

Research Paper

Energy citizenship at a turning point? The power of prosumers in Hungary

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ARTICLE INFO

Keywords:

Energy transition
Energy citizenship
Solar PV
Prosumer

ABSTRACT

Energy citizens have a key role to play in the participatory energy transition. As decentralized, household-scale renewable energy production systems spread, the number of prosumers is growing and may reach a critical mass capable of pressuring decision-makers and shaping energy policy. In our study, we present an illustrative, empirical, and single case study of a unique energy citizenship action in Hungary in 2023. The subject of the analysis is a policy decision intended to change the compensation mechanism for households with solar PV systems, which was later revised as a result of widespread outrage. In presenting this energy citizenship phenomenon, we describe how we conducted discourse analysis, complemented by semi-structured in-depth interviews, identifying five discourse coalitions and six actors. We conclude that this empirical case can be interpreted as an important milestone regarding how it strengthened and expanded energy citizenship in Hungary. However, it also appears to be a rather unique action with limited generalizability. Low institutional and interpersonal trust continues to hinder the emergence of energy citizenship. Our investigation also confirms that solar PV technology empowers prosumers and facilitates energy citizenship, regardless of the political system.

1. Introduction

Historically, all energy transitions have gone hand in hand with changes in economic and political structures that (re)organize public policy and socioeconomic power within the respective societies (Dunphy et al., 2025; Smil, 1994, 2018). The main trigger for this change has been technological progress, with society being the main beneficiary (Grubler, 1996; Fouquet, 2016). In the recent energy transition, this governance of technological diffusion increasingly extends to the household level, where new technologies are reshaping the boundaries between energy production and consumption (LaBelle et al., 2025). Households can use small-scale renewable energy systems to meet their energy needs and become prosumers.

Solar PV systems are the most common modern renewable energy technology in the household sector. According to IEA statistics, around 130 GW of PV systems were deployed globally by households in 2022, comprising approximately 25 million units (IEA Trends in PV Applications, 2021; IEA, 2022). One of their main advantages is the low installed cost, making them very competitive with other fossil-based technologies (IEA, 2024; IRENA, 2023). Their use also reduces dependence on energy imports, contributes to climate mitigation efforts, and protects consumers from energy price volatility. They meet the criteria

associated with overcoming the energy trilemma: energy security, environmental sustainability, and energy equity (World Energy, 2024).

These technologies are widely available, and their social acceptance is high (Marzouk et al., 2024). Households that use solar PV systems have been found to be more energy conscious than those that do not, and as prosumers, they tend to be more informed about energy issues and more supportive of environmental activities and movements; further, they are more likely to change and rationalize their patterns of energy use with the help of smart meters (Öhrlund et al., 2020). Both their social engagement in energy systems and their demand for participation in energy policymaking are growing (Szép, 2025a; Gonda, 2025), as manifested through energy citizenship action (EnergyProspects, 2020). As Szulecki writes, they are becoming “political agents in a changing environment” (Szulecki, 2018).

1.1. Research gap and research objectives

In Hungary, under Act No. LXXXVI of 2007 on Electricity (Act No, 2007) and 273/2007. (X. 19.) Government Decree (273/2007, 2007) adopted in 2007, households with solar PV systems can benefit from a very favorable compensation mechanism known as net metering. This refers to the yearly netting of electricity volumes fed into and withdrawn

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from the grid. For solar PV system owners (hereafter referred to as *prosumers*), this accounting process was guaranteed from the start of their installation. However, the revision of the compensation system was on the agenda (more details in (MEKH, 2022)) from 2019 due to changing EU regulations (European Parliament, 2025). The new framework, which brings an end to net metering, was announced by the Hungarian government on 26 August 2023, after which widespread resistance emerged (hereafter, we refer to this August 26 event as the *policy announcement*). The main problems were the lack of consultation and the method of communicating the change, and the fact that it would not only affect new prosumers. It represented a sudden shock that increased the visibility of Hungarian energy citizenship and led to action.

The main objective of this paper is to present and analyze the timeline of this energy citizenship initiative through a case study that reveals some of the different narratives and viewpoints. We present a discourse analysis that demonstrates how solar PV technology has empowered prosumers, facilitating energy citizenship and participation in Hungary. Through this analysis, we highlight what opportunities energy citizens have in an autocracy and show how a political decision became a political problem that contributed to the activation of energy citizenship.

This study examines the perspectives articulated in relation to this energy policy decision and announcement, focusing on the arguments that have been advanced and how key actors have framed the issue. We identify associated discourse coalitions, with a particular focus on three dimensions of participation: who participated, how, and the impact (based on Dunphy et al., 2025). The following questions were formulated to better specify these dimensions: 1) *Who* shaped the dominant discourse on the 26 August 2023 energy policy decision, and who defined its main themes and direction in the public debate on net metering and energy citizenship? 2) *How* did this discourse enable different actors, particularly energy citizens, to participate in the policy process and to resist or counteract potential abuses of power? 3) *What was the impact* of these discursive and participatory practices on the final outcome of the compensation scheme reform, and to what extent was the government influenced or constrained by them? These questions trace the main stages in the strengthening of energy citizenship and, through a concrete case, deepen our understanding of how energy citizens participate in the energy transition.

In this study, we make five novel empirical contributions. First, we offer a conceptual framework for linking energy citizenship to prosumers through household-scale solar PV systems, illustrated with a case study. This also provides answers to the question of *who* participated. Second, we systematically examine the public discourse about a seemingly ad hoc energy policy decision that put enough pressure on decision-makers to force them to change their decision. Indeed, we present *how* participation was achieved. The detailed examination of this very unique historical episode may lead to conclusions that are generalizable to other events in the future (Sovacool et al., 2018). Third, the analysis highlights the nature of the power behind decentralized energy systems and technology, *presenting the impact*. Fourth, we deliver a case study of active and collective energy citizenship aimed at influencing energy policy and investigate the desire to participate in energy policy decision-making, topics that are scarcely addressed in the literature. In the case study inventory collected by Energyprospects (EnergyProspects, 2020), almost 600 energy citizenship acts were identified in the European Union, of which only six were similar to our case. Fifth, we show that the theory of energy citizenship remains relevant even in political systems that differ from democratic ones.

2. Literature review

2.1. Energy citizens in the participatory energy transition

Energy policy is dominated by technocratic approaches and is

considered one of the most centralized and politicized areas of policy-making (Righettini and Vicentini, 2023). With regard to this technocratic decision-making, there is severe tension worldwide due to growing demand from citizens for more democratic decision-making, stronger cooperation, and transparency (Osicka et al., 2023). This stems from the recognition that the energy transition cannot be achieved by excluding stakeholders, citizens, and communities, and condemning them to a passive role. Petrichenko et al. claim that a people-centered energy transition is both a moral obligation and a political necessity (Petrichenko et al., 2022). Barnes distinguishes three main reasons for this: 1) the implementation of the energy transition will fundamentally change energy systems and collective practices of energy use, 2) the mode and scale of change must be based on social acceptance, and 3) there is a significant cost implication: willingness to pay is a key social issue (Barnes, 2019). Without a participatory energy transition, there is a risk of a lock-in effect, i.e., that existing power relations are perpetuated, 'cementing' all their positive and negative features (Wahlund and Palm, 2022).

Szulecki (Szulecki, 2018) and Busch et al (Busch et al., 2023). distinguish five main components of a participatory energy transition: 1) inclusiveness (consultations and public hearings at all levels of decision-making, creation of participatory or deliberative democracy), 2) publicity, transparency, and access to information, 3) increasing energy literacy and awareness, 4) public ownership, and 5) value creation through renewable energy infrastructure. Both top-down and bottom-up approaches play a role and ultimately increase the social acceptance of new energy systems and solutions (Shelton and Eakin, 2022).

Energy citizenship is at the heart of the participatory energy transition and is "*emerging as a political ideal*" (Pel et al., 2021). The concept goes beyond representative democracy (EnergyProspects Deliverable 3.5 - Part 1, 2024) by referring to an active, engaged, and empowered form of citizenship. It not only involves the roles that citizens can choose to play in the energy system, but also their rights and responsibilities (Dunphy et al., 2025). As a stakeholder in the energy system, the active energy citizen uses renewable energy sources in a pro-cyclical manner, supports local energy initiatives and energy communities, and participates in decision-making (Wahlund and Palm, 2022; Biresseolioglu et al., 2024a). The role of the energy citizen has evolved from a passive consumer to an active player and agent in the participatory energy transition. Such citizens are interested in new energy-related technologies, and they are energy literate (Dunphy et al., 2025; van Veelen and van der Horst, 2018). As a result, the social acceptance of the energy transition (e.g., in terms of costs and infrastructure) is increasing, and its benefits are spreading across social groups and areas. Previously marginalized social groups, NGOs, and local communities are becoming more active, bringing new ideas that support effective implementation (Wahlund and Palm, 2022). Prosumerism itself can be seen as a kind of social movement (Campos et al., 2023).

