

Actors

As an operational body, the housing cooperative board, as the report author, functioned as a critical actor. The supervisory board was often mentioned as an important partner supporting decision-making. Other actors seem omitted in annual reports as the reporting institution focuses on their performance. Among rarely mentioned actors by cooperatives, it is worth mentioning energy suppliers, local government representatives (such as mayors, municipal officials, and village heads), and, less frequently, central government bodies (such as institutions responsible for reacting to energy crises or in charge of post-state collective farming resources), regional financial scheme operators, cooperative banks as well as local social welfare centres, providing coal benefits. Housing cooperatives also mentioned lawyers and bailiffs for residents' debts.

4.2. Impression management strategies

The energy crisis led four out of five housing cooperatives to adopt defensive impression management strategies**.** These cooperatives reported significantly higher energy and material cost increases than those that relied on an assertive strategy. Bigger rural cooperatives found it easier to adopt assertive strategies, likely due to greater financial and staffing resources, proximity to large urban centres, and, in some cases, more efficient heating solutions (e.g., access to district heating network or gas, supported by government anti-inflation shield). In the 215 cooperatives studied, we identified 16 different dominant strategies.[4] Due to the similarities between these strategies, we categorised them based on the dominant strategy[5] (frequency of occurrence), character and type (assertive/defensive), merging them into three more extensive categories: crisis attribution, resourceful management, and deliberate silence, covering almost 96% of the cases (Table 2).

Table 2. The most popular approach and strategies of impression management

Approach	Type	Strategy	Percentage
Crisis attribution	Defensive	External attribution	35%
		Justification	31%
Resourceful management	Assertive	Self-promotion	10%
		Exemplification	7%
		Enhancement	1%
Deliberate silence	Defensive	Selectivity	7%
		Omission	3%
		Concealment	2%
Other	Mixed	performance comparisons, internal attribution, ingratiation, restitution, supplication, organisational handicapping, apologies [6]	4%

Source: own elaboration based on housing cooperative reports.

[4] Neither "disassociation" nor "denial" strategies were observed, suggesting that cooperatives acted as rational entities and did not deny the challenging circumstances they faced. The definitions borrowed from Dunne et al. (2021) are provided in Appendix 1.

[5] As a classification based on the only dominant strategy can be somewhat misleading, we asked artificial intelligence to distinguish the three most probable attitudes in the case of each cooperative and connect them on a network graph (Appendix 1.2). Of the 816 possible combinations of the three dominant strategies employed by cooperatives, 104 combinations were observed, representing just under 13% of all available options. The most common combination was external attribution/justification/selectivity (18%).

[6] From the most to the least popular. Definitions of the strategies after Dunne (2021) were described in Appendix 1.

Approach 1: CRISIS ATTRIBUTION (66%)

Applying the crisis attribution approach, cooperative boards perceived the energy crisis as an emergency—an unpredictable event beyond their control. Therefore, they primarily employed two defensive strategies within this approach: justification and external attribution. These two strategies were dominant in two-thirds of cooperatives. They stemmed from the need to justify and defend their actions, which were taken under exceptional and external circumstances beyond their influence. Cooperatives tried to justify and explain the effects of the energy crisis and their narratives through visual means. They emphasised costs, bolded key figures showing heat and electricity consumption, and presented tables detailing monthly purchases of coal, wood, and other raw materials. Occasionally, cooperatives used additional documents, quotes from other individuals, reports, and photographs. The rent arrears emerged as a significant issue, with non-paying tenants often being portrayed as 'black sheeps' who could not be easily dealt with (e.g., in situations where the municipality had no public housing available). Other examples of external attribution included cases where inhabitants of some buildings opted out of housing cooperatives to form independent housing associations, putting the rest of the cooperative in a challenging financial situation.

Approach 2: RESOURCEFUL MANAGEMENT (18%)

The second approach, named resourceful management, encompassed assertive strategies such as self-promotion, exemplification, and enhancement. Housing cooperatives representing this approach were eager to highlight their achievements in securing savings and maintaining financial liquidity during the crisis. These narratives often included reaching goals despite unfavourable conditions and attributing success to the management's sound decisions, resourcefulness and professionalism. In this context, cooperative boards positioned themselves as entities in control—competent, constructive, and able to keep maintenance fees relatively stable despite global market disturbances. By presenting themselves this way, cooperatives expected approval for their proactive measures (such as negotiating with companies, conserving energy, or sourcing cheaper fuel) or earlier decisions (storing coal, conducting renovations), which enabled the cooperative to survive and remain self-sufficient. The exemplification strategies included formal statements underscoring legal compliance and commitment to cooperative mission, such as corporate language such as *"we operate efficiently and by the highest standards"*. Housing cooperatives using these strategies also expressed openness to suggestions and proposals from residents and fulfilling duties in compliance with legal requirements. The effectiveness of these efforts was usually supported by citing financial results, the level of fees, or the number of resolutions passed, all of which demonstrated that the cooperative was functioning diligently and responsibly, serving as evidence of a well-managed institution. The approach containing self-promotion, exemplification, and enhancement was dominant in 18% of cases.

