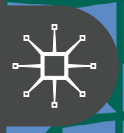

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Energy Citizenship Across Europe

Contexts and Conditions for an Emerging Energy Transition

Edited by
Frances Fahy
Edina Vadovics

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Frances Fahy · Edina Vadovics
Editors

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CHAPTER 1

Introducing Energy Citizenship

Frances Fahy, Edina Vadovics, and Bonno Pel

Abstract The first chapter introduces the concept of energy citizenship and the innovative approach this book has adopted to investigate it, as well as provides a road map for the remaining chapters. Specifically, the chapter discusses the origins of the concept of energy citizenship and the many forms in which it exists. It then briefly introduces the EnergyPROSPECTS project, the driver behind the production of this collection. This introductory chapter explains how each of the core chapters, drawing on eight national contexts, highlights the geographical

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differences, the contextual challenges, and the socio-political histories out of which energy citizenship develops.

Keywords Energy citizenship · Energy transitions · Research approach · Europe

Energy citizenship has risen to a new prominence in the past decade, and it is widely heralded for its potential to support the transformation towards more sustainable and just societies. In its most basic definition, energy citizenship indicates a shift from energy consumerism to more active roles of individuals in the energy system (Devine-Wright, 2007), related to the duties and responsibilities of individuals that form part of certain political communities. Deconstructing the very term *energy citizenship*, two words that are active in both meaning and interpretation could lend themselves to an entire second volume. Energy citizenship is a complex composite notion. Both 'energy' as well as 'citizenship' are evolving, and the coupling between them is therefore all the more dynamic and contested.

The rise of energy citizenship, as an empirical phenomenon and as a political discourse, is closely tied to the grand societal challenges of achieving sustainable and just energy transition pathways. For example, the EU recognises that it needs to accelerate its transition away from fossil fuels, and considers the reinvention of citizenship as a pivotal factor in this. An increasingly decentralised energy mix offers new opportunities for greater citizen participation in the energy system. At the same time, public participation and social acceptability of energy and climate policy will determine the success of EU ambitions to become the world's first climate-neutral continent by 2050 (European Commission, 2019).

The concept of 'energy citizenship' has been coined to assert the importance of active involvement of citizens in energy systems—as citizens rather than consumers. The first formulations of energy citizenship have challenged the common portrayal of individuals and households as passive and deficient publics. The figure of the energy citizen has been portrayed as the neglected counterpart of the passive public. However, this activation is not solely the responsibility of the individual, and requires more than a purely behavioural shift. It is a phenomenon that revolves around contexts for citizenship.

Throughout this collection, we argue that energy citizenship is not something that we can simply observe. We cannot count how many energy citizens are living in our street or in our apartment block. Energy Citizenship is a social construction. We can consider how citizens, households, and organisations (public and private) are enacting and practising energy citizenship in different ways, and how political actors make sense of energy citizenship in terms of energy justice, energy democracy, energy poverty, energy literacy, sustainable energy, or energy security. Energy citizenship is also an emerging set of political ideals that feeds the social construction of the concept. Just as citizenship more generally, it comprises radical and moderate versions. Across the different interpretations, it refers to somehow more active, engaged, sustainability-oriented, democratic, or more desirable ways of participating in energy systems. Importantly, the societal landscape for this energy citizenship is changing. Ongoing technological, social, infrastructural, institutional, and market changes are creating a particularly turbulent era of energy system changes.

Given this focus on citizenship rather than energy citizens, it is important to acknowledge that energy citizenship exists in many forms (Fig. 1.1). It is important to look beyond the stereotypes, and beyond the tip of the iceberg—the much-celebrated 'frontrunners' and the extensively communicated pilot projects. In the current political debate and within academic research, there is an over-exposure of certain forms of energy citizenship (Ekman & Amnå, 2012; Pel & Kemp, 2020), the celebrated exemplar cases, such as frontrunners within clean energy technology, pioneering community energy projects, and other such 'best practices' exchanged across member states. These 'manifest', visible and exposed, types of 'active', 'engaged', 'sustainable', or desirable energy citizenship are arguably only showing a one-sided image of the actual practices enacted across Europe today, especially as they are not even present to the same extent in countries (Wierling et al., 2023).

By drawing on a broad range of social and innovation theory insights, this book and the EnergyPROSPECTS project upon which it is based opens up the concept of energy citizenship by including multiple 'latent', less visible, forms of energy citizenship that also form part of the energy transition (see Fig. 1.2).

All of the contributors to this edited collection share a common desire to bring visibility to the 'less visible' types of energy citizenship, and the rationale for this is threefold. First, we argue that we must be realistic and recognise that an idealised 'frontrunner' idea of energy citizenship

Fig. 1.1 Many forms of energy citizenship exist across Europe (*Source of pictures* GreenDependent)

can often obscure our vision and consequently that of any evidence-based policymaking. Second, we must acknowledge nuances, thereby exposing and nurturing different forms of energy citizenship (what exists between 'frontrunners' and 'laggards', 'active' and 'passive' citizens, 'shallow' and 'profound' pro-environmental lifestyle changes). This will allow us to account for different local contexts that both enable or hinder the development of energy citizenship and different understandings of its meaning. Finally, we proffer that attention needs to be focused on the processes that make up the energy transition. In looking beyond the already visible forms of energy citizenship, we turn the spotlight to the processes of empowerment that people, organisations, and regions are undergoing. Crucially, this will help us to understand what policies are required to promote active energy citizenship for a socially just and climate-neutral energy transition in Europe.

The driver behind the production of *Energy Citizenship Across Europe* was a three-year interdisciplinary European project—EnergyPROSPECTS

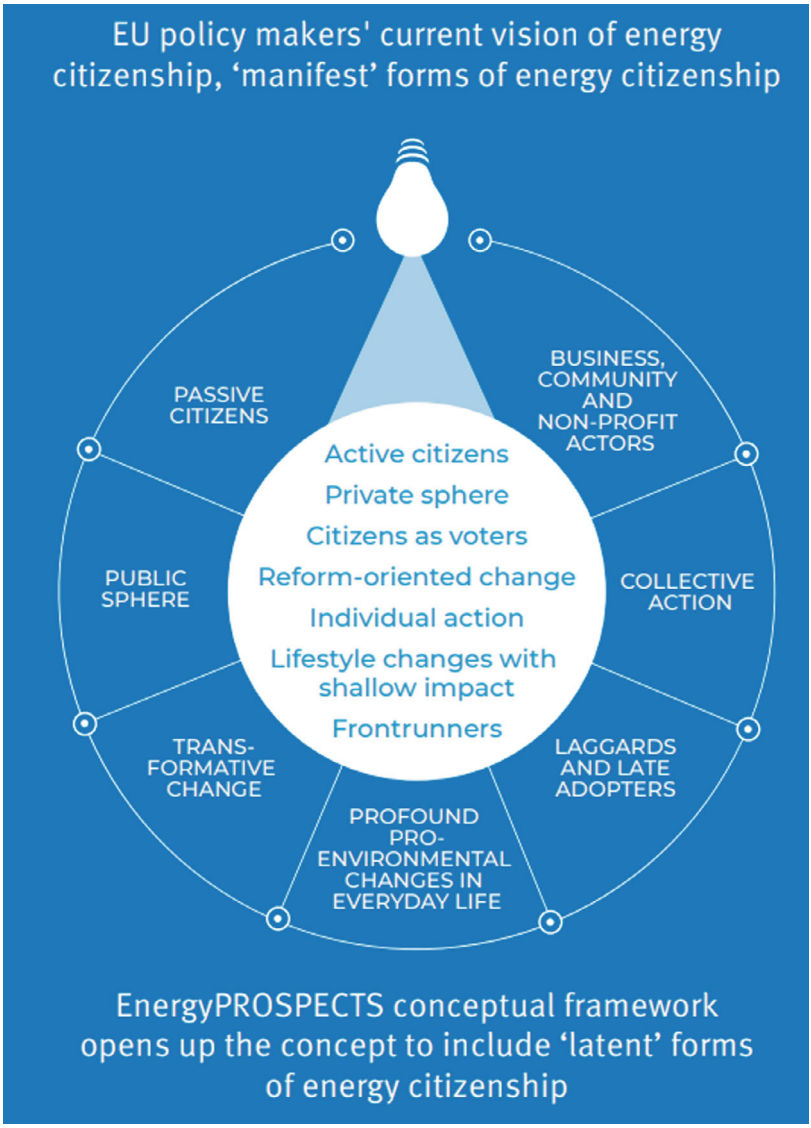

Fig. 1.2 EnergyPROSPECTS conceptual framework

(PROactive Strategies and Policies for Energy Citizenship Transformation) that worked with a critical understanding of energy citizenship that was grounded in state-of-the-art Social Sciences and Humanities (SSH) insights. Funded under the EU Horizon 2020 programme, EnergyPROSPECTS explored how energy citizenship is taking shape across the European continent today. While keeping our eyes open to the less active, empowered, enlightened forms of it, we analysed the societal conditions that allow for sustainable, democratic, just, or otherwise desirable forms of energy citizenship to thrive. *Energy Citizenship across Europe* provides a platform to disseminate the findings of this large-scale multi-organisational project. However, the themes and innovative insights provided by the research have wider international appeal and are intended to provoke and progress new thinking in the field for policymakers, practitioners, and scholars. Overall, this book highlights the empirical variety, the geographical differences, the contextual challenges, and the socio-political histories out of which energy citizenship develops. Throughout this collection, we argue that the concept of energy citizenship requires more critical attention and grounded case studies. The empirical case studies presented throughout this innovative collection will provide valuable resources for mutual learning and inspiration.

The remainder of this chapter outlines the methodology used throughout the EnergyPROSPECTS project, outlining how the authors and project partners mapped the diversity of energy citizenship, zooming in on 40 cases for a detailed view, and analysing the context. This chapter then concludes with an overview of the structure of the book and its constituent chapters are summarised.

Mapping the Diversity of Energy Citizenship in Europe

In the EnergyPROSPECTS project, we wanted to shed light on the diversity of the forms of energy citizenship, analyse the conditions that support a variety of active forms of energy citizenship, as well as how cases of energy citizenship become transformative and contribute to the transition to a more just, equitable, democratic, and sustainable energy system. Drawing on existing databases and a search for new cases, a selection of almost 600 initiatives and mapping and typology refinement exercises were performed to demonstrate the depth/breadth of the energy citizenship concept in theory and practice. Forty cases were selected for in-depth

analysis exploring development, evaluation, intermediaries, institutions, governance, and ICT in energy systems. Below, we give a brief summary of these research elements as they are relevant and provide a methodological background to the information presented in all the chapters in the book.

Desk-Based Mapping of Energy Citizenship in Europe

Starting from the definition of energy citizenship provided earlier, we defined a case of energy citizenship as

1. a constellation of actors (in a context) and how it
    - enables/supports citizens to become active private and/or public energy citizens;
    - acts as a collective energy citizen by contributing to change in the energy system
2. individual energy citizens and how they realise their potential in a private, public, or organisational setting (Vadovics et al., 2022a).