2.2. Energy citizenship and participation

Following the action-focused understanding of energy citizenship (Laakso et al., 2023), the participatory energy transition is based on individual energy citizenship actions, which, in our interpretation, are its smallest building blocks. These actions can vary widely, ranging from very simple individual initiatives (e.g. switching to a green electricity provider; saving energy through a deep renovation; adopting and interacting with household-scale renewable energy systems; or participation in energy communities or cooperatives) to more complex collective actions (e.g. working to enhance the acceptance and acceptability of the energy transition through promoting debate, campaigning, or launching initiatives – i.e., higher-level engagement in participatory energy policy processes) (EnergyProspects, 2020; Wahlund and Palm, 2022). An individual may participate in more than one form of action, and the more they participate, the more actively they engage in the energy transition. These actions can connect with and

reinforce one another, creating different forms and levels of energy citizenship (Biresseolioglu et al., 2024a). Beyond the strength and scope of the participation, other types of energy citizenship can be distinguished, including active or passive, individual or collective, and reformative or transformative, regarding the outcome orientation (Debourdeau et al., 2024).

This also means that energy citizenship should not be reduced to a single role or behavior. Rather, it refers to a broader set of practices through which citizens engage with energy-related technologies, institutions, markets, and political processes (Biresseolioglu et al., 2024b; Limbeek et al., 2025; Schmid et al., 2025). Renewable energy technologies are especially important in this respect because they provide individuals with concrete opportunities to participate in energy production, experience new governance models, and gradually become energy citizens (Biresseolioglu et al., 2024b). In this sense, participation is not only a political or institutional matter, but also a socio-technical process shaped by everyday interactions between individuals and technologies (Biresseolioglu et al., 2024b). At the same time, participation and energy citizenship should not be treated as identical concepts. Participation refers more specifically to the ways and channels through which citizens become involved, while energy citizenship captures the broader situation in which citizens recognize themselves and are recognized by others as active and legitimate actors in the energy system (Laakso et al., 2023; Limbeek et al., 2025).

2.3. Background to the study – Systemic barriers to participation in the strengthening of energy citizenship

Theories about the participatory energy transition generally hold that citizens become more active when they are effectively consulted and involved in policymaking through various channels. This principle originates from the Aarhus Convention (United Nations UNECE Convention on Access to Information, 1998), which establishes key rights of access to information, public participation in decision-making, and access to justice in environmental matters. However, despite introducing public participation, it primarily frames citizens as consultees within formal procedures rather than as active co-decision-makers or initiators, so it does not yet constitute a framework for genuinely active civic engagement.

The European Union complies with the Aarhus Convention through a number of regulations and directives (see more details in European Commission, 2025). In this context, the European Union is striving to create an Energy Union where citizens take ownership of the energy transition and actively participate in the market (European Commission COM, 2015). It is also promoting energy dialogue between stakeholders (including consumers) and recognizing the importance of prosumers, identifying their role in changing and decentralizing energy systems (European Economic and Social Committee, 2017). Further, it is encouraging consumers to take responsibility for a sustainable energy transition, to switch to renewable energy sources, take advantage of new technologies, and reduce their energy bills (Petrichenko et al., 2022). The importance of transparency is also confirmed by Regulation (EU) 2018/1999 (European Commission, 2024).

However, there are serious system-level barriers to participation in Hungary. The country can be characterized as having a rather passive society; citizens usually do not take the initiative. Social movements are rare; civil society has been systematically weakened since 2010. There are several reasons for this; we will highlight two. The first is the country's former socialist past, which has led to a weaker role for civil society organizations and citizenship than in the liberal democracies of Western Europe. The other is the political system in the period 2010–2026 and the activities of the Hungarian state, which defined itself as an 'illiberal democracy' that 'does not reject the fundamental principles of liberalism such as freedom [...], but it does not make this ideology the central element of state organisation, but instead includes a different, special, national approach' (Orbán, 2025). Indeed, the

consensus among the main think tanks is that Hungary was no longer a full democracy by the end of Viktor Orbán's tenure. According to the Democracy Index of the Economist Intelligence Unit, Hungary was a 'flawed democracy' (Economist Intelligence, 2025), Freedom House rated it as 'partly free' (Freedom House Freedom in the World, 2025, 2025), while the Varieties of Democracy project described it as a 'hybrid regime' (V-Dem Institute, 2025). The European Parliament also confirmed these assessments, stating that Hungary had become a hybrid regime – i.e., an 'electoral autocracy' (Delbos-Corfield, 2025). Way, in an article in Foreign Affairs, called Hungary a 'competitive authoritarian regime' (Way, 2023), Scheiring referred to it as an 'authoritarian accumulative state' (Scheiring, 2021), and Magyar (Magyar, 2016) simply identified it as a 'mafia state'.

Thus, several different terms and adjectives were used to describe the Hungarian political system, with a few (Orbán, 2025; Economist Intelligence, 2025) still presenting it as a special form of democracy. Kornai disputed this, arguing that democracy does not 'need adjectives' – if something is illiberal or flawed, then it cannot be a democracy (Kornai, 2016). He defined the former political and governmental regime as an 'autocracy' (a term we adopt and use throughout this article), as it exhibited the following characteristics: there were no fair elections, and although multiple parties and a legal parliamentary opposition existed, real political opposition was effectively constrained (Kornai, 2016). The secondary characteristics of autocracies include the weakening or elimination of the system of checks and balances and the filling of important positions of power and institutions with the incumbent's 'own people' (so-called state capture) (Enyedi and Mikola, 2024). Additional features included those identified in our study, i.e., the weakness and weakening of the civil sphere, the lack of social dialogue and consultation (meaningful participation), and the legal and economic restrictions on media freedom (the latter is also confirmed by our case study).

Sources (e.g. Gonda, 2025; Szabo et al., 2022) generally agreed that Hungary was rapidly moving towards an authoritarian system, although some elements of liberalism remained (Scheiring, 2021; Pogátsa, 2020). This period ended with the election of 12 April 2026, in which the Orbán government was voted out after 16 years in power, and the TISZA party secured a two-thirds majority. Nevertheless, there is a risk that the slowdown in the energy transition that developed over the preceding sixteen years will be difficult to reverse, and that accelerating the transition will require substantial policy and financial efforts. Based on the new government's programme and the discussions held so far, it is expected that European Union funding will play a significant role in supporting this process.

3. Methodology

We describe how a qualitative case study-based research design was structured around three research questions, combining document analysis with empirical data collection. The dataset consists of 75 media articles published between 26 August and 15 September 2023, complemented by an outlook to 2024 to account for changes in the compensation system, as well as ten semi-structured in-depth interviews conducted between March and May 2025 to capture actors' "experience, motivations, beliefs, understandings and meanings" (Sovacool et al., 2018). Data were analyzed using discourse analysis, following Bowen's four-step approach of identifying, selecting, understanding, and synthesizing textual material (Bowen, 2009). Fig. 1 illustrates this iterative research process, from data collection to analytical synthesis, as an integrated methodological framework. Below, we present the individual research steps and the related methodology in detail.

3.1. Dataset

The discourse analysis we describe here builds on news and articles published primarily on online news portals. These portals are important databases that offer many advantages, as they are published daily and

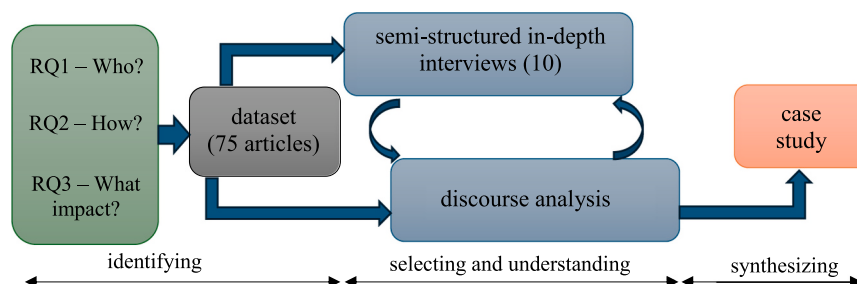


Fig. 1. Research design. Authors' compilation

represent diverse actors and opinions. Their revenue depends on the number of visitors, which encourages them to reveal and present conflicts and varying opinions about topics (Schneider and Rinscheid, 2024). Accordingly, they also allow a variety of actors and stakeholders to express their views, with the aim of influencing decision-making, making them a reliable source for systematic analysis.