Approach 3: DELIBERATE SILENCE (12%)

The third most popular approach was deliberate silence, covering selectivity, omission or concealment. Housing cooperatives using these strategies avoided commenting on rising energy costs despite addressing other issues or mentioning crisis-related topics. Instead, they tended to focus on routine aspects of the cooperative's operations or highlight positive elements, even when facing adverse financial outcomes. Selectivity in reporting did not extend to discussing potential causes of such situations or any corrective measures taken. Through omission or concealment, housing cooperatives aimed to secure the supervisory board's and residents' support without tough, direct questions or gloss over the issue entirely. As a dominant strategy, selectivity, omission, or concealment appeared in 12% of cases. However, this approach may be more widespread, as some housing

cooperatives entirely omit to discuss[7] such matters in their annual statements despite significant increases in energy expenditures visible in profit and loss accounts between 2021 and 2022 (Section 2., Figure 1b).

5. Discussion: Managing energy as a common good during the energy crisis: a cooperative approach

Housing cooperatives emerge as routine and solo actors, often forced to perform beyond their skills and the capacities of the local stage, in light of our research findings and the reporting theatre metaphor. Cooperative actors perform primarily for social recognition rather than compensation; thus, there is no pressure to act except for the responsibility towards the fate of the local community. Consequently, by appealing to values such as economic efficiency embedded in the definition of a housing cooperative's operation, the cooperative boards balance between explaining themselves, taking action, and avoiding topics that could provoke controversy. According to the other typology, we can conclude that the approach they adopted most closely aligns with the 'our hands were tied' and 'our intentions were good' strategies (Dunne et al., 2021). The larger the cooperative, the more professional the actor becomes, leading to more polished reporting performances and a broader repertoire of possible actions. Therefore, it is especially important to applaud the efforts of those cooperative boards who improvised and demonstrated creativity and engagement despite limited resources, as well as the cooperative members who prioritised solidarity and common interest over short-term individual profits.

Our results indicated that involving residents in decision-making is critical to enhancing collective solutions. In light of the weak external networks, housing cooperative boards based on existing resources and organised special information meetings during the crisis or encouraged residents to apply for allowances. This was more likely driven by the need to fix a flawed top-down legal solution and gain support for the housing cooperative board decisions rather than a desire for joint reflection on solving housing issues. However, participation and responsibility beyond the statutory requirements of the institution were considered necessary. Still, the idea of cooperativeness and self-identification among residents as cooperative members seems somewhat symbolic.

Conversely, our results also highlighted that leadership deficits and passive attitudes could lead to extreme situations, such as suspending hot water delivery, forcing individual heating in each apartment, or drastic price increases, potentially forcing residents to move out. Unexpectedly, this energy crisis mostly concerned coal, traditionally perceived as the most accessible energy carrier and a 'bedrock of national development' (Kuchler and Bridge, 2018), proving that sudden disruption in supply chains combined with faulty redistribution patterns can weaken institutions and household budgets. However, we did not find evidence that the crisis accelerated the transition towards modern and clean energy technologies – we instead observed fuel stacking strategies, also visible in other European countries during the crisis (Saffari et al., 2013; Stojilovska et al., 2023) and among individual households in Poland feared of dependence from gas (Frankowski and Herrero, 2021), which, paradoxically turned out to be accessible fuel during the crisis in 2022.

The crisis also revealed the misrecognition of the rural housing cooperative situation in Poland. Unfortunately, the state shifted responsibility for crisis management onto rural cooperatives and residents, as it had done during past crises: the collapse of state collective farming in the 1990s, high unemployment at the turn of the century, and massive migration in the 2000s. These crises depleted many younger people who could have taken the leadership there. Regarding the energy crisis, our critique focuses on the state and cooperative union institutions – rural housing cooperatives as intermediaries between individuals and the macro-level, also require their spokesman. For example, the National Support Centre for Agriculture should react faster to resolve

[7] Two first types of cooperatives described in Section 3.

ownership issues regarding non-residential assets and network cooperative boards with local energy investors such as biogas power plant owners. Similarly, the Polish Revisory Union for Rural Cooperatives should sufficiently inform about its tangible activities and initiatives. These institutions should act as advocates for the interests of rural housing cooperatives during the conversations with ministries, regulatory office, and energy companies, considering energy issues as one of their key areas of interest. Finally, various social and ecological organisations should focus more on solutions related to heating in rural multi-family buildings rather than on establishing cooperatives producing electricity, as such action will better serve long-term socio-environmental goals, such as simultaneously addressing poverty and air pollution. Therefore, we call for louder advocacy, targeted financial and advisory support, and better recognition of rural cooperatives as heating communities and intermediaries crucial for ensuring local energy security.