As this definition would still have allowed for a rather wide range of cases to be included in the mapping activity, we developed a sampling strategy to guide the process and narrow down the types of initiatives to be considered. On the one hand, we defined the geographical, temporal, and thematic dimensions of the mapping, and based on these cases mapped had (i) to be based in European countries (including EU, EEA, and accession countries); (ii) to be active at the time of mapping or concluded no earlier than 2015 when the Energy Union Strategy was published, and (iii) to focus on direct energy production and/or consumption (e.g., involving households, organisations, etc.), mobility (with a direct connection to energy issues), or have a more holistic focus on sustainable and democratic energy. On the other hand, to ensure the greatest diversity possible in the cases mapped, case researchers were also asked to follow further guidelines that specified 5 categories of diversity: geographical diversity; diversity in terms of the main focus of the cases (i.e., covering direct energy production/consumption, mobility, and holistic cases); diversity in terms of including both individual and collective cases of energy citizenship; diversity with regard to the ten ideal-types

of energy citizenship described as part of the project in the conceptual typology (Debourdeau et al., 2024); and finally, diversity in terms of cases of energy citizenship that include a variety of additional foci (such as gender, disadvantaged groups, low-tech/high-tech/behaviour change-based solutions, and rural/urban settings). Building on this guidance, case researchers received an internal training and took part in a standardisation exercise to ensure that the mapping activity resulted in good-quality data (Vadovics et al., 2022a). In the end, the process resulted in the mapping of 596 cases. Detailed information about the cases is presented in four main formats[1]:

1. an interactive, open-access **database**, available online at the website of the EnergyPROSPECTS project (https://data.energyprospects.eu/);
2. **Energy Citizenship Factsheets**, offering thematised insights drawn from the analysis of case data, e.g. on ENCI actors and objectives, funding, hybridity, system contestation capacity, etc. The factsheets are also available online at https://www.energyprospects.eu/results/energy-citizenship-factsheets/
3. **Country profile reports** from 8 project partner countries, available at https://www.energyprospects.eu/results/country-profiles/;
4. Organised by their **main energy citizenship ideal type** (Debourdeau et al., 2023).

Mixed-Methods Detailed Study of Cases of Energy Citizenship

Following the mapping of 596 cases, we selected 40 for a mixed-methods detailed study in the 9 project partner countries. For the selection, we used a complex, three-step methodology (Pel et al., 2022) as the resulting database of cases had to be suitable for various research purposes. Thus, the methods for researching the 40 cases were developed collaboratively by the consortium to ensure that all research topics were incorporated. The case research template developed centred around three main topics: (1) energy citizenship achievements; (2) the underlying conditions, intermediaries, and empowerment and (3) the evolution of energy citizenship

[1] Please see full list of resources in the last section (Appendix) of this book under EnergyPROSPECTS Resources.

over time. The 40 cases were studied using a mixed-methods approach consisting of document research and case participant interviews (see Pel et al., 2022; Vadovics et al., 2022b for details of the selection process as well as the case research template).

Once data collection on the 40 cases was completed, the cases were analysed using a variety of methods related to the following topics related to energy citizenship: intermediation (Markantoni et al., 2023); social innovation and business models (Debourdeau & Markantoni, 2023); transformative agency (Kemp et al., 2023); QCA (qualitative comparative analysis) investigating the conditions for energy citizenship outcomes (Schmid et al., 2023); and case by case and meta-analysis of the evolution of the cases concerning the reformative and transformative characteristics of the cases and their contribution to a more just, equitable, democratic, and sustainable energy system (Vadovics et al., 2024; Vadovics & Szőllőssy, 2024).

Analysing of the Context of Energy Citizenship: Introducing PESTEL Analysis

In addition to the mapping and analysis of the cases of energy citizenship and to better understand the *p*olitical, *e*conomic, *s*ocial, *t*echnological, *e*nvironmental, and *l*egal factors and conditions that have an impact on the development of energy citizenship, the EnergyPROSPECTS team conducted a PESTEL analysis both at the European and national levels, illustrating the latter also with cases studies from the sub-national level. In the PESTEL analysis, we looked at both the enabling and hindering factors relating to energy citizenship following a three-step process. For both levels of the analysis, we first conducted desk research and gathered data and information about political, economic, social, technological, environmental, and legal factors. Then, we determined which factors support and enable energy citizenship, i.e. are conducive to, and which hinder its emergence and development or even represent threats. Based on the information available in documents and the expert knowledge of the team, we also evaluated the extent to which a factor impacts energy citizenship either positively or negatively using three categories for low, medium, and high impact. Finally, we made predictions and developed scenarios as to how these factors might change in the future. Please see Debourdeau et al. (2022) for the EU level, and Hajdinjak et al. (2023) for the national-level PESTEL analysis.

In the national level analysis, we also compared the nine countries we examined—eight of them portrayed in this book (Belgium, Bulgaria, France, Germany, Hungary, Ireland, Latvia, and the Netherlands)—from the point of view of supporting and hindering factors. It is interesting to note that with the exception of Hungary, we found that in most countries the supporting factors outweigh those that hinder the development of energy citizenship at least to some extent (in Bulgaria and France), but often considerably (Belgium, Germany, Ireland, Latvia, and the Netherlands) (Hajdinjak et al., 2023).

Energy Citizenship Insights from Across Europe

This opening chapter has set the scene for this collection, overviewing the concept of energy citizenship and setting out the rationale for exploring how energy citizenship has been approached across different European countries. The central chapters (Chapters 2–9) present overviews of energy citizenship and experiences in each of the eight countries profiled. Within every chapter, the contexts bring to the fore specific themes and elicit specific 'contexts and conditions', through particular angles and each chapter highlights the emergent trends from each country/region.

In Chapter 2, Pel and Huhnt explore the forms, contexts, and conditions of energy citizenship that have emerged in Belgium. Drawing on the national context, the chapter reflects on three apparent paradoxes of energy citizenship—universality, materiality, and agency paradoxes—which they argue provide important reality checks for energy citizenship policies. The following Chapter 3 presents insights into the diversity of forms of energy citizenship in Germany and the legal and political context in which they operate. Debourdeau and Schaefer provide a critical reflection on the extent to which the German energy transition is linked to the environmental and anti-nuclear movements of the past and is shaped by different forms of energy citizenship. Their discussion highlights the important role played by engaged individuals (or groups of individuals) in promoting both energy democracy and citizenship, by enabling and empowering other citizens to be part of the energy transition in diverse ways and at various scales.

Reflecting on the Hungarian national context, Vadovics and Szőllőssy show in Chapter 4 that despite the often-reported dearth of systemic conditions for supporting active energy citizenship in the country, there are still many diverse examples evident across the country. This chapter

critically considers these cases and uncovers valuable insights into the actors initiating and involved in the cases, as well as the goals and objectives of these forms of energy citizenship. Drawing on the EnergyPROSPECTS dataset, the authors investigate the extent to which the cases mapped in Hungary could be perceived as progressive as well as the system-contesting capacity of the cases in relation to their contribution in creating a more just, equitable, and environmentally sustainable energy system.

The development of the energy citizenship landscape in Ireland since the Irish government first explicitly used the term 'energy citizenship' in 2015, is the focus of Chapter 5. Schmid and Fahy argue that in the Irish context, citizen participation has extended beyond direct individual engagement in the energy system and note the importance of energy communities as a key element of the Irish energy transition landscape. A historical review of energy cooperatives in the Netherlands sets the scene for Chapter 6. Kemp and his colleagues highlight notable shifts in citizen engagement, policy influence, and technological adoption, from the 1980s to the present day. The chapter presents interesting findings revealing that while energy citizenship in the Netherlands has achieved significant successes, it continues to navigate complex challenges in pursuit of a more sustainable and democratic energy future.

Lagzdiņa and her co-authors in Latvia, focus their contribution on factors which can hinder and/or support the development of Energy Citizenship in their national context. This contribution, Chapter 7, identifies a number of key threats to the development of energy citizenship arising from an economic landscape that is shaped by geopolitical dynamics and rising energy costs, as well as the level of political commitment in the field of climate policy and renewable energy. The authors reflect on the role of unforeseen emergencies (e.g. war and a global pandemic) in galvanising existing forms of energy citizenship. The Latvian chapter brings to the fore the role of decarbonisation technologies and renewable energy sources, and the recent growth in household solar installations, in the energy transition. This contribution highlights the important role of public funding and concludes with national policy recommendations highlighting the opportunities for energy citizenship initiatives. The factors which support and/or hinder the emergence and development of energy citizenship are also presented as a central theme in the next chapter. Hajdinjak and Aasenova explore the energy citizenship landscape in Bulgaria and identify a number of common themes across energy

citizenship case studies. While technological developments are viewed as creating a range of opportunities in this field and concern for climate change appears as a strong source of motivation to participate, the analysis conducted for this research reveals that the economic, legal, and social contexts strongly deter the development of energy citizenship in Bulgaria.

In the penultimate chapter, Thalberg and Defard discuss the current French landscape for energy citizenship, understood as citizen engagement and involvement in the energy production, consumption, and governance. Three grounded cases are drawn on from across France to highlight certain types of energy citizenship initiatives. Chapter 9 concludes with the authors proffering that building trust and bolstering collective mobilisation towards a shared vision of a carbon-neutral future is crucial for advancing the energy transition in France. While each chapter makes an independent contribution, the final chapter (Chapter 10) offers a summary and critical reflection on the various contexts and conditions for an emerging energy transition identified throughout the previous chapters. *Energy Citizenship across Europe* concludes with a reflection on the contribution of the overall collection and affirms the importance of sharing national and local experiences and showing case studies of energy citizenship.

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CHAPTER 2

Energy Citizenship in Belgium: Potentials and Paradoxes

Bonno Pel and Jönne Huhnt

Abstract This chapter explores the forms, contexts, and conditions of energy citizenship that have emerged in Belgium. Regarding the forms, it presents data from a large-scale mapping of energy citizenship initiatives throughout Europe. For Belgium, this comprises 21 initiatives differing in objective, size, and organisational form. Regarding the contexts and conditions, the analysis discusses the factors that shape the development of energy citizenship in Belgium. It reflects on the energy citizenship potential of the Belgian context and its apparent paradoxes: energy citizenship is a universalist concept, yet related practices tend to develop around rather

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particularistic understandings of citizenship. Second, energy citizenship is developing thanks to a seriously energy-inefficient building stock, which creates awareness and urgency. This adverse material context also renders many energy-citizenship-related agencies ineffective, invisible, and unrewarding, however—thus the material context is at once a 'driver' and a barrier. Third, energy citizenship revolves around the activation of citizens, yet this tends to be successful only through the intermediation of institutions—ultimately leaving citizens relatively passive. These universality, materiality, and agency paradoxes represent important reality checks for energy citizenship policies.

Keywords Energy citizenship · Social innovation · Paradoxes · Belgium · Just transition · Energy transition

Introduction: Energy Citizenship in Belgium

'Energy citizenship' is not a common term in the Belgian context, with French and Flemish being the main languages. Nevertheless, it is not an alien concept, given the commonality of adjacent notions such as energy cooperatives and energy communities and the increasing political salience of energy poverty, energy justice, and energy democracy. Peaking energy prices have led to a repoliticisation of energy issues in Belgium (Calay & Claisse, 2022). This chapter will highlight how energy citizenship is developing as a part of this.

Peaking energy prices and repoliticisation may be conditions felt throughout Europe. This does not mean that we can assume a coherent Energy Union, however. There is still good reason for considering the particularities of energy cultures and energy conditions across Europe (LaBelle, 2020).