Google Trends data (Fig. 2) confirmed our initial assumption that the policy announcement was a major event in the five-year study window and rapidly generated huge interest online (within a few days). The other peak(s) at the end of 2022 reflect the policy decision to suspend the feed-in opportunity for household-scale solar PV systems from 13 October 2022 onwards (reinstated after 1 January 2024).

The first step in the analysis was to identify the ten most visited Hungarian-language websites (Table 1), which in July 2023 were *Blikk*, *Index*, *Origo*, *Időkép*, *24*, *Telex*, *Femina*, *Borsonline*, *Kiskegyed*, and *Portfolio*. Of these, the news portals that might potentially publish articles on the topic under study (i.e., *Index*, *Origo*, *24*, *Telex*, and *Portfolio*) were selected. Using a keyword search based on the research questions ("HMKE¹" OR "solar panel" OR "gross metering" OR "net metering"), all articles were collected that were published between 26 August 2023 and 15 September 2023 (early results were published in (Szép, 2025b)). These were further supplemented with items from the written press using the *Arcanum* database and civil society organizations' media monitoring. After removing duplicates and irrelevant texts, a total of 75 articles related to the topic were identified (all listed in Annex 2). It should be noted here that *Origo*, a pro-government news portal, did not publish any news on the topic. As Bowen highlights, "the absence, sparseness, or incompleteness of documents should suggest something about the object of the investigation or the people involved" (Bowen, 2009). In this case, it confirms the distorted media environment in Hungary (Thousands Protest in Hungary, 2024).

3.2. Semi-structured in-depth interviews

After the first reading (aimed at revealing discursive patterns), we identified keywords and key statements regarding the changes to the compensation system made by relevant actors. We manually coded all of them. In particular, we coded the name of the actor who made the statement (individual or collective) and the preliminary storyline it conveyed.

Under 'actor', we mean individuals and representatives from a variety of public and private organizations actively engaged in the discussion (Munoz et al., 2014). Storylines describe different approaches to a problem. According to Hajer (Hajer, 1997), a storyline is a "generative sort of narrative" that provides "meaning to specific physical or social phenomena". Storylines "mainly [involve] the use and expression of language in a specific social context" (Fairclough 2013, cited by (Jiang and Raza, 2023)); in brief, they refer to the "way of talking" (Munoz et al., 2014). In our interpretation, storylines represent not only different

layers of reality, but also "contribute to constructing reality" (Munoz et al., 2014). They are not independent of historical experiences but reflect on them.

The key arguments used in the discourse about the policy announcement were inductively distilled (Markard et al., 2021). The principles of objectivity and sensitivity were pursued (Bowen, 2009). We aimed to focus on discursive approaches, controversies, and to review the different positions (steps 2 and 3 – selecting and understanding). Similar to Markard et al (Markard et al., 2021), we coded each storyline a maximum of once per actor per article to prevent any single actors or storylines from being overweighted. In the next stage, the recorded statements and preliminary storylines were grouped by narrative.

We identified six broad categories of actors: 1) *Civil society organizations*, including two associations (namely the Hungarian Photovoltaic and Solar Collector Association, and the MANAP Industry Association); 2) the *Energy Ministry*, which made the decision; 3) *Households with solar PV systems*, the parties directly concerned by the decision; 4) *Industry actors* (e.g. manufacturers, installers, and R&D companies) who must face the consequences of the change of the compensation mechanism directly on the solar PV market; 5) the *Hungarian Energy and Public Utility Regulatory Authority* that is responsible for conventional regulatory activities (such as tariff-setting, licensing, supervision, and statistical data collection) (Szabo et al., 2022); and 6) the *ruling political party* (Fig. 3). Some of these players act as a "collective energy citizen by contributing to change in the energy system" (Debourdeau et al., 2024).

To further verify these preliminary results, ten semi-structured in-depth interviews were conducted (at least one per actor) to collect qualitative data. This interview type blends pre-planned questions with conversational flexibility. The questions were organized around our initial findings with two aims: 1) validating our interpretations, and 2) identifying and adding any key storylines our initial analysis may have missed similarly to Munoz et al. (2014). Most interviewees were identified during steps 2 and 3, and the snowball method was used to find additional participants. Annex 3 includes the profiles of the interviewees. During the interview, we showed respondents the initial version of Table 2 and asked them to review all preliminary storylines. They could add their own thoughts and express their agreement or criticism. The goal was to filter out misconceptions and false statements and reveal which narrative they felt most closely aligned with. Then we asked specific questions (see Annex 1). These interviews provided a deeper understanding of stakeholders' experiences and motivations (Sovacool et al., 2018). At the end of the interviews, we gave them the opportunity to name 2–3 other actors with similar traits and provide their contact details. The interviews lasted 45 min to 1 h and were conducted online and/or in person in May and June 2025. Respondents were contacted via email.

3.3. Discourse analysis and case study compilation

Discourse analysis gained popularity in energy and environmental social science (e.g (Schneider and Rinscheid, 2024; Jiang and Raza,

¹ The Hungarian abbreviation for household-scale power plants.

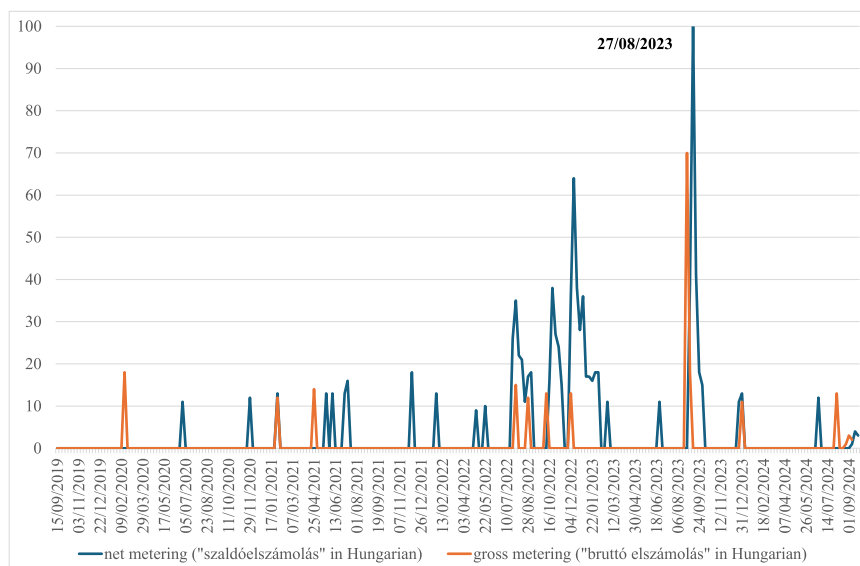


Fig. 2. Search results for the terms ‘net metering’ and ‘gross metering’ between 15.09.2019 and 15.09.2024. Google Trends

Table 1

The top 10 most visited internet sites in July 2023 in Hungary (average number of daily and monthly users, age group 16–75, domestic users).

Website	Average number of daily real users	Number of monthly real users
Blikk.hu	764,667	3501,932
Index.hu	725,751	3079,108
Origo.hu	672,746	3246,320
Idokep.hu	662,921	2581,824
24.hu	596,270	3127,048
Telex.hu	449,353	2472,208
Femina.hu	399,243	3004,852
Borsonline.hu	346,004	2488,392
Kiskegyed.hu	331,208	2210,612
Portfolio.hu	328,501	1854,156

Authors' compilation based on (NMHH, 2023)

2023; Munoz et al., 2014; Markard et al., 2021; Niskanen et al., 2024; Aunphattanasilp, 2019; Islar et al., 2017; Stock, 2021; Walker et al., 2019). due to Hajer's work (Hajer, 1993). It is based on the assumption that “political problems are socially constructed”, and whether a situation escalates into a political problem depends on “the narrative in which it is discussed” (Hajer, 1993). Discourse analysis aims to reveal these narratives and the links between power and the socially constructed regime of knowledge (Haider and Bawden, 2007). While knowledge underlies the system of control, power is productive and stimulates this control. The stake of discourse in political debate is to shape society's image of the world (Bourdieu, 1987). Discourse analysis helps us understand how the use of language and texts contributes to interpreting and shaping reality. It shows what is morally (un)acceptable to society, and reveals asymmetrical power relations as well (Stock, 2021).