6. Conclusions

The study examined how rural housing cooperatives in Poland responded to the energy crisis of 2022. This crisis caused a sharp increase in energy prices and significant fuel shortages, particularly affecting cooperatives reliant on coal for heating. Using dramaturgical sociology frameworks, we analysed these cooperatives' strategies to respond to the crisis and manage their image. Based on an analysis of 215 annual reports, we explored how cooperatives framed their efforts to cope with the energy challenges while maintaining their role as intermediaries and providers of essential heating services.

Our findings indicate that most cooperatives adopted defensive strategies to justify their actions. These strategies, including crisis attribution and deliberative silence, allowed them to shift the narrative to external factors beyond their control, such as rising coal prices and inflation. Meanwhile, fewer cooperatives showcased proactive efforts, employing resourceful management strategies and activities, including negotiating better energy rates and implementing energy-saving measures. These cooperatives demonstrated resilience and creativity despite their limited resources. Our study also highlights the crucial role that housing cooperatives play in ensuring heating for rural communities. However, the strain of the crisis exposed the limitations of smaller cooperatives, many of which lacked the financial and organisational capacity to fully adapt to the challenges posed by the energy crisis.

Several limitations affected our paper, but we employed various strategies to address them. First, the variability and quality of the data were a challenge, as the length and structure of the reports analysed varied significantly. Some cooperatives provided detailed narratives, while others offered only minimal information. To address this, we selected those with the most informative reports and applied qualitative analysis techniques to extract key themes. Second, the subjectivity in interpreting qualitative data was mitigated by employing AI tools to classify the strategies used by cooperatives. Although these measures reduced bias, complete objectivity remains a challenge. Third, while the sample size of 215 cooperatives was substantial, it still limited the scope of the analysis. We focused on this smaller sample to ensure data reliability. Lastly, using automated tools like ChatGPT-4 helped us standardise our analysis, but these tools are not without limitations, particularly in capturing local context in reporting. To address this limitation, we share on request a database of the analysed report's text with cooperative strategies and attitudes to reproduce or further develop the study in the future.

We identified several avenues for future research. First, understanding the preferences of multi-family building residents regarding energy transitions and their inclination toward cooperativeness requires more attention. Investigating how residents' attitudes towards energy efficiency, renewable energy sources, and collective action evolve in response to changing prices can illustrate the potential for enhancing cooperative resilience. This research could examine what motivates or hinders common energy initiatives and how cooperative identity influences energy-related decision-making processes within communities. Second, the fair distribution of the

costs and benefits of energy transitions in housing entities deserves more attention. Quantitative models could examine this issue to identify equitable mechanisms for sharing the financial burden and rewards associated with transitioning to sustainable energy sources. Such models could help design strategies that balance individual and collective interests, ensuring that all cooperative members—regardless of their financial capacity—benefit from energy-saving measures and renewable energy investments while minimising disparities within the cooperative community. Third, fieldwork verification of internal housing cooperative decision-making mechanisms is needed to complement the organisational ethnography that reviews cooperative reports, as the approach in this paper reveals only the 'official' and unilateral version of the story. Therefore, we argue for more ethnographic on-site research in housing entities experiencing energy transition or coal lock-in to fully understand their strategies and attitudes.