At first sight, the Belgian context seems to provide favourable conditions for energy citizenship to flourish. It is situated in relatively wealthy north-western Europe and is characterised by a rich institutional structure of governmental, semi-governmental, and non-governmental organisations. Through its richness of associations, it possesses a myriad of the 'micro-societies' in which energy citizenship can develop. In these senses, one might expect Belgium to be a frontrunner in the energy transition and the mainstreaming of energy citizenship. However, although Belgium

is full of energy citizenship potential, our evidence yields a mixed, rather ambiguous picture.

We therefore address the question: *What are the key potentials and paradoxes of the Belgian energy citizenship context?* This research question will be addressed as follows. First, we present empirical data from our case studies to sketch out the energy citizenship potential in Belgium (section "Energy Citizenship in Belgium"). Next, a further layer of critical analysis addresses the underlying tensions and apparent contradictions. Engaging with scholarship on transformative social innovation, we identify three key energy citizenship paradoxes (section "Three Energy Citizenship Paradoxes"). The conclusion wraps up the main issues and considers how unique or typical Belgian conditions are related to other European contexts (section "Conclusion").

Energy Citizenship in Belgium

The diversity of Belgian energy citizenship is remarkable. We have mapped 21 energy citizenship cases operating in Belgium. The following four energy citizenship initiatives provide a good sense of that variety.

1. **Energy Citizenship Through Membership of Energy Cooperatives**. Hydro Electricity Ourthe and Sambre (HOSE) develop and operate several hydroelectric power plants on two rivers in Wallonia. This enterprise was created in 2018 by ten renewable energy cooperatives and the company Hydro-B to produce electricity for households. HOSE is an interesting institutionally hybrid form of energy citizenship. It may appear to be a regular case of an energy cooperative, yet (1) it has a commercial private sector partner and (2) it is built up of multiple cooperatives. HOSE takes a pragmatic approach, seeking to strike a balance between sustainability objectives and the financial bottom line. Democracy is a core concern, as demonstrated by the explicit commitments of HOSE members to the cooperative model and consensual decision-making. Democratisation also involves efforts to stimulate energy literacy in society more widely—for example, through guided visits and the communication activities of the cooperatives. The cooperative model ensures a significant level of citizen control—yet with some limitations. Indeed, quite a lot of citizen agency remains delegated to specific groups of other actors: the experts, frontrunner individuals,

administrators in the cooperatives, and the various intermediaries that have helped HOSE succeed.

2. **Energy Citizenship in an Energy-Sensitised Workplace**. Launched in 2019, the ULB energy-efficiency mission aims to enhance energy efficiency in the Université Libre de Bruxelles. It is meant to institutionalise energy-saving activities across this large organisation. This comprises energy management, real-estate planning, technical services, and the overall organisation of the university. As its name suggests, the energy-efficiency mission focuses on environmental and financial goals. A significant legacy issue associated with the initiative is that the university comprises building stock from an era in which energy efficiency was not well developed technically and not of high priority (Fig. 2.1).

Fig. 2.1 The ULB energy-efficiency mission (Photo by Bonno Pel)

3. **The Empowered Energy Citizen**. The home-renovation campaign of Bond Beter Leefmilieu (BBL) and allies seeks to persuade the Flemish government to adopt a home-renovation policy that is more ambitious in terms of environmental sustainability and socio-economic equity. The home-renovation campaign is one of BBL's more recent projects. The campaign supports several kinds of energy citizenship. The primary focus is to enable citizens to become more active in their homes. The campaign reflects BBL's efforts to make their campaigns of greater direct relevance to the average citizen. Although BBL remains focused on political lobbying rather than empowering citizens directly, its campaign contains an online self-assessment tool. The energy/sustainability goals tend to be leading elements for BBL, but the key concern for this campaign is addressing energy poverty, involving underlining the importance of equal access to home improvement for different kinds of households. Many citizens lack the material means to engage in this kind of energy citizenship activity. The campaign also addresses issues of gender and marginalisation: Their action plans contain differentiated pre-financing schemes that respond to the particular constraints of different types of households.
4. **Activist Energy Citizenship and Civil Disobedience**. Extinction Rebellion (XR) Etterbeek is part of the Belgian branch of XR, a global network that uses non-violent direct action to force governments to act on the climate and ecological emergencies (Fig. 2.2). XR challenges representative democracy for its incapacity to respond effectively to the climate/environmental crisis. In doing so, XR is also very strongly committed to alternative modes of (horizontal, inclusive) decision-making and direct democracy (they demand the establishment of a citizens' assembly with extensive executive power). XR is strongly committed to effective citizen control and the fundamental democratisation of society. Their internal decision-making is in line with these principles/objectives. Their objectives are to 1. have a state of climate and environmental urgency declared in Belgium, 2. develop a mass civil disobedience movement and 3. raise public awareness about the need to urgently deal with the climate and environmental crisis. XR Etterbeek is only one of Belgium's 15–20 local groups. Operating at a smaller scale, they naturally have less encompassing ambitions.

Fig. 2.2 Extinction Rebellion Belgium (Photo from Shutterstock)

These four initiatives indicate the considerable potential for energy citizenship in Belgium. They highlight the diversity of energy citizenship in Belgium and the variety of motivations for it. An awareness of global climate change stands out (this source of motivation applies to 38% of the mapped cases; cf. Fig. 2.3).

The initiatives themselves may be limited in size and number, but they also represent forms of energy citizenship that are developing more widely in Belgium: HOSE, for example, gathers together a dozen cooperatives that, in turn, form part of a much broader cooperative movement. Producing hydroelectricity, HOSE exemplifies just how many (57% of mapped cases) energy citizenship initiatives target direct energy production and consumption (cf. Fig. 2.4). Increasing one's energy independence represents a common and immediate source of motivation for initiating energy citizenship cases (cf. Fig. 2.3).

Likewise, the ULB example is not tied to this particular university community. During the first significant wave of the energy price crisis, the Belgian Federation of Universities announced a *sector-wide* policy of turning the 'thermostat back to 19 degrees Celsius'. Furthermore,

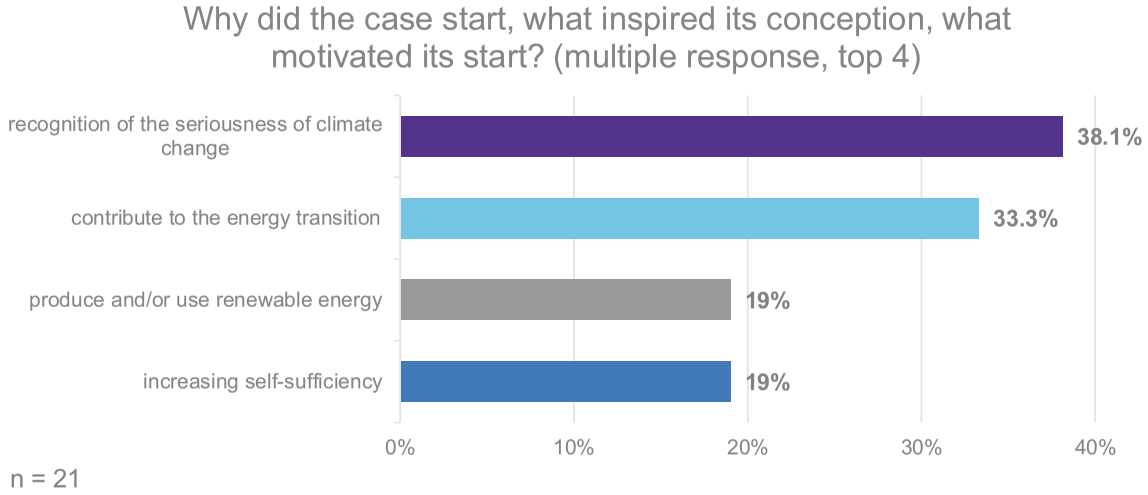

Fig. 2.3 The top four sources of motivation behind the conception and start of the cases (Pel et al., 2022)

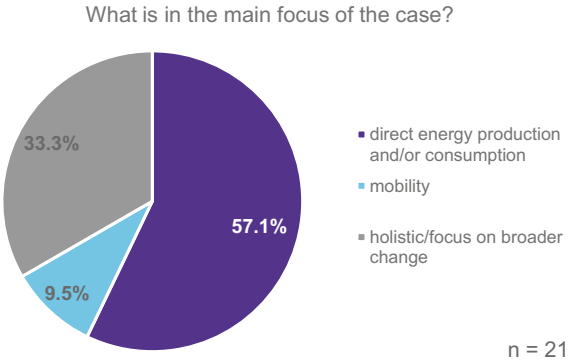

Fig. 2.4 'What is the main focus of the cases in Belgium?' (Pel et al., 2022)

this university initiative is but one of the examples of organisation-based energy citizenship in Belgium. Energy citizenship has diffused into different domains of society.

One may think of the Energy-Saving Pioneers, co-initiated by the earlier-mentioned BBL. This initiative is a network of 'frontrunner' businesses dedicated to organising political pressure for more ambitious Flemish government policy on energy efficiency and housing renovation. The BBL home-renovation campaign is perhaps the strongest example of the broad societal coalitions that are being developed in Belgium—energy citizenship is being transmitted by a myriad of non-governmental organisations, and to a significant extent by pre-existing public and private sector organisations as well. Finally, it is noteworthy how XR Etterbeek forms only one small unit of a global network and a local and national landscape of radical activism—sometimes more, sometimes less directly related to energy issues but relevant to energy citizenship. Illustrious examples of radical energy-related social movements include Trop is te veel! (Trop Is Te Veel!, 2023), the Slowheat initiative (*Collectief Slowheat*, 2021), refuse-to-pay initiatives (e.g. Wij betalen niet!, 2023), and the rapidly increasing focus on energy poverty and energy inequality in political activism that traditionally focuses on socioeconomic issues (workers' rights and the anticapitalist struggle more generally) (e.g. Klitkou et al., 2023; Silvast & Valkenburg, 2023).

Three Energy Citizenship Paradoxes

The Belgian context seems favourable for energy citizenship. This speaks from the abundance of energy citizenship initiatives but also from some key contextual factors.

In Belgium, a range of different actors coexists that continue to shape a political and democratic landscape that is favourable to civic action and energy citizenship. Governmental, semi-governmental, and private sector initiatives help citizens learn about energy saving and sustainable energy. Further, subsidies and low-interest loans are available to promote renewable energies and, for example, green heating. Moreover, Belgian legislation has established the specific rights and duties of energy pro- and consumers and energy producers. These rights enable the active participation of customers in the energy market through, for example, the facilitation of local sharing in renewable energy production.

Considering the proliferation of diverse energy citizenship initiatives (cf. section "Energy Citizenship in Belgium") and these general societal conditions, Belgium is arguably fertile ground for energy citizenship. The picture is more complicated than that, however. For example, elections do not highlight a picture of widespread adherence to energy citizenship ideals of sustainability, energy democracy, and inclusion—and there is marked political cleavage between Flanders and the Brussels and Walloon regions. Political indecisiveness regarding nuclear phase-out also indicates lasting political divides. Moreover, the recent political mobilisation around energy poverty and environmental justice issues indicates serious grievances regarding energy inequality and the distribution of energy citizenship responsibilities and rights. One may also consider the polls and surveys regarding trust in institutions and environmental citizenship. There still appears to be a large share of Belgians that, for various reasons, have *not* become active energy citizens.