Discourse analysis is constructed from storylines, discourse coalitions, and narratives. Discourses fill words with meaning and reveal how we see reality, which is determined by social and cultural background and context. During discourse, institutionalization discourse coalitions are formed by the actors around storylines (Castillo Jara and Bruns, 2022). In these coalitions, actors who shared the same opinion and key storylines were grouped together.

The last step was to finish the discourse analysis and summarize the results in a case study. These studies provide a distinct analytical framework and can be based on both quantitative and qualitative

research methods. As George and Bennet define it, a case study is a “detailed examination of an aspect of a historical episode to develop or test historical explanations that may be generalizable to other events” (cited in (Sovacool et al., 2018)). Our case study reveals the results, including the development of the solar market in Hungary, the regulatory environment, the timeline of decision-making, and the discourse analysis. It also provides a summary, identifies the limits, and suggests avenues for further research. Technically, after synthesizing (step 4) textual material from the articles and the semi-structured in-depth interviews, the final storylines and narratives were consolidated using the final coding scheme. The matrix with the three research questions, five different narratives, thirty-eight storylines, and six leading actors was also finalized to highlight the discourse coalitions and help draw conclusions (Table 2).

4. Results: A case study of prosumer power in a European autocracy

At the time of the policy announcement in 2023, total solar PV capacity was 5649 MW in Hungary, of which household-scale solar PV installed capacity was 2329 MW due to the very favorable compensation system until 2023 and the subsidies supporting installation (MEKH Hivatalos Statisztika, 2022). This figure is particularly noteworthy when we consider that total electricity generation capacity was around 13 GW in Hungary at that time (MEKH Hivatalos Statisztika, 2022). In 2023, natural persons owned 223,823 household-scale solar PV systems, with the remaining 32,648 owned by companies, institutions, and other non-natural persons. According to the 2022 census data, the number of occupied dwellings in Hungary was 4008,500, of which 5.6% were equipped with a household-scale solar PV system (Hungarian Central Statistical Office Census, 2022, 2023).

4.1. Changes in the compensation mechanism and the regulatory environment – timeline of decision-making

On 26 August 2023, the Minister of Energy announced changes to the solar accounting system in a video published on TikTok and YouTube. The essence was that existing contracts would be modified, with consumers being switched from annual to monthly net metering from 01 January 2024, and that new entrants would be able to opt only for gross metering. This latter means a separate metering and billing: the

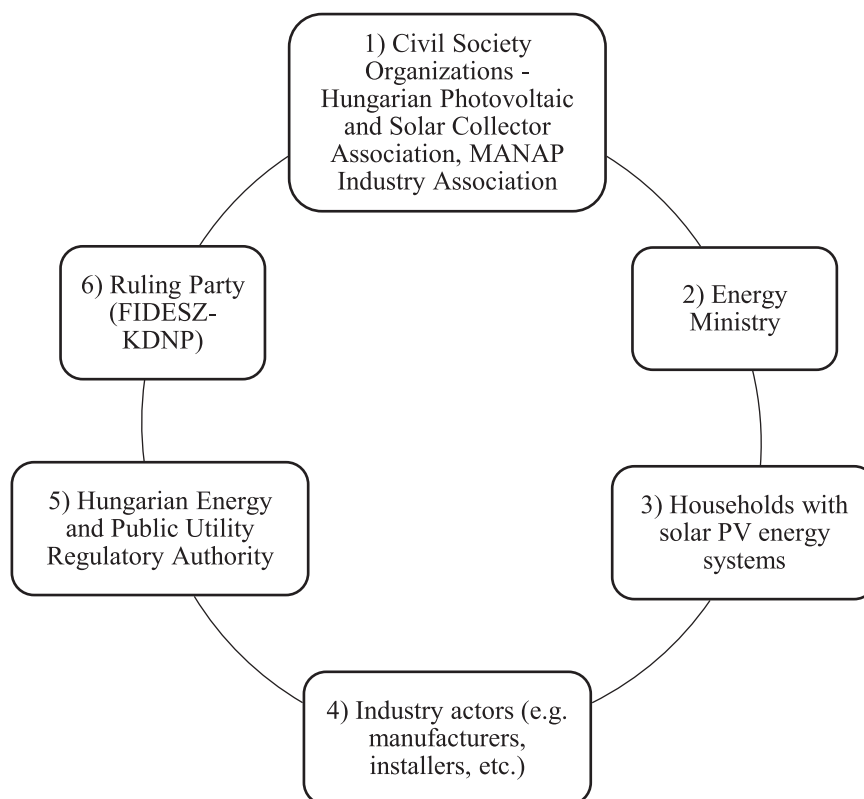


Fig. 3. Key actors.

Source: Authors' compilation

electricity withdrawn from the grid and electricity exported to the grid are measured and paid for separately (including grid fees), the latter at a selling price of 5 HUF/kWh $\sim$ 0.01 EUR/kWh (MVM MVM, 2024). This decision, not being preceded by consultation, came as a surprise to practically all actors in Hungary, given that, according to previous communication, annual net metering would remain valid for the entire lifetime of previously installed systems (20–25 years, but at least for 10).

Following this policy announcement, civil society organizations also made their views known. The Hungarian Photovoltaic and Solar Collector Association called the decision incorrect and unethical, while the MANAP Industry Association spoke of consumer deception. The social reaction was also very strong. On Facebook, solar groups began promoting a variety of initiatives, such as filing a class-action lawsuit, causing a blackout, and encouraging wastefulness, thereby reducing the electricity fed into the grid.

In a statement published on 29 August 2023, the Energy Ministry, which had been on the defensive, began to justify the change, saying it had to be made on the basis of EU regulations. The Ministry thus resorted to a well-established communication weapon in Hungary: blaming 'Brussels' for decisions that negatively affect Hungarian consumers, suggesting that the change was an EU requirement: "*Brussels expects the introduction [of gross metering and monthly net metering]*" (Iván-Nagy, 2025; Vitéz, 2025). However, several public and civil actors went into detail showing that the EU regulatory change (Directive (EU) 2019/944) only applied to new entrants and did not affect existing contracts: "*Member States that have existing schemes that do not account separately for the electricity fed into the grid and the electricity consumed from the grid, shall not grant new rights under such schemes after 31 December 2023*" (European Parliament, 2025). It also adds: "*[I]n any event, customers subject to existing schemes shall have the possibility at any time to opt for a new scheme that accounts separately for the electricity fed into the grid and the electricity consumed from the grid as the basis for calculating network charges*" (European Parliament, 2025). Another

argument is that the government never promised to maintain net metering for the entire lifetime of solar panel systems (Sajtófigyelés, 2023a).

On 30 August 2023, the Hungarian Photovoltaic and Solar Collector Association sent an open letter to the Energy Ministry requesting a review of the decision. In it, they argued for promoting the energy transition, along with the other benefits of solar PV systems. They requested that those with existing solar systems should be allowed to remain in the net metering system for at least 10 years. The government had to make a decision, and on 05 September 2023, the current leader of the parliamentary group of Hungary's ruling party called on the Minister of Energy, via Facebook, for the government to maintain annual net metering for those who already had a valid contract: "*That is why I am asking Energy Minister Csaba Lantos to override the Brussels decision and not to take away the rights acquired in the case of family investments that have already been made, and for the government to decide to restore the annual net metering at least for those families who were entitled to it under their previous contracts!*" (Kocsis, cited in Orsolya and Kocsis, 2025).

On 06 September 2023, a consultation was held at the initiative of the Energy Ministry with the participation of representatives of the Ministry and some stakeholders (MANAP Industry Association, the Hungarian Photovoltaic and Solar Collector Association, and the Hungarian Energy and Public Utility Regulatory Authority). Two days later (on 08 September 2023), the Minister of Energy announced that from 01 January 2024, net metering (on a yearly basis) would be maintained for pre-existing household-scale solar systems for ten years from the date of installation. It would also be applied to those who had requested a solar installation by 13 September 2023 and completed its installation before 1 January 2026. New claims received from 14 September 2023 onward would come under the gross metering system. Finally, the government decree was published in the Hungarian Gazette on 13 September 2023 (Hungarian Gazette, 2023). It was clarified that no system usage fee (so-called grid fee) would be payable for exported (feed-in) electricity.