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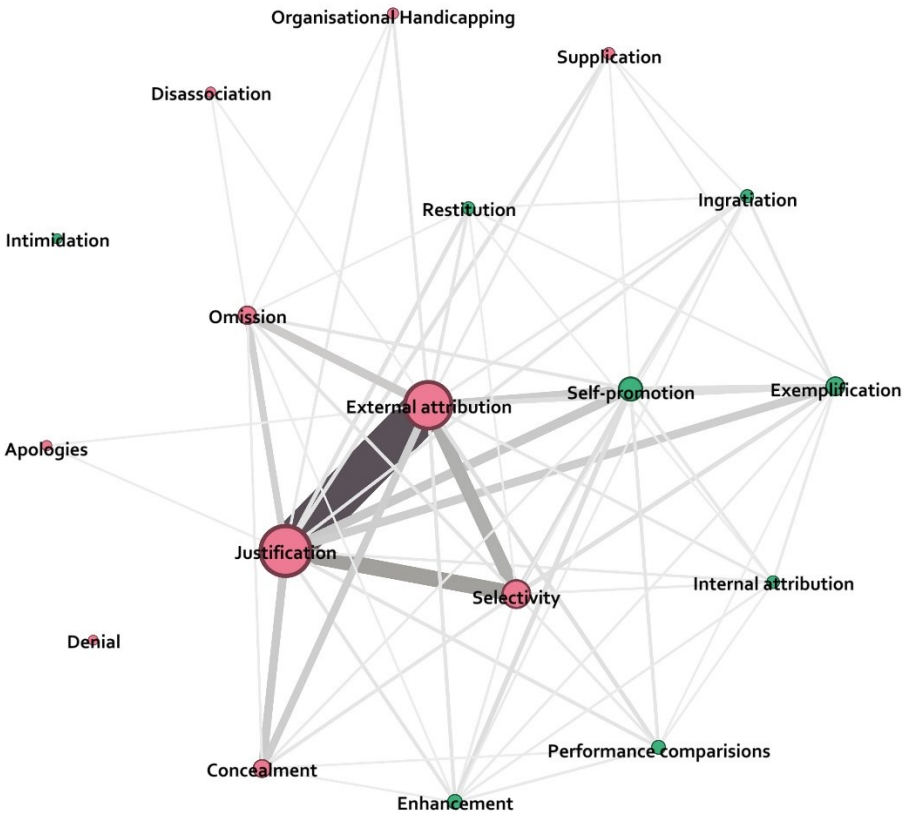
Appendix 1 – Impression Management Strategies

A1.1 Chatbot GPT-4 Prompt

We have 18 types of strategies of impression management strategies: apologies [An organization accepts responsibility for a negative event and expresses remorse], concealment [An organization downplays transgressions by giving them less prominence], denial [An organization denies its role in a negative event], disassociation [An organization distances itself from a negative event], Enhancement [An organization accentuates the desirability of a positive event for which it was at least partially responsible], Exemplification [An organization projects an image of integrity, social responsibility or moral worthiness], External attribution [An organization attributes negative outcomes to external events or chance factors], Ingratiation [An organization flatters an audience or expresses similar beliefs and attitudes to the audience], Internal attribution [An organization attributes positive events to its own actions], Intimidation [An organization emphasizes its power, dominance, and willingness to hurt those that oppose it], Justification [An organization describes an external cause for its action], Omission [An organization withholds negative information from an audience], Organizational handicapping [An organization presents a task as being so difficult to complete, that it should be excused for not completing it], Performance comparisons [An organization attempts to portray strong performance using low prior-period benchmarks], Restitution [An organization offers compensation to victims of a negative event], Selectivity [An organization highlights facts that portray it in the best possible light], Self-promotion [An organization promotes its competence, talents and capabilities], Supplication [An organization attempts to appear weak and in need of assistance]. Please classify the dominant three types of strategies in the current text (from the most to the least probable) and provide reasoning.

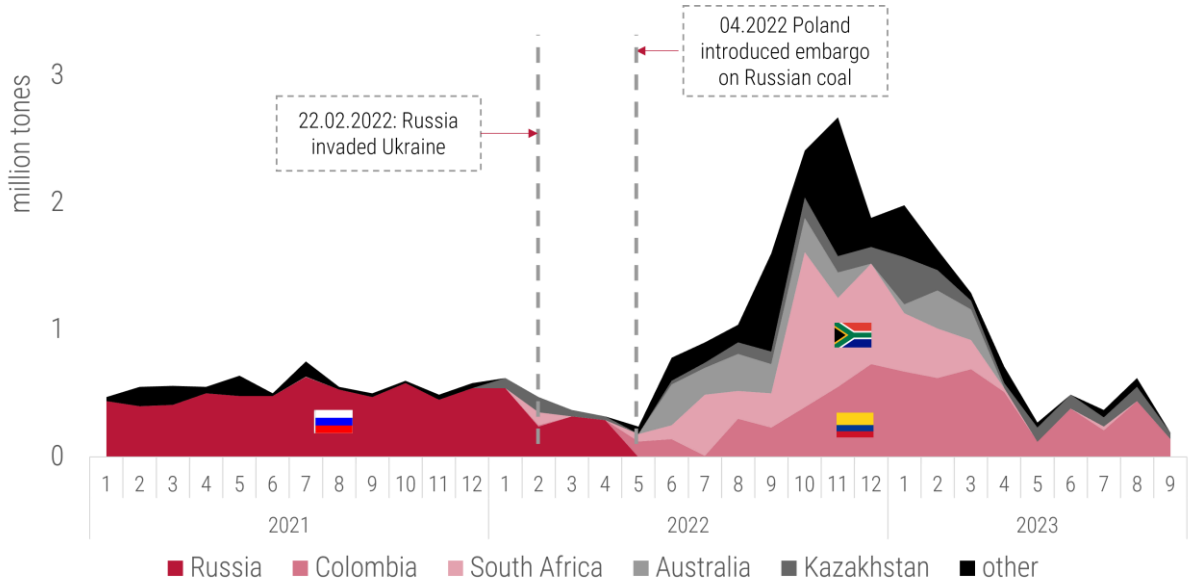
A1.2 The most popular impression management strategies and their most popular connections