As discussed in Pel et al. (2016) and Lennon and Dunphy (2023, p. 8), these tensions are integral parts of energy citizenship. It is not easy to break away from historically deep-rooted energy consumerism. Energy citizenship naturally shares the paradoxes associated with social innovation. More generally, it is not a clear-cut 'instrument' for energy transition (Wittmayer et al., 2020). Involving various forms of collaboration between governmental institutions and citizens, it is bound

to display the mixtures of inclusion and exclusion effects that characterise participative governance (Swyngedouw, 2005). Involving engaged citizens but also projects with substantial economic benefits, tensions between intrinsic and extrinsic motivations are likely to occur (Blok et al., 2023). Importantly, the paradoxes need not be taken as indications of 'false' or 'failed' social innovation (Pel et al., 2023). Instead, they indicate how social innovations typically develop in response to societal tensions (Westley & McGowan, 2017). In the following, we elicit three key paradoxes of energy citizenship in Belgium. These paradoxes reflect certain particularities of the Belgian context but also highlight tensions that seem to characterise energy citizenship more generally.

The Universality Paradox

'Energy citizenship' is not a very common term in Belgium, though the closely related notions of energy community and energy democracy hold particular currency. The notion of energy citizenship does evoke scepticism and suspicion, as transpired at our workshops in Belgium. The generic notion of citizenship often evokes uneasiness: *Which citizens? Energy citizenship for whom and by whom? How about underprivileged and underrepresented citizens?*

These doubts arguably reflect the universality paradox of energy citizenship. They reflect the discrepancy between, on the one hand, energy citizenship as a universalist concept and, on the other hand, the particularistic understandings of citizenship on which energy citizenship is built in practice: Many energy citizenship initiatives form around *particular* visions of energy transitions, *specific* groups of actors, and *specific* energy-related change ambitions. Energy citizenship tends to develop in *particular* micro-societies, with a limited, more or less well-defined, membership.

The paradox manifests strongly in the BBL home-renovation case (cf. section "Introduction: Energy Citizenship in Belgium"). The campaign revolves around the very idea that energy citizenship in Belgium is becoming out of reach for large groups of citizens and that the prevailing policies insufficiently account for the structural inequalities associated with energy poverty and energy literacy. Aiming to close the gap between already empowered energy citizens and those that involuntarily remain

'non-energy citizens', the initiative is supported not only by energy/environment-oriented societal actors but also by organisations combatting poverty and socioeconomic inequalities. These broad social movements exemplify the rise of a transformation-oriented (Debourdeau et al., 2024; cf. Fig. 2.5) and particularly universalistic energy citizenship in Belgium. The key point is to 'leave nobody behind' in the energy transition.

In contrast, the HOSE and the ULB energy-efficiency mission cases typically show energy citizenship that has developed in micro-societies—in cooperatives and at a large organisation, the university. Both initiatives may be driven by the societal goals of sustainable energy, yet citizenship is limited by membership, and costs and benefits are privatised (see also Bauwens & Defourny, 2017). Finally, the contradictions of universal citizenship are at the heart of the Extinction Rebellion case. Viewed from a representative-democratic standpoint, XR could be seen as seeking to push through political positions that only represent a minority of the electorate. On the other hand, XR appeals explicitly to the universal right of Belgian citizenry to be protected from a climate crisis and to the government's duty to take decisive action. Despite its appearance as a defender of partial interests and a group of actors refusing to be resigned to the decisions of a majority, XR is perhaps the most outspoken initiative in its universalistic outlook: It promotes a kind of energy citizenship that revolves around the responsibilities, rights, and duties of the entire political community in Belgium.

Another way to explain the paradox is this: Whilst representing quite different groups of citizens and civic interests, any of the four energy citizenship initiatives could be portrayed as the 'typical' or 'most promising' example of energy citizenship. In Belgium, energy citizenship is universal and particular all at once.

	Individual			Collective		Other
	Private	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative	1 (4.8%)	0 (0.0%)	3 (14.3%)	3 (14.3%)	5 (23.8%)	(0.0%)
Transformative	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (9.5%)	7 (33.3%)	

Fig. 2.5 Case classification: Reformative and Transformative, Individual and Collective (Pel et al., 2022)

The Materiality Paradox

Second, there is the materiality paradox. As Lennon and Dunphy (2023, p. 3) indicate, energy citizenship is a rather mysterious concept since it describes energy transition processes in social terms of citizenship—whilst a lot of 'programs and policies aimed at reducing energy consumption treat the buildings people occupy (be [they] the home, the workplace or a communal space) as the key unit of analysis, not the people who engage with and share these spaces'. This is hardly paradoxical, however, considering that social problems such as energy poverty are crucially caused by the structurally impoverished, dysfunctional, and inefficiently constructed building stock—especially in Belgium.

Instead, the materiality paradox resides in the mixed, contradictory significance of this problematic material heritage for energy citizenship. Belgian cases show the odd situation of energy citizenship that is developing *thanks to* an impoverished and seriously energy-insufficient building stock, which creates awareness and urgency. At the same time, this adverse material context renders much energy citizenship-related agency ineffective, invisible, and without reward—it is a driver and barrier all at once.

The key examples of this materiality paradox are the ULB energy-efficiency mission and the BBL home-renovation case. These cases show, first, how the impoverished material context can be the starting point for energy citizenship initiatives: The former incites shifts in organisational culture, the professionalisation of energy management, the empowerment and social recognition of repair workers, and the awareness-raising of individuals with limited energy literacy and energy citizenship. Likewise, initiatives such as the Slowheat network, which is experimenting with energy-sufficiency practices (*Collectief Slowheat*, 2021), can be seen as forms of collective coping with poor material circumstances. On the other hand, the political mobilisation around the affordability of energy and the right to decent housing also points in other directions—can energy citizenship behaviours be expected of individuals if the material conditions do not allow it? The ULB case elicits how energy-efficiency activities can be rendered futile, invisible, or cumbersome due to unreliable equipment. Regarding the broader relevance of this materiality paradox, one could also consider the rise of the *gilets jaunes*. Their resistance to fuel taxes highlighted the limited material conditions for many households in terms of changing their energy practices.

The Agency Paradox

Third, there is the agency paradox. Energy citizenship revolves around the activation of citizens. However, this tends to be successful only through the intermediation of various institutions and organisations—to the point of citizens delegating much of their energy citizenship agency and ultimately remaining relatively passive. This agency paradox recurs throughout analyses of social innovation more generally (Pel et al., 2023): Social innovations such as energy citizenship can often be attributed to particular innovation trailblazers, yet they also tend to be transmitted through broader networks of actors. Similarly, individual energy citizens are difficult to conceive of without the micro-societies that they form part of.

The agency paradox surfaces strongly in the Belgian context. Much energy citizenship is embedded in its particularly rich institutional context (cf. section "Energy Citizenship in Belgium"). The HOSE exploitation of hydroelectricity shows an impressive combination of governmental initiative, environmentally enlightened entrepreneurship, intermediation by the activist Triodos bank, collaboration between several cooperatives, and negotiations with various local authorities. Once the installations are in place, cooperative members can, to a considerable extent, lean back, however. In fact, citizens are even instructed to keep a certain distance from the installations for safety reasons. Likewise, one can consider how the BBL home-renovation campaign forms part of the broader development of the home-renovation sector. Including extensive empowerment programmes and initiatives aimed at increasing energy literacy, this sector also involves 'one-stop shops' that essentially unburden citizens along the whole home-renovation trajectory. In a similar vein, the organisational shift in the ULB energy-efficiency mission could easily signal to the university citizenry that they should just 'get back to work' and leave energy management to the supporting services.

In contrast, the Extinction Rebellion case shows the difficulty of sustaining energy citizenship-related initiatives *without* the intermediation of other actors. It is a matter of perspective assessing how active they are as energy citizens: On the one hand, they exhibit very active energy citizenship and conscious agency by putting themselves on the line. They explicitly seek to break through societal passivity and overcome the lack of governmental climate action. On the other hand, they have not managed to sustain their awareness-raising over extended periods and on a large

scale. Likewise, they do not implement projects. Symbolic rather than material, their energy citizenship does not leave much of a tangible legacy. And also in this case, the paradox arises of a deeply engaged and active energy citizenship activism that is primarily done *on behalf of*, rather than by and with, the broader citizenry—the latter who may partake rather passively, watching these highly mediatised energy citizenship activities from home.

Conclusion

Our leading research question was: *What are the key potentials and paradoxes of the Belgian energy citizenship context?*

Regarding the potential, perhaps the most encouraging message is that the four highlighted empirical cases (section "Energy Citizenship in Belgium") are all far from unique. They exhibit particular potential in Belgium for energy citizenship through membership in energy cooperatives, energy citizenship in an energy-sensitised workplace, the empowerment of disadvantaged energy citizens, and activist energy citizenship (involving civil disobedience). It is worthwhile considering how these forms of energy citizenship are developing in quite distinct 'micro-societies', each approaching energy and citizenship issues in their own ways.

The Belgian context also calls attention to three paradoxes, however.

1. *The Universality Paradox*: energy citizenship is a universalist concept, yet energy citizenship practices tend to develop around *particular* visions of energy transitions, *specific* groups of actors, and *particular* energy-related change ambitions.
2. *The Materiality Paradox*: energy citizenship develops thanks to a seriously energy-insufficient building stock, which creates awareness and urgency. Yet this adverse material context also renders much energy citizenship-related agency ineffective, invisible, and unrewarding.
3. *The Agency Paradox*: energy citizenship revolves around the activation of citizens, yet this tends to be successful only through extensive intermediation—eventually leaving citizens relatively passive.

These paradoxes should not be mistaken for barriers to energy citizenship. Nor are they to be taken as indications that the Belgian context is unfavourable for energy citizenship. Instead, the paradoxes indicate how social innovations such as energy citizenship tend to be born out of societal tensions (Westley & McGowan, 2017). Combining enterprise with community values, energy cooperatives such as those of HOSE are, for example, rather paradoxical, hybrid organisational forms. The civil disobedience of XR at once appeals to citizenship and oversteps prevailing agreements about it. Energy citizenship initiatives find ways to reconcile these tensions but cannot fully resolve them. Instead of trying to grow, scale, and replicate energy citizenship initiatives that are just too diverse and context-bound for that, Belgian energy citizenship policies would better learn from the energy citizenship initiatives and their specific ways of addressing societal tensions—the paradoxes of energy citizenship run throughout society. Also, policymaking itself must deal with some of the paradoxes. On the one hand, there is a strong awareness of administrative complexity and the difficulty of organising forceful collective action at the national level (especially concerning environmental issues, where the political polarisation between Flanders, Brussels, and Wallonia is significant). On the other hand, there is also still a strong belief in transversal policies, integrative solutions, and a 'just' Transition, guided by and leading towards an 'ecological state' (Fransolet & Vanhille, 2023)—whilst the very existence of a decisive state power is in question. In other words, the described universality, materiality, and agency paradoxes provide important reality checks for energy citizenship policies: *Are they sufficiently detailed and context-sensitive to respond to these paradoxes? How are they striking a balance regarding the recurring societal tensions that energy citizenship initiatives emerge from and try to reconcile?*

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CHAPTER 3

For and By Citizens: The Various Faces of Energy Citizenship in Germany

Ariane Debourdeau and Martina Schäfer

Abstract Since the term *Energiewende* (energy transition) was coined in the early 1980s, Germany has often been seen as a pioneer in the transition towards an energy system based on renewable energy sources. However, to what extent is the German energy transition linked to the environmental and anti-nuclear movements of the 1980s and shaped by different forms of energy citizenship? Beyond the strong support it receives from a large part of the population, the energy transition encompasses highly diversified faces of citizen involvement. Our empirical investigation of energy citizenship in Germany underlines the key role of engaged individuals (or groups of individuals) in promoting both energy democracy and citizenship by enabling and empowering other citizens to be part of the energy transition in various ways and scales. The latter addresses a large range of issues, from energy saving to renewable energy production and sustainable mobility. The outcome

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orientation of energy citizenship initiatives differs between rather reformative approaches that try to improve the current energy system and more transformative approaches that question current structures and aim to create a more decentralised, democratic and just energy system. This chapter presents insights into the diversity of forms of energy citizenship in Germany and the legal and political context in which they operate.