Table 2
Discourse analysis.

Questions	Narratives	Storylines	Discourse coalitions and actors
1) Who shapes the dominant discourse, who sets the theme and the main direction of the discourse? 2) How did this discourse help one group to avoid the adverse impacts (abuse of power) of the actions of another? 3) Are the identified actors able to influence the energy authorities?	Technocratic approach	1. The current system is not fair. (+) 2. The unpaid system charges of 230,000 solar households are paid by other (mainly industrial) consumers. (+) 3. The operation of solar systems is weather-dependent, placing a heavy burden on system operators and distributors. (+) 4. There are high and partly unjustified subsidies. (+) 5. Net billing means that households use the grid as a virtually free energy storage facility. They do not contribute to the development of grid infrastructure. (+) 6. Electricity is not used when it is generated. (+) 7. To balance the electricity grid, fossil fuel-based power generation is needed. (+) 8. The measure aims at fairer, usage-based cost-bearing. (+) 9. Prosumers should contribute to the maintenance and development costs of the electricity system. (+) 10. Oversized solar systems were common in the past. The measure aims to bring the capacity of solar systems more in line with actual consumption. (+) 11. Hungary relies heavily on electricity imports; solar PV will help to reduce this. Prosumers are important players in the energy supply. (-)	– Energy Ministry – Industry actors – Hungarian Energy and Public Utility Regulatory Authority – Ruling political party
	Realistic, pragmatic	1. The changes in the compensation mechanism render previously expected short-term returns on investment unattainable, preventing payback within a foreseeable timeframe. (-) 2. The policy announcement is improper and unethical because it unilaterally and retroactively modifies established contracts. (-) 3. The policy announcement is unfair. (-) 4. How the policy announcement was made (shared on TikTok) is also questionable. (-) 5. The policy announcement increases the unpredictability of energy policy. (-) 6. It damages legal certainty. (-) 7. The new EU legislation only affects new consumers. (-) 8. There are budgetary reasons for the decision. It will improve the financial situation of the universal service provider MVM, which will therefore need less money from the budget protection fund. (+)	– Civil Society Organizations – Industry actors – Households with solar PV systems
	Environmentally conscious	1. This change is not good for climate protection. (-) 2. This change does not reward environmentally responsible behavior. (-) 3. This change affects a social group that is likely to be more committed to "green issues" than the average. (-) 4. Solar households with electric heating would be disproportionately affected. (-) 5. The export fee of 5 HUF/kWh is so low that it encourages wastage or over-consumption rather than feeding electricity into the grid. (-) 6. The policy announcement encourages households to consume the electricity they generate, at least in summer, for example, by buying and charging an electric car. (+) 7. The policy announcement encourages solar households to heat with gas or firewood (when possible) during the winter period, at least up to the level of the average consumption. This will slow down the energy transition. (-)	– Civil Society Organizations – Industry actors – Households with solar PV systems
	Future-oriented, solution finder	1. Installation of digital meters. (+) 2. Installation and use of batteries and smart devices. (+) 3. Need to change consumption habits. (+) 4. Need for smart homes. (+) 5. The price cap is one of the main obstacles to real reform of the accounting system. So, market-distorting measures should be phased out. (+) 6. Partnerships and professional consultations with the involvement of NGOs are needed. (+) 7. Need for transparency, long-term planning, and predictability. (+) 8. Establishment of an energy community, distribution of surpluses within the energy community. (+)	– Energy Ministry – Civil Society Organizations – Households with solar PV systems – Industry actors
	Revenge seeker	1. Formation of joinder (with the aim of suing the Hungarian state for overriding private contracts with the service provider). (-) 2. Civil disobedience, simultaneous shutdown of solar systems (system-level warning). (-) 3. The policy announcement suggests that consumers were deceived by previous communications and information. (-)	– Households with solar PV systems

Authors' compilation

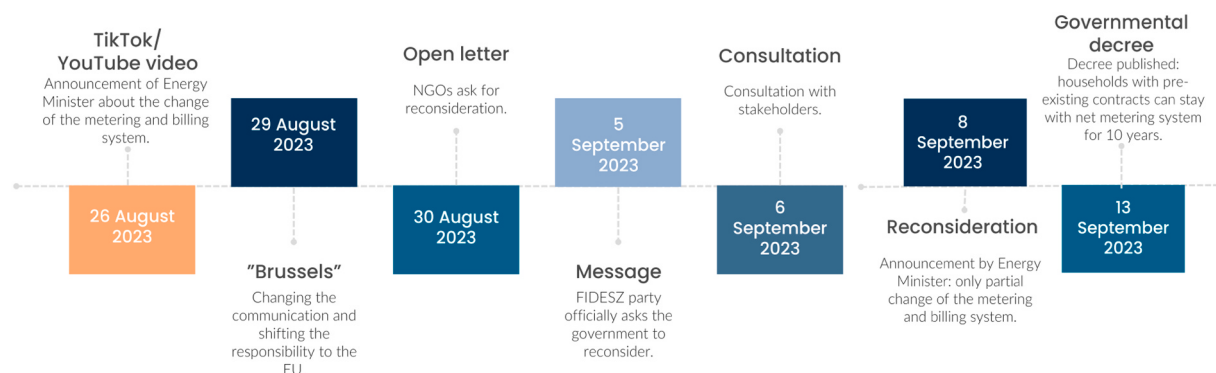


Fig. 4. Timeline of government measures and decision-making. Authors' work, reprinted from (Szép, 2025b)

The nearly three-week period described here is depicted in detail in Fig. 4, with all the major events and milestones during which, in our opinion, energy citizens in Hungary became active and not only participated in energy policy making but were able to influence it.

4.2. Discourse analysis

The policy discourse is classified into five types of narratives based on the different approaches: 1) Technocratic Approach, 2) Realistic, Pragmatic, 3) Environmentally Conscious, 4) Future-oriented, solution finder, and 5) Revenge-seeker. Thirty-eight storylines underlie the narratives. Linking them with the actors resulted in five discourse coalitions. Table 2 summarizes the results of the discourse analysis. All storylines are appended with a "+" or "-" sign showing whether they tend to support or oppose the policy change.

Five narratives and discourse coalitions were identified in the discourse analysis. In the following, they will be presented in more detail. The first typical narrative represents a *technocratic approach*. It encapsulates attempts to logically and reasonably justify the need for change by pointing out the weaknesses of the existing compensation system. It acknowledges the strong dependency on electricity imports and the prominent role of solar energy in the energy supply (24.1% in electricity production in 2023 (MEKH Hivatalos Statisztika, 2022)). It also highlights that household-scale solar PV systems already significantly contribute to electricity generation in Hungary: in 2023, they accounted for 2283 GWh, or 6.42% of total electricity generation. However, it also argues that the current compensation mechanism is unfair, mainly because, for these ca. 224 thousand households with solar PV systems, only the difference between the electricity generated and consumed is subject to the system usage fee. But it is also worth mentioning that, in contrast to other EU Member States, the fee is not a fixed amount; it depends on consumption, but it is generally high (e.g., 31 HUF/kWh, ~0.08 EUR/kWh). However, the electricity system needs to be continuously improved, primarily to be able to handle the large number of weather-dependent renewable generators. The cost of this must be covered by the other, non-residential (mainly industrial) consumers, who pay 20–25% more for their electricity than in neighboring countries (Eurostat Database, 2024). The variability and unpredictability of renewable energy sources also challenge system operators because they impact the stability of the power grid.

Another argument that is often made is that these household-scale solar PV systems are unreasonably over-subsidized and oversized. Interviewee 5 slightly changed this argument by claiming that at the beginning, such a favorable compensation system was strongly needed. The latter suggests that many families installed larger than optimal systems (according to Interviewee 10, 10 kW systems were common), and the measure is aimed at ensuring that future installations are appropriately sized.