Note: red colour: defensive strategy; green colour: assertive strategy. The node size of the strategy is the frequency of the strategy as a dominant one. The edge size is a frequency of co-occurrence within the three most accurate strategies. Source: own elaboration based on registry data.

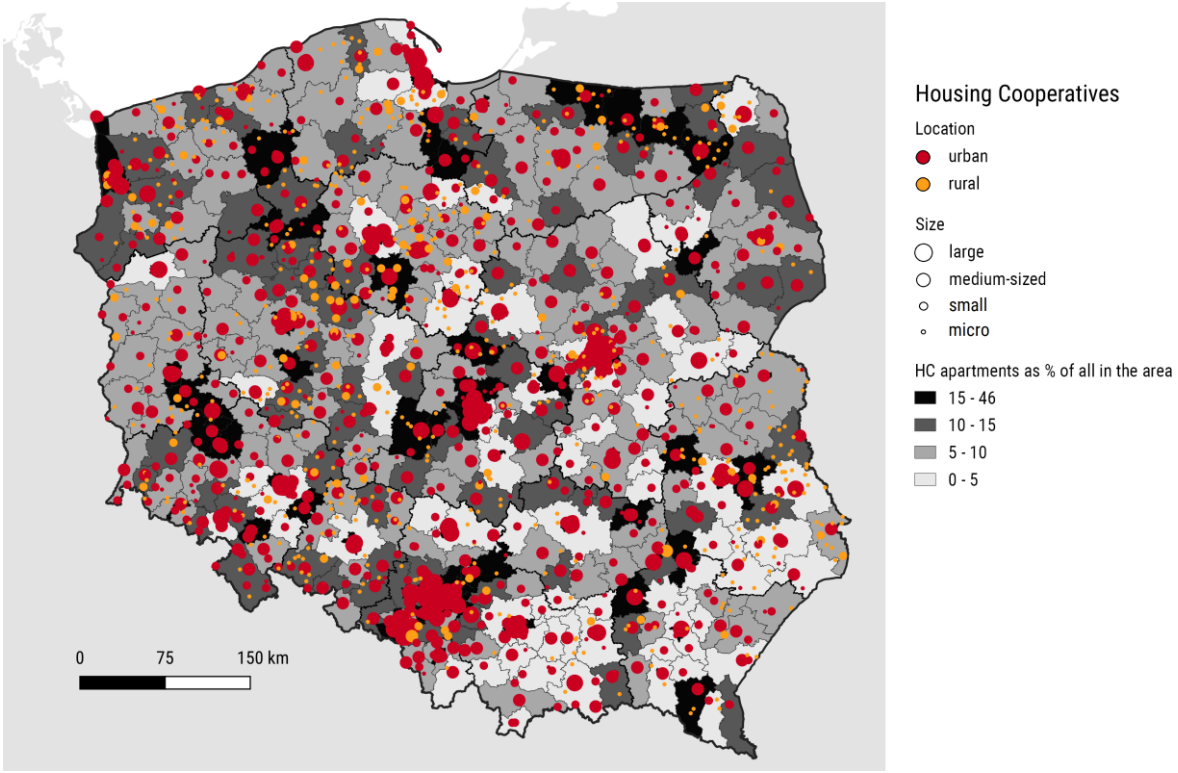
Appendix 2 – Selected statistics on the energy crisis and housing cooperatives in Poland

A2.1 Import of coal to Poland, 2021-2023



Source: own elaboration based on energy.instrat.pl

A2.2 Spatial distribution of housing cooperatives in Poland



Source: own elaboration based on administrative data (Rejestr.io) and Czech Statistical Office.

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