Keywords Energy citizenship in Germany · Anti-nuclear protest · Empowerment · Common good · Energy democracy

> There are a lot of people who want to do this, who are doing it, who are driving it forward. That's why we do things like the Energy Community of the Month [and use] so many communication formats, always showing that it's possible, that it works. You just have to do it, then it works. And then you can take your own chances. (Coordinator of an energy citizenship organisation, translation by authors)

The emergence of both anti-nuclear protests and the green movement in the 1970s in Germany were important impulses for reshaping an energy sector that, since the 1950s, had relied on both coal and nuclear energy for more than 85% of Germany's electricity generation (Renn & Marshall, 2020). This historical specificity explains in many respects why the term Energiewende was coined in the early 1980s. Since then, Germany has often been seen as a pioneer in transitioning to an energy system based on renewable energy sources (Curry, 2019). However, to what extent is the German energy transition linked to the environmental and anti-nuclear movements of the 1980s and shaped by different forms of energy citizenship?

This contribution begins with an overview of the socio-political landscape favourable to energy citizenship that characterises Germany. Then, it presents details of the highly diversified forms of citizen involvement in the energy transition, highlighted by the mapping of 42 cases of energy citizenship across Germany. Our empirical investigation of energy citizenship in Germany underlines the key role of engaged individuals and collectives in promoting rather transformative forms of energy citizenship that support the energy transition. Our detailed case studies

emphasise four main transformative trends associated with energy citizenship in Germany: DIY valorisation and empowerment, (re)discovery of the "energy commons", political commitment and a strong sense of pragmatism that enables energy citizenship initiatives to endure and perform.

A Longstanding Favourable Landscape for Energy Transition and Citizen Participation

The emergence of German energy citizenship is closely linked to the rise of the strongest anti-nuclear movement worldwide in the 1970s. The oil crisis of the 1970s, combined with the first nuclear accident in Three Mile Island in 1979 and growing opposition to nuclear power, were the ingredients that led environmental activists to look for alternatives. Part of the movement was engaged at an early stage in the bottom-up development of renewable energy sources (RES) in areas such as the "solar region" of Freiburg (Hager, 2016) and the foundation of one of the oldest German citizen energy communities, EWS Schönau (created in 1994). While anti-nuclear protests partly resulted in serious confrontations with the police, German energy policies began to change at a rather early stage, supporting the transition towards renewable energy sources. In December 1990, Germany laid the foundation for some later forms of energy citizenship by adopting the Electricity Feed-In Act, which obliged electricity supply companies to purchase and remunerate third parties for the electrical energy they produced from renewable energy sources. This act can be regarded as the forerunner of the Renewable Energy Sources Act (EEG), a pioneering energy policy designed to support the development of renewables passed in 2000, similar to regulations later adopted in many other European countries (Debourdeau, 2011). The consecutive iterations of the EEG and the definitive nuclear phase-out decided on in 2011 after the Fukushima accident have deeply anchored the energy transition in the German socio-political landscape.

This German context is somewhat distinct from that in other European countries in terms of the general support of the population for the energy transition, private ownership of renewable energy sources and the number of citizens involved in the numerous energy cooperatives founded since 2006. At the end of 2022, 85% of the German population was found

to favour renewable energy sources[1] and 66% considered building RES power plants in their neighbourhood (>5 km) as a good or very good thing.[2] The energy cooperative movement is also relatively strong, with 950 energy cooperatives founded since 2006 (DRGV, 2023) and around 220,000 members. Although this share is tending to decrease, in 2022, 30% of the RES capacity for electricity generation was still in the hands of private individuals (and an additional 10% in farmers' hands), 2.2 million households and companies had installed solar panels on their rooftops or plots of land and more than 1.4 million households were earning an income from their solar panels. Furthermore, in 2023, 25% of the German population was considering taking part, at least financially, in a citizen-led energy cooperative.[3] Figure 3.1 displays some of the results for Germany identified by the EnergyPROSPECTS survey 2023 (Hajdinjak et al., 2024).[4] This underlines the extent to which German citizens also tend to regard themselves as "energy citizens": Two-thirds (66%) consider that "the energy transition is a joint task of everyone in society, therefore it is a responsibility of all citizens to become more active". When envisioning their role in 2030, 56% disagree that they "hav[e] no interest in participating in the energy transition". Conversely, 38% show no interest in participating, perhaps because the majority (65%) agree or strongly agree with the statement that ordinary citizens' views and ideas are not taken seriously enough by politicians. This echoes the relatively strong polarisation of the debate in Germany—namely, 34% of citizens believe that the energy system is developing in the wrong direction versus 55.5% that believe it is headed in the right direction (but too slowly for 43% of them).

[1] According to the acceptance survey conducted in 2022 for the Agency for Renewable Energies (AEE), 66% consider the expansion of RES to be 'very' or 'extremely' important and 19% 'important' (https://www.unendlich-viel-energie.de/themen/akzeptanz-erneuerbarer/akzeptanz-umfrage/umfrage-wunsch-nach-versorgungssicherheit-befluegelt-akzeptanz-von-erneuerbaren-energien).

[2] Ibid.

[3] Although only 4.5% report to being members of a renewable energy cooperative (a little more than the 3% that are actually members of an energy cooperative), almost 25% are considering becoming one in the future, according to the EnergyPROSPECTS Survey.

[4] Except when other sources are mentioned, all the percentages mentioned in this paper are derived from the EnergyPROSPECTS survey.

Fig. 3.1 Personal feelings regarding the energy transition in Germany (EnergyPROSPECTS Survey, 2023)

This (rather) favourable social context would not be possible without the parallel development of supportive energy policy frameworks and strong statements such as that associated with the Federal Constitutional Court decision from April 2021, which ruled that the target

of the 1.5-degree warming limit set out in the Paris Climate Agreement is constitutionally binding so that climate and energy goals must be defined accordingly. The Climate Action Programme 2030 and the Federal Climate Change Act (renewed in 2021), implemented through, for instance, the latest version of the Renewable Energy Act (EEG 2023) and the Building Energy Act, provide a framing that fosters energy transition, while claiming that "every individual will find his or her way in the transformation, including those on a low income".[5] But how are these ideas concretely translated in terms of energy citizenship? And how does energy citizenship contribute to the German energy transition? These core questions were explored by mapping 42 cases of energy citizenship in Germany and undertaking four detailed case studies, which allowed us to draw a comprehensive picture of energy citizenship in Germany.

Deciphering the Diversity of Energy Citizenship in Germany

In pursuit of identifying and embracing the diversity of energy citizenship, 42 energy citizenship cases from Germany were mapped (Debourdeau et al., 2022) from the EnergyPROSPECTS database of 596 cases of energy citizenship across 17 European countries. The objective of the mapping process was not to achieve representativity but to develop an overview of different forms of energy citizenship. Therefore, specific attention was paid to the innovative characteristics of the cases and the actuality and originality of citizens' involvement in them.[6] The 42 cases are well distributed across Germany (including ten cases in Berlin) and represent a wide diversity of forms of energy citizenship since the chosen cases could be assigned to seven of the ten "ideal-types" developed in the conceptual typology (Debourdeau et al., forthcoming).

[5] German Federal Government, Key elements of the Climate Action Programme 2030, 20 September 2019, accessed November 2023.

[6] More precisely, basic forms of energy citizenship, such as energy cooperatives, were only included once, except when the cases had a specific focus that contributed to our understanding of the forms of energy citizenship, such as the gender orientation of the Windfang women's energy cooperative. Furthermore, the mapping did not consider the geographic distribution of the cases across Germany as a criterion. In other words, the aim was not to give a representative picture of energy citizenship in Germany, but to illustrate the diversity of its forms.

The empirical data related to the German cases showed that among the three main sources of motivation for initiating the cases, a desire to "increase public involvement" and "contribute to the energy transition" were the most salient (56% each). The next most important drivers were the aim to contribute to the "production and/or use of renewable energy" and the "recognition of the seriousness of climate change", which were key motivations in one-quarter of cases (24% each). The third factor, associated with a little more than one-fifth of cases, was "community building". This confirms the importance of Energiewende in German public life.

Responses about what the case initiators want to achieve primarily align with the motivations for starting the cases. However, climate protection was more clearly addressed in terms of achievements than as a source of motivation. "Reducing the carbon footprint" was reported to be an important goal for 31% of the initiatives, whilst "promoting and enabling climate action" was an objective for more than 26%. The motive "creation and promotion of alternative societal and/or economic models" was also strongly underlined (29%), as well as that of "energy democracy" (21.4%).

The aims of the cases can be quite clearly translated into outcome orientations—either "reformative" (i.e. aiming at incremental change with moderate concern for energy democracy and environmental sustainability) or "transformative" (i.e. aiming at radical change with strong concern for energy democracy and environmental sustainability). The distribution of the former clearly emphasises the cases' transformative character since 29 of the 42 cases (69%) were categorised as such (see Fig. 3.2). The transformative outcome orientation relies mainly on the agency of organisationally embedded, citizen-based or hybrid and social movements, whilst the reformative outcome orientation mainly refers to private or public individual agencies and some citizen-based and hybrid engagement. Beyond this general picture obtained from mapping the German cases, the four detailed case studies enabled a deeper understanding of transformation-oriented energy citizenship in Germany.

	Individual			Collective		Total
	Private (in the household)	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative	1. Do their bit (in the household) **4 cases (9.5%)** Ex: •Durchblick Energiewende •NRW fights energy poverty •Energy-saving-check	3. Do their bit (within organisations) **No case**	5. Make their voice heard **4 cases (9.5%)** Ex: •Citizens' dialogue on the power grid •BEK 2030	7. Do their share **5 cases (12%)** Ex: •Möckernkiez cooperative •Municipality Fuchstal •New mobility Experience in Schöneberg Nord	9. Do the job **No case**	13 cases (31%)
Transformative	2. Do their own (in the household) **3 cases (7%)** Ex: •bewirk.sh •Climate protection citizens 2.0 •Local heating network in Unterspiesheim	4. Do it their way (within organisations) **5 cases (12%)** Ex: •Futur 2 Festival •Holger Laudeley •Hörmann's Hydrogen house	6. Make their vote count **No case**	8. Go ahead **14 cases (33%)** Ex: •CEC Wolfhagen •Energie Netz Hamburg Coop. •Schönau Power Utility (EWS) •Windfang Women's EC	10. Make their claims **7 cases (17%)** Ex: •Futur 2 Festival •Holger Laudeley •Hörmann's Hydrogen house	29 cases (69%)

Fig. 3.2 Distribution of German cases categorised according to main ideal-types (Adapted from Debourdeau; Schäfer; Buse; Szőllőssy; Vadovics, 2022)[7]

[7] All the results dealing with the mapping of the German cases are detailed in the dedicated Energy Citizenship Country Profiles (https://www.energyprospects.eu/fileadmin/user_upload/lu_portal/www.energycitizen.eu/EP_ENCIcountryprofiles_Germany_2022-updated.pdf) (Debourdeau; Schäfer; Buse; Szőllőssy; Vadovics, 2022).