According to the net metering system, the grid provides households

with the service of daily and inter-seasonal storage (Varga et al., 2024). Electricity production and consumption are separated in time, and as Interviewee 7 pointed out, households with PV typically only self-consume 27–30% of their own solar energy on average; thus, ca. 70% is fed into the grid. Carbon-neutrality is challenging to understand; "fossil-fueled (mainly gas) power plants are needed for system balancing" (Brückner, 2025a). The change in the compensation mechanism aims at a more equitable and proportionate sharing of costs because prosumers must also contribute to the development, operational, and maintenance costs of the electricity system. Unsurprisingly, this narrative was mainly supported by the Energy Ministry, certain industry actors, the Hungarian Energy and Public Utility Regulatory Authority, and initially by the ruling political party. However, Interviewee 5 argued for separating the utility price cap² and gross metering (the first measure is more of a social-political issue, and the second purely involves an energy policy decision).

The *realistic, pragmatic* narrative was propounded by critics: most of the storylines promoted by civil society organizations, industry actors, and households with solar PV systems were very negative. The change of the compensation mechanism significantly extends the payback period, at least doubling it, according to calculations (Interviewee 9). "This is particularly painful for those who installed solar panels a few months before the policy announcement" (Szolnoki, cited in Brückner, 2025a). The industry actors (Interviewees 3 and 4) highlighted that a significant reduction in newly installed household-scale solar PV systems occurred within a few months of the policy announcement. The actors also saw the measure as "unfair, improper, and unethical" (Szilágyi cited in Bakró-Nagy, 2025) because it unilaterally and retroactively modified pre-existing contracts.

The energy minister announced the change of the compensation system in a TikTok video (later, many articles simply referred to it as a "T-shirt video" (Brückner, 2025b; Szabó, 2025), recorded at a summer festival. According to the actors, this was also questionable: "Of course, it was not the form but the content that was more painful, but it is also characteristic of the regulatory environment that we did not receive the information as a result of industry consultation, at a serious press conference or in the form of a detailed decree, but at an event organized by the ruling party's political family, the Tranzit festival, under the trees" (Brückner, 2025b).

Further negative comments were that the measure increases the unpredictability and uncertainty of energy policy and harms the business environment. They rightly ask the question, "Who is going to install

² Between 2013 and 2022, electricity prices were fixed for all household consumers in Hungary. Since 2022, households have only been able to buy electricity at the universal service tariff (36 HUF/kWh) up to the average (210 kWh of electricity per month per household) consumption level (so-called 'block pricing') and must pay a higher (market) price (70.104 HUF/kWh) for amounts used above that (Tóth et al., 2024).

solar panels here?” (Brückner, 2025a). While Article 15 of Directive (EU) 2019/944 on the standard rules for the internal market for electricity requires a change in the compensation mechanism only for new installations (European Parliament, 2025), the Energy Ministry completely pushed the responsibility for the change onto the European Union, thereby discrediting the Hungarian government. Others highlight the fiscal reasons for the decision. According to this storyline, the change will improve the financial situation of the universal energy provider (MVM Group) and reduce its need for reimbursement from the fiscal budget (specifically, from the utility protection fund) to cover losses it incurs from its universal service activities. In a nutshell, for the providers, the utility price cap means that they are obliged to supply utilities at a regulated static price that is well below the current market price applied to the household sector. This mismatch between spot market prices and regulated tariffs is responsible for losses, which are later reimbursed by the government (but as Interviewee 7 highlighted, the cost is ultimately paid by industrial consumers through high electricity prices).

Environmental consciousness also emerged as a narrative. The main storylines indicate that this policy announcement would not contribute to climate protection or reward environmentally responsible behavior. “Green goals are pushed into the back seat” (Sajtófigyelés, 2023b). It was mainly civil society organizations, industry actors, and households with solar PV systems that shared this narrative. Many studies have concluded that households that use renewable energy sources are more environmentally conscious, but the change in the compensation system would affect them most by reducing their commitment to this cause. This is important because, as Interviewee 5 highlighted, “only environmentally conscious people may become energy citizens”.

Households that have switched entirely to electric heating would be particularly badly off. They had expected to use a large share of the electricity surplus they generated in the summer for winter heating. After the change, they would not be able to do so and would probably drop out of the discount band, thus having to pay market prices for electricity. The measure thus also encourages such households to heat with gas or firewood (when possible) during the winter period, at least up to the subsidized level of gas consumption. This would slow down the energy transition. They rightly ask, “Where is the climate protection, where is the sustainability?” (Brückner, 2025b). Another strand of the argument is that the purchase price of 5 HUF/kWh (~0.01 EUR/kWh) is so low that it encourages waste or over-consumption rather than saving energy and feeding it into the grid. For example, it may mean that households will be more inclined to “build a heated swimming pool or buy and charge an electric car” (Sajtófigyelés, 2023b).

Some of the storylines are very *future-oriented* and *solution-focused*. This narrative concentrates on potential technological solutions, e.g., smart metering, smart devices, or battery storage. They also emphasize the need to change consumer behavior and to promote smart homes. However, we note that Interviewees 4 and 5 were pessimistic about these ideas. According to Interviewee 4, the Hungarian energy sector (especially distribution system operators [DSOs]) generally does not trust consumers to change and rationalize their electricity use. Interviewee 5 does not see the potential in smart homes. This discourse strand also involves articulating the need for a shift in energy policy, highlighting the adverse effects and the unsustainability of the utility price cap, which distorts the energy market. Interviewee 5 highlighted that the biggest problem is that the “Hungarian energy market is hybrid: both liberalized and highly controlled by the state”. It is becoming clear that sooner or later, complex reform will be inevitable.

There is also a need for professional consultation, transparency, long-term planning, predictability, and the involvement of NGOs in professional work, suggesting the transformative nature of such action. Both Interviewee 9 and 10 noted that the biggest problem in the solar market is the ‘stop and go’ nature of subsidies and policy decisions: “Investments and permit applications are concentrated over time, sometimes 10,000 applications are received in 2 weeks due to a change in legislation or the opening

of a funding window, and then nothing for months.” It hurts the market and there are many subcontractors who were forced to close down, move abroad, or continue in a different profession” (Szenyán, cited in Index Nagy, 2025).

Many actors see the future in energy communities, which would strengthen the local level (Interviewee 2, 4, 5, 8). According to Interviewee 8, energy communities are a means of promoting energy citizenship. However, Interviewee 5 emphasized that in Hungary, energy regulators (especially DSOs) significantly influence decision-makers, and they are the main obstacles to the development of a supportive policy environment for energy communities. This narrative is shared mainly by civil society organizations, industry actors, and households with solar PV systems.

The most radical narrative in the discourse is that of the *revenge-seekers*. They seek to establish a joinder and sue the Hungarian state for overriding private contracts with the service provider. Seeking justice, they are considering civil disobedience, saying that “solar panel users have just been dealt a heavy slap in the face” (Brückner, 2025b). They plan the simultaneous disconnection of solar PV systems as a system-wide warning, hoping to trigger nationwide blackouts. They justify this by citing previous instances of the deception of consumers in official communications and public information. This discourse is supported by households with solar PV systems (all other actors strongly rejected it).

4.3. Typology of the presented case

Following the typology presented in Debourdeau et al (Debourdeau et al., 2024), this empirical study of the emergence of Hungarian energy citizenship identifies the expression of active and collective forms of energy citizenship. Both reformatory and transformative characteristics are identifiable. Reformatory, because environmental issues are awarded no priority in the discourse, instead being perceived as positive externalities. Transformative, because the need for a change in the energy system is identified. This case also involved a social movement with networks of informal interactions among the identified actors engaged in political conflict on the basis of shared collective identities (Debourdeau et al., 2024, 2021).

Beyond this classification, we can also state that the level of participation was high. Wahlund and Palm distinguish four specific forms of active participation of energy citizens, which signify this level: 1) adopting and interacting with household-scale renewable energy systems, 2) participation in energy communities or cooperatives, 3) engagement in social movements, and 4) engagement in participatory energy policy processes. At least three forms appear in our case study (Nos. 1, 3, and 4). In Hungary, in addition to the adoption of household-scale solar PV systems by energy citizens, we also see a commitment to energy policy and the emergence of a social movement. However, the sustainability and future of these are questionable, especially in the current political environment.