Transformation-Oriented Energy Citizenship in Germany: Between DIY, Common Good, Political Engagement and Widespread Pragmatism

The four detailed case studies enable us to emphasise various aspects of the transformative outcome orientation and how this is often combined with a more reformative and pragmatic perspective. Four interrelated features appeared to be particularly salient in the detailed case studies: the "do-it-yourself" perspective (i.e. the willingness of individuals or groups of individuals to contribute to the energy transition); a strong sense of the need for "energy commons", or perceiving energy as a common good; a case's political commitment and a generally pragmatic approach that contributes to the relative (financial) independence of the initiative.[8] Before addressing those specific points in more detail, we provide a brief overview of the four cases.[9]

- *Bürgerenergie Berlin (BEB)*[10] is a cooperative created in 2011 to make possible the financial participation of citizens in the ownership and management of the grid, which they could not accomplish so far. Meanwhile, BEB has extended its focus on empowering citizens in various ways, especially by promoting the tenant electricity model in the German capital.
- *LaVidaVerde* is a sustainable housing community in Berlin Lichtenberg. Initiated in 2008–2009, the LaVidaVerde project achieved its primary goal once the Plus energy building had been constructed and inhabited by the case members in 2014. Since then, the LaVidaVerde sustainable housing community members have organised and managed an energy-efficient building that is not under threat from the well-recognised speculative practices that affect the real estate market in the German capital.

[8] Almost a quarter of the mapped cases (23.7%) are primarily financed through cooperative and community shares.

[9] A synthesis of these four cases is presented in Vadovics et al. (2024).

[10] The name Bürgerenergie Berlin was translated into "Berlin Citizen Energy" in some project materials created by EnergyPROSPECTS. However, since this translation is not fully accurate, we use the original German name in this chapter.

- *Naturstrom AG* is a joint stock company created in 1998 by members of environmental and renewable energy associations, including BUND (Friends of the Earth Germany), NABU (the Nature and Biodiversity Conservation Union), BWE (the German Wind Energy Association) and Eurosolar, made possible by the liberalisation of electricity markets in Europe. Created as a green power supplier, it has increased its scope of activities to become an important energy player in Germany, supplying more than 300,000 households, companies and associations with green power. Since 2015, the company has developed more than 350 innovative projects for the regional production and use of renewable energy, sustainable local heating solutions and district concepts, including mobility initiatives.
- *Solocal energy* was created in 2019 in Kassel with the motto "shaping […] climate change from the bottom in a visionary way". To address global climate change from below and empower the community, their activities focused on a DIY approach to creating affordable balcony power plants, DIY groups for larger rooftop PV plants and neighbourhood climate circles.

DIY and Empowerment as a Part of Energy-Citizenship-Conscious Lifestyles?

The mapping of 42 cases revealed the importance of individuals or groups of individuals in energy citizenship, representing 48% of the case initiators. This observation is not only valid for individual cases related to prominent personalities such as Holger Laudeley (called the "photovoltaic pope" in the regional press due to his visionary projects such as solar balcony power plants) but also for collective cases such as Solocal Energy and LaVidaVerde, which small groups of committed individuals initiated. This may partly explain the emphasis on DIY aspects, part of a broader trend to energy citizenship in Germany that is evolving quite rapidly: Two years ago, a picture of a balcony power plant illustrated an ideal-type of transformative energy citizenship in the household. Nowadays, balcony power plants can be found in any DIY store and are widely found in urban settings such as Berlin. Meanwhile, Solocal Energy in Kassel progressively abandoned the "simple" installation of balcony power plants for households, instead empowering people to do it themselves, just as they did

with the DIY construction groups for installing solar panels on rooftops. The community self-construction of solar plants is also promoted by Bürgerenergie Berlin (BEB), which supports citizens building PV systems on their roofs independently in the following four ways: By advising them at the planning stage, by facilitating the order of solar material from wholesalers, by providing access to a tool bank and, if necessary, by acting as an intermediary for tradespeople such as electricians.[11] Similarly, the sustainable housing community from LaVidaVerde has also adopted this DIY orientation, notably through the self-management principles that govern the community's everyday life, alongside the various working groups among which the tasks are distributed.

The Rediscovery of Energy as a Common Good

As underlined by Ohlhorst (2018, p. 110) and Zweck et al. (2015, p. 122), the growing role of energy as a common good is clearly contributing to shaping the various forms of energy citizenship in Germany. The EnergyPROSPECTS survey confirms this trend (Fig. 8.1), with almost 54% of the 1,000 respondents considering this value as important or highly important. Far from contradicting the DIY trend, reaffirming energy common as a common good connects individual commitments with collective forms of energy citizenship. Since its founding in 2011, BEB has intended to "re-communalise" the Berlin grid, i.e. to take part in the concession process and eventually own and manage the power infrastructure in the form of a cooperative. In 2021, the power grid in Berlin was repurchased from Vattenfall by the city of Berlin, which was not the organisation's original goal but was still supported by BEB and seen as a step in the right direction. At the same time, the organisation is still calling for citizen participation in energy grid ownership, for which purpose they have collected 12 million euros from BEB members. The concept of energy as a common good is closely related to ideas about energy democracy and justice, as highlighted by BEB's self-description: "We are a free, cross-party association of citizens who are committed to a future-proof, sustainable and democratic energy policy in Berlin".[12]

[11] An interesting community self-building experience is reported on the BEB Website (https://www.buerger-energie-berlin.de/artikel/gemeinschaftlicher-selbstbau-ein-erfahrungsbericht/).

[12] https://www.buerger-energie-berlin.de/beb/.

Alongside energy democracy, empowerment is a core notion, as a member of Solocal Energy underlined:

> (…) We have our own PV system on the roof at home, with the family, of course, and the good feeling of generating and using renewable energy. And we also feed some into the grid so that others can benefit from it as well. And, well, what I found great is that I could bring in my knowledge and my work performance to support the others in their projects—well, we have a community, a self-construction community [which] means, yes, [that] others help […] me, and I help […] others. And, yes, that has something to do with the common good (…).

In line with the pursuit of the common good, ideas about energy democracy are also present in the Naturstrom case, particularly on the Naturstrom Blog[13] and regarding the Naturstrom Foundation's activities.[14] The extended collaboration between Naturstrom and energy cooperatives and communities recently motivated its longstanding CEO, Dr Thomas E. Banning, to state that the energy cooperative movement "is fundamentally about democratising the energy economy".[15] Thanks to its collaboration with the Mietshäuser Syndikat, the LaVidaverde sustainable housing cooperative managed to transform its "Plus" energy building into a "commons" by protecting it from privatisation processes in the real estate market. The Mietshäuser Syndikat network supports more than a hundred similar housing structures in Germany. It has developed an organisational form that legally precludes the housing association from selling and thus privatising the buildings. This is the only way to guarantee that these houses are removed from the real estate market in the long term and are always owned by those who live in them. These examples are only a few among many other initiatives in Germany. Energy

[13] See for instance Robst, B. (2020). *Klimaneutral dank Bürgerengagement? So geht's!* (https://blog.naturstrom.de/nachhaltig-leben/how-to-klimaneutrale-stadt/).

[14] Created in 2011, the Naturstrom Foundation aims to advance engagement in the energy transition, with a clear orientation towards creating an energy common: "The core values of the NATURSTROM Foundation are a focus on the common good, fairness, transparency and trust" (Raupach & Müller, 2021, p. 55).

[15] In an interview published on a dedicated Naturstrom website dedicated to their 25-year anniversary, the longstanding Naturstrom CEO Dr Thomas E. Banning points out that the energy cooperative movement "is fundamentally about democratising the energy economy".

democracy is indeed one of the four main goals driving the creation of the 42 cases. Sixty per cent of the mapped German cases are characterised by a high degree of citizen power/control (i.e. they consider citizens' views or votes as mandatory forms of input), 62% strongly contest the current energy system and strive for radical changes towards decentralisation and democratisation and 73% demonstrate a medium-level or high degree of concern for justice and equity.

Multifaceted Political Engagement

The engagement of energy citizenship initiatives within the political arena echoes the importance awarded energy democracy and the contestation of the current energy system towards a view of energy as a common good. As a member of the Berlin Energy Table (Berliner Energietisch), BEB supported a referendum in 2013 which aimed at putting the energy grid in citizens' hands. More recently, in 2023, it gave support to a referendum associated with the Climate and Energy Act whose content is to achieve carbon neutrality in 2030 instead of 2045. Its political weight has recently increased since BEB co-founder Arwen Colell was appointed a member of the supervisory board of the now remunicipalised Berlin electricity grid. Solocal Energy core members are also involved in local politics and develop relationships with local government. LaVidaVerde also has relatively strong political engagement—from 2014 onwards, LaVidaVerde started to contest legislation proposed by the federal government following the bankruptcy of the wind power operator Prokon. The new legislation argued for protecting small property owners but endangered alternative collective projects such as LavidaVerde. A collective movement called We Are Not Prokons led by the Mietshäuser Syndikat was created and managed to secure an adaptation to the law that was adopted in April 2015 and addressed collective housing projects. Last, Naturstrom has been, from the very beginning, a highly politically engaged company, as underlined on a website page celebrating twenty-five years of its existence:

> What a handful of visionaries started in 1998 […], is still electrifying today: the idea of a radical change in energy production and supply. Away from coal and nuclear power—towards renewable energy sources. Away from the monopolised electricity market—towards liberalisation and proximity to citizens. Away from the energy of the past—towards energy with a future.[16]

[16] https://25-jahre.naturstrom.de/.

A Transformative Outcome-Orientation Mixed with Strong Pragmatism

Pragmatism seems to be a core feature of the energy citizenship cases that were analysed—even the transformative ones if we consider the ability of cases to be self-sustaining as a pragmatic characteristic. For Solocal Energy, this pragmatism has consisted of ensuring a minimal income by selling balcony power plants. However, they adapt the price of the equipment and its operationalisation depending on the household income level to make it affordable to low-income people. Although once considered pioneering, Naturstrom's core activity consists of selling green electricity, which now can be seen as a rather reformative approach (in contrast to when it was founded in 1998). BEB is now involved in various activities, such as supporting DIY construction groups and tenant electricity (Mieterstrom) projects, which can also be considered reform-oriented but ensure the case's viability over time. LaVidaVerde has also had to cope with some administrative issues, renounced its idea of sharing its electricity surplus within the neighbourhood, and abandoned the planned construction of a facility for the treatment of grey water for technical and administrative reasons (Henseling et al., 2017, p. 11).