5. Discussion

Hungarian energy policy is still characterized by a technocratic approach, with system management, technological considerations, and political interests taking precedence. However, this is changing, and socio-political issues are becoming increasingly dominant in the participatory energy transition. Renewable energy sources are at the heart of the energy transition, and their use is seen as more equitable, just, and egalitarian than with fossil fuels. There is a need to decentralize both energy systems and energy policy, as the global energy transition centers on clean energy production and consumption. In this process, energy consumers become prosumers and ultimately energy citizens, drivers of change. Energy citizenship is being strengthened and expanded, creating the opportunity for better governance and stronger democracy. We agree with Biresselioglu et al. that energy “citizens have the power to shape policy, the opportunity to form energy communities, and

the ability to contribute to climate goals" (Biresselioglu et al., 2024a).

In the Hungarian household sector, solar PV systems clearly stand out among available renewable energy technologies, mainly due to their easy scalability, low cost, and very favorable accounting treatment. Solar panel owners have now become not only prosumers but a large mass of people with a high level of energy awareness. They are real energy citizens who have become interested and engaged in energy policy issues, with both rights and obligations. Through their active participation, they were able to influence energy policy in a country that had become significantly more illiberal and autocratic over the last 16 years. However, an important question is to what extent the resistance to the policy change can be considered a one-off event and how likely it is to happen again. In our opinion, it is undisputed that Hungarian energy citizenship already exists. However, its strength and desire for influence in energy policymaking are questionable; thus, the citizenship we have described may be perceived as a unique case with limited generalizability. If the Orbán government had remained in power and entered a fifth parliamentary term, neither the interviewees nor we would have expected the energy regime to involve prosumers more meaningfully in energy policy. Even if a certain level of consultation had been achieved, citizen involvement would likely have remained limited, with citizens mainly expressing their views outside formal official channels such as public consultations. However, the 'regime change' of 2026 creates an opportunity to move towards more participatory energy governance, in which prosumers and energy citizens are systematically involved in agenda-setting and decision-making processes.

There are still many factors that hinder the development of energy citizenship in Hungary. The low energy literacy rate, the highly centralized nature of the energy system, and the lack of consultations and empowerment programs must be mentioned. Furthermore, low institutional and interpersonal trust does not encourage this phenomenon. However, their detailed exploration requires further analysis.

Our case study findings represent a clear contribution to the literature on energy citizenship. First, they show that research on energy citizenship is relevant not only in functioning democracies but also in countries that have experienced democratic backsliding and can be characterized as autocratic. Second, they suggest that decentralized energy systems can act as potential drivers of democratic practices. In this sense, the deployment and widespread adoption of renewable energy-based technologies may help counterbalance abuses of power and the advance of autocracy. Energy citizenship initiatives, therefore, need to be analyzed in close relation to the prevailing political system. We do not argue that a larger share of renewables (including the increased deployment of solar PV systems) automatically leads to 'more' democracy, as there is no direct or mechanical relationship between the two. Nevertheless, such technologies can open up new opportunities for active participation in energy policy and decision-making, thereby contributing to a just transition.

5.1. Limitations of the study and suggestions for further research

We acknowledge that our approach is less focused on linguistic analysis, although we have strived to reveal meaningful statements through the application of discourse analysis, i.e., identifying the link between cause and effect through narratives (Sovacool et al., 2018), which is the strength of the latter method. Another limitation is the time constraints associated with the study. There is a clear need to collect and analyze additional energy citizenship initiatives in detail. Adopting an international outlook and pursuing a comparative perspective could also generate relevant insights. The much-cited EU regulation (European Parliament, 2025) has not only prompted decision-makers in Hungary to reform the accounting system for solar, but other Member States have also faced similar challenges. It would be particularly interesting to examine the case of Poland, whose electricity generation system has undergone similar changes.

6. Conclusion

This paper describes how we conducted a discourse analysis related to unique energy citizenship action in Hungary in 2023, supplemented by semi-structured in-depth interviews. Three research questions were formulated to structure the study. The first question concerned *who* shaped the dominant discourse and who defined its theme and main direction. To answer this question, we identified the five most frequently visited news portals and collected articles ($n = 75$) published on the topic under study between 26 August 2023 and 15 September 2023. We identified six broad categories of actors: civil society organizations, the Energy Ministry, prosumers, industry actors, energy regulators, and political parties. We conclude that, despite the Hungarian government's desire to dominate the discourse and the presence of asymmetric power relations, all parties played a role in shaping and ultimately changing the discourse on this energy policy decision.

To answer the second question (*How* did this discourse enable different actors, particularly energy citizens, to participate in the policy process and to resist or counteract potential abuses of power?), the articles and interviews were coded, and 38 storylines were identified. Based on these, five narratives (technocratic approach; realistic, pragmatic; environmentally conscious; future-oriented, solution-finder; revenge-seeker) were distinguished, only one of which supported the government's decision by presenting rational and objective arguments. The other four approaches listed counterarguments and pointed out the problems and negative consequences of this decision. Finally, discourse coalitions were established, linking storylines, narratives, and actors. This research question also concerned the mode of resistance. Obviously, the limited time also constrained the means chosen. Nevertheless, the resistance involved a relatively wide range of initiatives and was very intense. Civil society organizations published statements in response very early on, open letters were drafted, and various initiatives were proposed or launched on solar-themed Facebook groups, such as filing a class-action lawsuit, causing a blackout, and encouraging the wasting of energy to deny its supply to the grid. Finally, a technical consultation allowed stakeholders to reiterate their views and express their opinions. Ultimately, the pressure led to the law in question being modified.

The answer to the third question (*What was the impact* of these discursive and participatory practices on the final outcome of the compensation scheme reform, and to what extent was the government influenced or constrained by them?) is that their actions led to concrete outcomes. People vigorously expressed their opinions, impacting the decision-making process. This outcome is considered particularly important because Hungary had become what was described as a hybrid regime, increasingly autocratic. We agree with Interviewee 5's comment: "The main question is whether we are really talking about energy citizenship or just another voter base".

CRedit authorship contribution statement

Tekla Szép: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Zoltán Nagy:** Writing – review & editing, Writing – original draft, Investigation.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Tekla Szép reports a relationship with Hungarian Academy of Sciences that includes: funding grants. The other authors have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

the Hungarian Academy of Sciences.

This paper was supported by a János Bolyai Research Scholarship of

Annex 1

Interview questions

- Did you participate, either directly or indirectly, in decision-making related to the change of the compensation system?
- Were you affected, either directly or indirectly, by the change in the compensation system?
- Which of the narratives (Table 2) listed above do you feel most closely reflects your own experience?
- Can you add anything to the list?
- Do you consider the list to be accurate?
- Have you heard of energy citizenship and energy democracy?
- Could you describe what a ‘good’ energy citizen is like?
- Is this a desirable goal?
- Do you agree that the event discussed (i.e., the resistance to the change in net metering, followed by the review of the energy policy decision) was a manifestation of energy citizenship?
- Can you think of any other examples where the solar sector was able to participate in energy policy decision-making or influence it?
- How do you see the situation of energy citizenship? Can we expect these households to be more involved in decision-making that affects them in the future? Is it possible that functioning energy communities will emerge from them?