Conclusion

The political framework conditions in Germany for the energy transition are trending in the right direction, accompanied by extensive commitment from citizens to this goal. In recent years, innovative start-ups and NGOs have emerged that are experimenting with new business models and pushing decision-makers to move forward. However, some critical aspects have still not been addressed in federal or state rules, such as the development of an operational framework for promoting energy-sharing and other peer-to-peer local energy markets. It is also alarming that no common narrative or positive vision about the significance of the energy transition for the development of German society exists and that discourses are becoming increasingly polarised. Both framings and narratives about the energy transition still need to be strengthened, i.e. widened and deepened, to overcome the remaining barriers that prevent citizens from becoming involved in the energy system. Energy citizenship has a core role to play in overcoming these hurdles.

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CHAPTER 4

Energy Citizenship in Hungary: Diversity, Actors, Focus and System-Contestation

Edina Vadovics and Anita Szőllőssy

Abstract Researchers often find that the systemic conditions for supporting active energy citizenship are lacking in many respects in Hungary. Nevertheless, despite this unfavourable context, there are numerous and diverse examples of energy citizenship in the country, 56 of which have been mapped and studied in the framework of the EnergyPROSPECTS project. In this chapter, we provide an overview of these cases, focusing on the following four aspects. First, we take a closer look at the actors initiating and involved in the cases at the time of our process of data collection (2021–2022), followed by an analysis of the focus and objectives of the cases. Then, we examine to what extent the cases mapped in Hungary are progressive, i.e. whether they can be considered frontrunners in their own national context and a European context. Finally, we look at the system-contesting capacity of the cases from the

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point of view of their participation in creating a more just, equitable and environmentally sustainable energy system.

Keywords Energy citizenship · Hungary · Sustainable energy · Frontrunner · System-contesting · Equity and justice · Energy transition

Introduction: The Diversity of Energy Citizenship in Hungary

This chapter showcases the diversity of energy citizenship in Hungary, a country where the socio-political and legal context has not been found to be very supportive of active citizenship (e.g. Antal, 2019; Hajdinjak et al., 2023; MTVSz et al., 2021; Vadovics, 2019). Even the term "energy citizenship" is hardly used or known (Pel et al., 2022). However, as we uncovered in our mapping of energy citizenship and discussions with stakeholders, both conducted within the framework of the EnergyPROSPECTS project, despite this unfavourable context, there is evidence of a diversity of active cases in the country. This is partly due to the geographical location of the country and its membership in the European Union (EU): cases are often inspired by pre-existing ones in other EU countries (Szőllőssy & Vadovics, 2022). However, it is also thanks to active citizens and organisations recognising the urgent need for the transformation of the energy system and searching for alternative, more sustainable ways of producing, consuming and distributing energy.

Thus, the questions we investigate in this chapter are as follows:

- what can we say about the diversity of energy citizenship in Hungary?
- who are the main actors that initiated and are involved in the cases, and what are their main objectives?
- are the cases progressive, i.e. do they tend to be "frontrunners" or "laggards"? And do they contest the current energy system?

In exploring these questions, we find it instructive to compare the outcomes in Hungary to those we see in the broader European context to contextualise and understand the country's specific situation.

In the EnergyPROSPECTS project, we mapped and studied close to 600 cases of energy citizenship in Europe, of which 56 cases were from Hungary.[1] For the mapping activity, we aimed to create a snapshot of the diversity of cases that could be identified in Europe following a desk-based research process described in detail in Vadovics et al. (2022). Thus, the cases we mapped are varied—in line with the project's research objective and based on the definition of energy citizenship that was adopted therein:

> Energy citizenship refers to forms of civic involvement that pertain to the development of a more sustainable and democratic energy system. Beyond its manifest forms, [energy citizenship] also comprises various latent forms: it is an ideal that can be lived up to and realised to varying degrees, according to different framework conditions and states of empowerment. (See p. 64 in Pel et al., 2021)

Most (86%) of the cases we mapped in Hungary were still active during our research. Although most (~80%) started after 2010, we also included some that began their activities in the early 1990s. Most (88%) cases are collective, and just over a tenth (12%) are individual cases. In assessing their goals, we determined that half of them (50%) focus on holistic, broader change, with a smaller proportion (39%) focusing on energy-specific goals. On the other hand, one-tenth (11%) are focused mainly on mobility. Interestingly, nearly a fifth of all the Hungarian cases (18%) focus on issues related to disadvantaged groups, like those involving energy poverty, minorities, etc. However, a specific gender focus is less widespread (7%) (Szőllőssy & Vadovics, 2022).

[1] To find out more about the cases that were mapped in Hungary and their analysis, please consult our Energy Citizenship Country Profiles: Hungary report (Szőllőssy & Vadovics, 2022). To learn more about all the cases mapped, please visit https://data.energyprospects.eu/

Furthermore, we also looked for diversity in connection with the ten ideal-types of energy citizenship identified by Debourdeau et al (2024). In Hungary, we mapped cases representing each ideal type (see Table 4.1). As is also evident from Table 4.1, most of the cases we mapped could be categorised as individual/private, collective/citizen-based or hybrid. The former includes cases focusing on individual and household-level action, such as saving energy through behaviour change and renovating homes to make them more energy efficient. These examples are on the more "reformative" side of energy citizenship, which refers to cases that do not typically challenge the current situation. On the more "transformative" side are individual/private cases that involve people who managed to become self-sufficient and even independent of the energy system (i.e. going off-grid). In addition to achieving self-sufficiency, we also identified cases of individuals who communicate and/or teach this form of energy citizenship to others. As for the collective citizen-based and hybrid cases, the more reformative cases include group-based energy-saving projects, settlement-based climate or carbon clubs, municipality-driven cases focusing on providing passive social housing, etc. The transformative cases include, for example, a municipality that managed to transform a settlement into a frontrunner renewable energy village, a community energy service company as well as a degrowth-principles-based cargobike project. It is noteworthy that, given the unfavourable policy and regulatory context, there is only one currently active community energy project in Hungary (see also Wierling et al., 2023). Nevertheless, numerous cases can still be classified as citizen-based and hybrid.

Table 4.1 Distribution of Hungarian cases according to their main ideal-type (*Data source* Szőllőssy & Vadovics, 2022)

	Individual			Collective		Other
	Private (in the household)	Organizationally embedded	Public	Citizen-based and Hybrid	Social movements	
Reformative **Total: 30 cases**	1. Do their bit (in the household) **10 cases (17.9%)**	3. Do their bit (within organisations) **2 cases (3.6%)**	5. Make their voice heard **2 (3.6%)**	7. Do their share **14 cases (25%)**	9. Do the job **2 cases (3.6%)**	**4 cases (7.1%)**
Transformative **Total: 22 cases**	2. Do their own (in the household) **6 cases (10.7%)**	4. Do it their way (within organisations) **1 case (1.8%)**	6. Make their vote count **1 case (1.8%)**	8. Go ahead **11 cases (19.6%)**	10. Make their claims **3 cases (5.4%)**	

Mapping Outcomes: Who Are Hungary's Main Energy Citizenship Actors, and What Do They Focus On?

Following the latter showcasing of the diversity of cases, this section provides an *overview of the Hungarian cases that focuses on three aspects: actors, objectives and progressiveness* (in terms of frontrunners and laggards). We also identify other patterns that are reflected in our analysis of energy citizenship.

As with other Eastern European post-socialist countries, social and citizenship activity in Hungary typically remains weaker than in Western countries. This is mainly because of the different historical factors. Strikingly, there is often a paternalistic attitude in these countries and a tendency to look to authorities, NGOs and municipalities to solve problems (Hajdinjak et al., 2023). This situation is indeed reflected in our data.

In relation to *initiating actors*, our analysis shows that the role of NGOs and municipalities seems to be more important in Hungary than in Europe in general (Fig. 4.1). This is illustrated by the fact that NGOs initiated the most significant proportion of cases in Hungary, followed by municipalities. Yet in the whole (European-level) database, individuals accounted for the most significant proportion of cases (Szőllőssy & Vadovics, 2022, 2023a, 2023b).

In addition, the organisational background remains a key variable in the operation of the cases. Looking at the actors involved in the cases at the time of our research, we find that NGOs are the most important actors in Hungary and Europe overall. The importance of municipalities is still a little higher in Hungary, but individuals and groups of citizens also play a more significant role at more evolved stages. It is also interesting to note that while for-profit companies are important actors in energy citizenship cases in Europe, their role is significantly less pronounced in Hungary (Szőllőssy & Vadovics, 2022, 2023a, 2023b).

Although there is strong organisational dominance among the actors who started the cases, the aim is clearly to encourage active citizenship and participation. For example, although *the SUNRISE (Törökőr) project* was initiated by a municipality in Budapest, one of the main goals of the case was to encourage the involvement, awareness-raising and activisation of local citizens, which was successfully achieved. This case aimed to broaden and deepen a pre-existing participatory planning process and

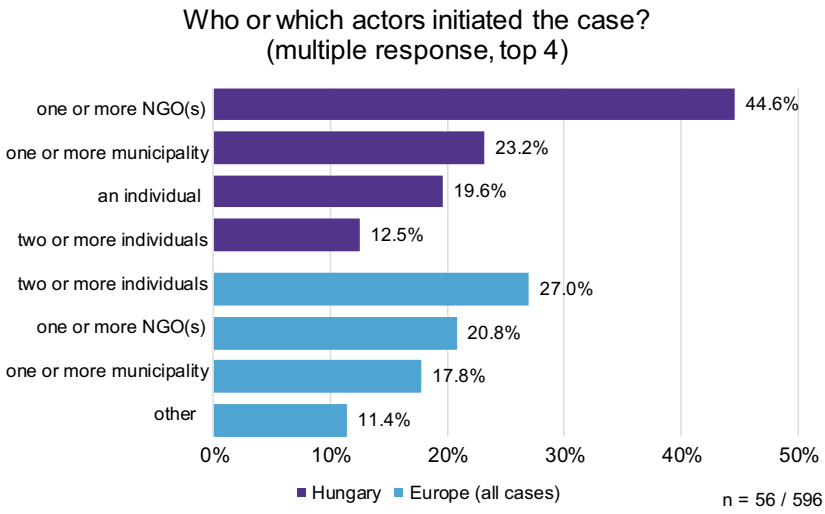

Fig. 4.1 Identity of initiators of cases of energy citizenship in Hungary and Europe—the four most important actors (*Data sources* Szőllőssy & Vadovics, 2022, 2023a)

develop sustainable cooperation between local stakeholders for the joint assessment and planning of mobility issues. Another good example is *Cargonomia*, initiated and organised by several well-established NGOs and small enterprises that focus on community development and raising awareness while providing local organic food, delivered using cargobikes. This case actually involves the formalisation of pre-existing cooperation between three socially and environmentally conscious small enterprises. These enterprises aimed to show how environmentally friendly and equality-based partnerships can create sustainable and meaningful community empowerment opportunities that offer concrete and practical alternatives to standard profit-driven social and economic systems.

As for the objectives of the cases, a trend that we observe in Hungary is that action against climate change at the general social and political level in the country started slightly later than in other, mainly Western and Northern European countries (Munkácsy, 2004; Schneider & Medgyesi, 2020). Thus, the motivations and objectives behind a large number of Hungarian energy citizenship cases include seeking to replicate examples elsewhere (cf. initiatives inspired by "other similar cases", Fig. 4.2). These

are cases that organisations and individuals learn about in EU-funded projects, best-practice databases and media outlets. This also shows that European public funding plays a vital role in Hungary, and many of the cases we mapped in our research are part of larger multi-country projects.