Annex 2

List of analyzed articles

No.	Title	Publishing date	Source
1	Januártól minden napelemesnek jön a havi szaldó	27 August 2023	telex
2	A Napelem Szövetség szerint inkorrekt és etikátlan a kormány tervezete	27 August 2023	telex
3	A netadóhoz mérhető hatalmas pofon a napelemeseknek a havi szaldó, és jön a még ismeretlen bruttó elszámolás	28 August 2023	telex
4	Megtalálta a választ az Energiaügyi Minisztérium a napelemek körüli zűgölódásra: Brüsszel	29 August 2023	telex
5	Reménykedhetnek a napelemesek a friss minisztériumi válasz után, de hosszabb távon borús a kép	29 August 2023	telex
6	Kocsis Máté azt kéri a kormánytól, hogy állítsák vissza a napelemesek éves szaldóelszámolását	5 September 2023	telex
7	Bizakodhatnak a napelemesek: Az Energiaügyi Minisztérium „érdemben vizsgálja” a Fidesz-frakció kérését	5 September 2023	telex
8	Lassan örölnék a kormányzati kerek a napelemesek ügyében, az államtitkár levelet ír	6 September 2023	telex
9	A kormány megtartja a napelemeknél az éves szaldóelszámolást	8 September 2023	telex
10	Napelemes balhé: már be akarták perelni az államot, mire a kormány meghátrált	12 September 2023	telex
11	Kijött a napelemes rendelet: marad az éves szaldó, lehet pezsgőt bontani, de egy fura zavar így is maradt	14 September 2023	telex
12	Teligáz, majd satufék: ilyen az, amikor a napelemesekkel szembejön a rezsiválóság	15 September 2023	telex
13	Nagy változások jönnek a napelemes rendszerekénél	27 August 2023	index
14	A Napelem Szövetség elnöke: Sosem térülnek meg a napelemes beruházások	27 August 2023	index
15	Gőzerővel dolgozik az energiaügyi minisztérium a napelemes bruttó elszámolás bevezetésén	29 August 2023	index
16	Mindenkit meglepett a kormány, teljes a fordulat a napelemeknél	31 August 2023	index
17	A kormány döntött, és már meg is lehet a győztes a napelemharcban	4 September 2023	index
18	Kocsis Máté arra kéri az energiaügyi minisztert, hogy állítsák vissza az éves szaldóelszámolást	5 September 2023	index
19	A szakma felhorkant, a Fidesz asztalt borított, a kormánynak döntenie kell	5 September 2023	index
20	Minden megváltozhat a napelemeknél, a kormány visszavonulót fújhatott	6 September 2023	index
21	Itt a nagy bejelentés: döntött a kormány a napelemes elszámolásról	8 September 2023	index
22	Gulyás Gergely a napelemekről: Bízunk abban, hogy Brüsszel sem fog belekötni	13 September 2023	index
23	Döntés született a napelemesekről	13 September 2023	index
24	Megjelent a rendelet, fontos újítás érkezik a napelemeknél	13 September 2023	index
25	Orbán Viktor egy éjszaka alatt pontot tett a napelemes kérdés végére	14 September 2023	index
26	Eldőlt: ennyiért veszik majd meg az áramot a napelemesektől	14 September 2023	index
27	Elképesztő számok láttak napvilágot a napelemekről	15 September 2023	index
28	Szédületes támogatottsága van a napenergiának	15 September 2023	index
29	Lantos Csaba bejelentette: hamarosan újra lehet napelemeket telepíteni Magyarországon	27 August 2023	24
30	Napelemesözvetség: a havi elszámolással ellehetetleníti a kormány a megtérülést	28 August 2023	24
31	Lantos Csaba „elfelejtette”, mit ígért Palkovics László a napelemügyben	31 August 2023	24
32	A szakértő szerint irdatlan rezsiziemlést kapnak a nyakukba a napelemesek 2024től	31 August 2023	24
33	Megvizsgálja a kormány a lakossági napelemek elszámolásának ügyét	5 September 2023	24
34	A Fidesz arra kéri az energetikai minisztert, hogy ne töröljék el a lakossági napelemeknél az éves szaldóelszámolást	5 September 2023	24
35	Iparági egyeztetés volt a kormánnyal a napelemet működtető háztartásokról	6 September 2023	24
36	Napelemek: itt a kormányzati hátraarc, megszólalt Lantos Csaba	8 September 2023	24
37	Napelemek	13 September 2023	24
38	Megjelent a rendelet a napelemes áram éves elszámolásáról	14 September 2023	24
39	Megjött a bejelentés a napelemeseknek: havi szaldó elszámolás jön januártól	26 August 2023	portfolio
40	Kimondták, hogy miért törli el igazából az éves szaldót a kormány a napelemeknél	28 August 2023	portfolio
41	Nyugtató közleményt adott ki a napelemeseknek az Energiaügyi Minisztérium	29 August 2023	portfolio
42	Megtévesztve érzik magukat a napelemesek, legalább 20%-kal romolhat a projektjük megtérülése	29 August 2023	portfolio

(continued on next page)

(continued)

No.	Title	Publishing date	Source
43	Tényleg egy vagyont buknak a napelemesek? Mit nyer az egészszel a költségvetés?	1 September 2023	portfolio
44	Új világ jön a napelemesek számára, nekik is megérkezik a rezsivalóság	1 September 2023	portfolio
46	Napenergia: itt a megtérülési áttörés, fontos bejelentést tettek	4 September 2023	portfolio
47	Napelemes szaldó elszámolás: fontos kérést kaptak az érintettek	4 September 2023	portfolio
48	Máris megjött a fontos hír a napelemeseknek a kormánytól	5 September 2023	portfolio
49	Pár nap alatt jött a 180 fokos fordulat a kormánytól – Mégis mi történt?	5 September 2023	portfolio
50	Bréking! Visszavonulót fűjt a kormánypárt napelem-ügyben!	5 September 2023	portfolio
51	Milyen lehet az új napelemes elszámolási rendszer?	7 September 2023	portfolio
52	Óriási bejelentés érkezett a napelemeseknek!	8 September 2023	portfolio
53	Máris megszólalt az Energetikai Hivatal elnöke a napelemes elszámolás várható változásairól!	8 September 2023	portfolio
54	Kihirdették a napelemes döntéseket: van két újabb könnyítés!	13 September 2023	portfolio
55	Bréking: két nagy napelemes bejelentést is tett Gulyás Gergely!	13 September 2023	portfolio
56	Eldőlt: öt forintért veszik át az áramot az új napelemes elszámolási rendszerben	14 September 2023	portfolio
57	Nagy változások jönnek szeptemberben a napelemes rendszereknek	27 August 2023	MNNSZ
58	Csak akkor maradna értelme a napelemnek Magyarországon, ha a rezsicsökkentést feladnánk	29 August 2023	MNNSZ
59	MNNSZ-elnök: A havi elszámolással jóval 10 év fölé nő a napelemes rendszerek megtérülése	29 August 2023	MNNSZ
60	Napelemek: Lantos Csaba tárcája nyitott az egyeztetésre a szakmai szövetséggel	29 August 2023	MNNSZ
61	Hatalmas pofon a napelemeseknek – akár az egyetemes szolgáltatásból is kikerülhetnek a szakértő szerint	29 August 2023	MNNSZ
62	MEKH-válasz a napelemeseknek: tényleg megszűnik az éves szaldóelszámolás	30 August 2023	MNNSZ
63	Ki jár jól, és ki bukik rajta? Változik a napelemesek elszámolása	30 August 2023	MNNSZ
64	Most akkor megéri-e egyáltalán napelemet telepíteni a háztetőnkre? A kormány szerint igen, elmagyarázzuk, miért	30 August 2023	MNNSZ
65	NYILT LEVÉL A NAPENERGIÁÉRT!	30 August 2023	MNNSZ
66	Háborognak a napelemesek az új részletszabályok miatt	1 September 2023	MNNSZ
67	Nagyon durva áramszámlák jöhetnek télen – Kiderült, kiknek fájhat igazán a tervezett napelemes szabályozás	1 September 2023	MNNSZ
68	Napelemes szaldó átalakítása: kiderült az igazság az EU elvárásairól	5 September 2023	MNNSZ
69	Kocsis Máté Fidesz frakcióvezető is kiáll a napelemesek mellett!	5 September 2023	MNNSZ
70	Mit tehetnek a napelemesek, ha nem akarják olcsón eladni a nyári feleslegáramukat?	5 September 2023	MNNSZ
71	Szakértő: Behúzták a csőbe a napelemeseket	5 September 2023	MNNSZ
72	Napelemeszozsövezsége az Energetikai Miniszteriumban	6 September 2023	MNNSZ
73	Módosult a háztartási napelemes rendszereket érintő elszámolási szabály	14 September 2023	MNNSZ
74	Leszámolnak az éves elszámolással	1 September 2023	Arcanum / Népszava
75	Napellenzök	2 September 2023	Arcanum / Népszava

Annex 3

Interviewee profiles per actor

Actor	Interviewee no. and profile			
Civil Society Organizations (N = 3)	Interviewee 1 (research institute)	Interviewee 9 (industry association)	Interviewee 7 (energy community facilitator)	
Energy Ministry (N = 1)	Interviewee 8			
Households with solar PV energy systems (N = 1)	Interviewee 2			
Industry actors (e.g., manufacturers, installers, etc.) (N = 4)	Interviewee 3 (installer)	Interviewee 4 (installer)	Interviewee 10 (installer)	Interviewee 6 (Knowledge and Innovation Community, investor/facilitator)
Hungarian Energy and Public Utility Regulatory Authority	rejected			
Ruling party (FIDESZ-KDNP)	rejected			
Other experts (N = 1)	Interviewee 5 (national TSO)			

Data availability

Data will be made available on request.

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