One such case is *Biobriquettes for the energy poor*, which aims to produce biomass briquettes, a low-cost, environmentally friendly fuel, by hand pressing. This technology has been tried and tested in other countries. Another example is *RenoHUb*, a one-stop-shop model adopted in Hungary to facilitate and support energy-efficient housing renovation.

Nevertheless, in Hungary, the most prominent motivation is recognition of the severity of climate change, with almost half of the cases inspired by this factor (Fig. 4.2).

The previous observation that climate action in Hungary lags slightly behind that in Western countries is also illustrated by the analysis of our data concerning whether the cases we mapped are frontrunners, early adopters, (part of the) early or late majority or laggards. We define a frontrunner as a case or an actor that "unleashes the change process, starts the innovation, whether technological or social and takes it through the first difficult stage, i.e., pioneers, trendsetters, those who wish to lead and/or have the resources to lead the change process". In contrast, late adopters or laggards are actors who are "traditional, slow to change, not yet in a position to change, or those who are resisting change, or who do not wish to 'adopt' and change" (see p. 5 in Szőllőssy & Vadovics, 2023b).

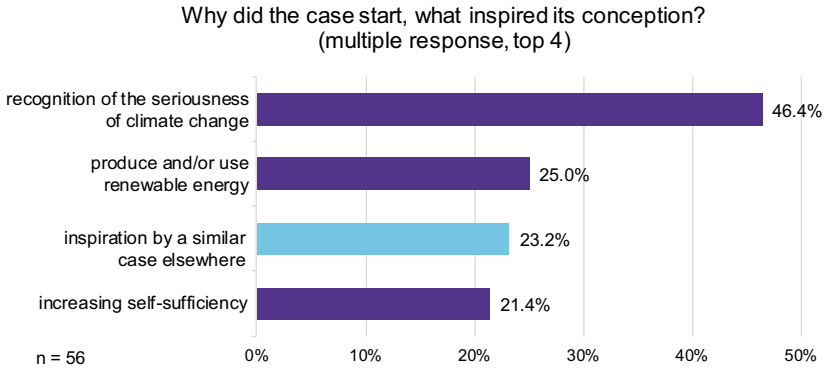

Fig. 4.2 The four most important sources of motivation for cases of energy citizenship in Hungary (*Data source* Szőllőssy & Vadovics, 2022)

Considering the national energy citizenship landscape, we expected many cases from Hungary to be frontrunners. As shown in Fig. 4.3, our expectation was confirmed: the mapped cases are either categorised as frontrunners or early adopters in their national context. This highlights that basically all forms of energy citizenship, even more, reformative and system-confirming ones, are considered novel ways of producing and consuming energy and/or relating to and being part of the energy system.

However, we also sought to assess whether the same cases would be classified the same way by case researchers if considered in a European context. As the data reveals, the picture is quite different; only a few of the cases that are frontrunners in a national context would also be in a European comparison. Although many frontrunners are still among the cases, as indicated in Fig. 4.3, more than half of the cases would be early adopters. Moreover, a small proportion of cases would be classified as (parts of the) early majority and late majority at the European level.

To illustrate with examples, cases that are frontrunners both in the national and European context include *Gyöngyvér Kazinczy—being free of(f) the grid* case. According to the case researcher, this is due to the fact

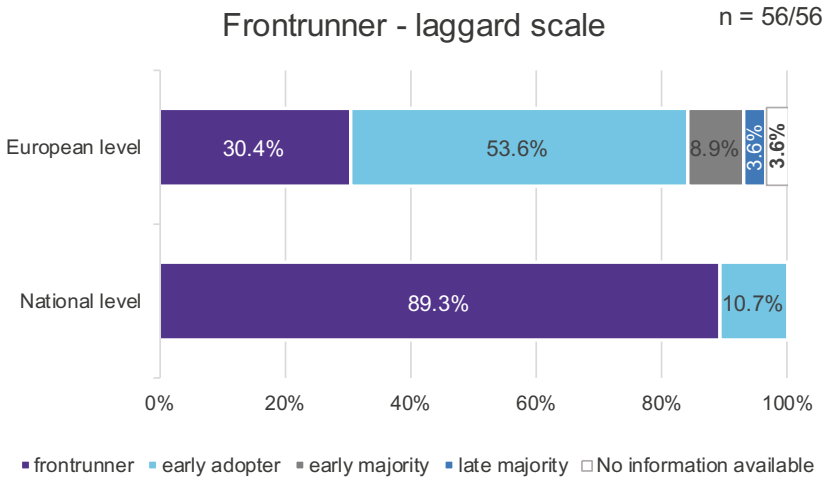

Fig. 4.3 The evaluation of cases of energy citizenship in Hungary from frontrunner to laggard in a national and European context (*Data sources* Szőllőssy & Vadovics, 2022, 2023b)

that "living an energy self-sufficient lifestyle[…] is very innovative at the moment, and Gyöngyvér and her family live in an autonomous house, and they need to adapt their energy use and needs to how […] energy is available to them (they use solar energy, and also biomass for heating). In addition, they operate a guesthouse based on the same principles and technologies, so they assist others to experience an energy-sufficient lifestyle". The frontrunner category also includes cases like *Women in Energy (WONY)*. This, in the words of the case researcher, is because it "is certainly at the forefront in Hungary and Eastern Europe, but as gender diversity in the energy sector is not much more ahead in the European Union either, it was [classified] in the frontrunner category there too".

An example of a case that is a frontrunner in Hungary but not in a larger European context is the *Pedibus Gödöllő* case. This organisation arranges "walking buses" for children instead of taking them to school by car. It is one of the first initiatives of this kind in Hungary but is similar to many other examples that already exist in Europe, making it an early adopter in the European context.

The System-Contesting Capacity of Energy Citizenship Cases

In developing our assessment of frontrunners and laggards, we explore the (energy) system-contestation capacity of the cases in this section. This is done to determine how ambitious they are despite, or perhaps because of, the limited support that is available from policy and politics and in terms of seeking alternatives to currently unsustainable processes. To study system contestation, all cases were categorised as "do not contest", "low", "medium" or "high" contesting or "no information available". We defined a high level of system contestation as the following: "Citizens/case actors are committed to deeply renewing and restructuring the energy system towards a more democratic and sustainable one. Narratives, actions and proposals are part of the contestation of the dominant system, and result in criti[que] and protest[…] against energy policies and actions as well as in forms of engagement that aim at fundamental change[…] (e.g., achieving autonomy)". In contrast, a low level of contestation is defined as: "Citizen involvement/action is essentially system-confirming, which means that citizens generally go along with the basic structures of the energy system" (see p. 5 in Vadovics & Szőllőssy, 2023b).

As shown in Fig. 4.4, almost 80% of Hungarian cases were classified as "medium" or "high" (39.3% each). This appears to be a very hopeful outcome and indicates the potential for finding alternatives to the current system. Interestingly, we see hardly any difference in this area between the (proportions of) case classifications in Hungary and Europe in this regard.

To illustrate some aspects of system contestation, the following are examples of "medium" or "high" cases. *Women in Energy (WONY)*, categorised as "medium", is concerned with involving and empowering more women in the management of the energy sector, thus contesting the current gender arrangements associated with the system. Another example from the "medium" category is *Biobriquettes for the energy poor*. This case involves creating new, environmentally sustainable fuel for those in energy poverty—biobriquettes made from local agricultural waste. Among the cases classified as highly contesting, we identify *Fridays for*

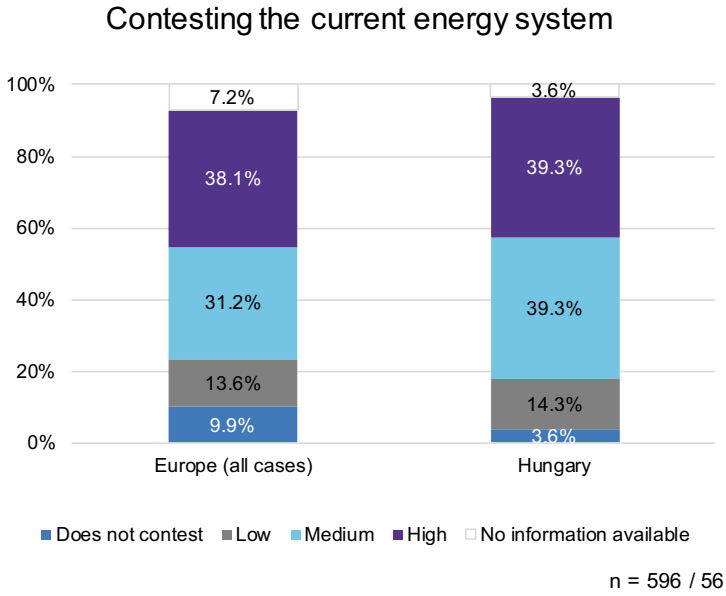

Fig. 4.4 Distribution of mapped cases according to their level of contestation of the current energy system in Hungary and Europe (all cases) (*Data sources* Szőllőssy & Vadovics, 2022; Vadovics & Szőllőssy, 2023b)

Future Hungary. This case focuses on organising protests and involving citizens in demanding more ambitious climate policy targets. The movement also demands real changes in all areas of current climate policies, including observing the maximum fair per capita carbon footprint. The *Community Energy Programme of FoE Hungary* is a different case but one that also involves strong contestation. The latter is concerned with reducing the power of the fossil fuel industry and creating and lobbying for a more democratic energy system by supporting the development of community energy projects.

To dig deeper and learn more about the potential for system contestation, we also studied specific aspects, namely to what extent cases support a *transition to a more equitable and just system*, on the one hand, and an *environmentally sustainable system*, on the other. Similar to how we categorised system contestation, we classified cases on a five-item scale from "no information available" through "no consideration given to the issue" to a "low", "medium" or "high" level of consideration. A high level of consideration of equity and justice means that "[i]nvolvement [for citizens] is fully open, without specific conditions [for belonging]. Issues such as energy poverty, gender and inclusivity are taken into account and foster adaptive measures to guarantee more justice/equity" (see p. 10 in Vadovics & Szőllőssy, 2023c). In contrast, environmental sustainability is defined in the following way: "Environmental sustainability is a core issue [and is pursued using] a holistic strategy (mix of efficiency, consistency and sufficiency measures). Its assessment through indicators is seen as desirable" (see p. 5 in Vadovics & Szőllőssy, 2023d).

To put the results into context, we reflect on them compared to the broader European picture (Fig. 4.5). In relation to equity/justice issues, we find that the distribution of the cases among the five categories is very similar in Hungary and Europe. What stands out is that fewer cases in Hungary are categorised as "not considered". This could indicate a heightened need in the country to draw attention to energy poverty and empowerment. This is a pertinent finding, as about 20% of the population is affected by energy poverty (e.g. Hajdinjak et al., 2023).

Regarding environmental sustainability, we find a marked difference between Hungary and Europe. Figure 4.5 shows that among the cases mapped in Hungary, the majority (63%) are categorised as "high"; they consider environmental sustainability a core issue. This is a significantly greater proportion than in Europe (42.5%). Potential reasons for this discrepancy are the already mentioned lack of support for citizenship and

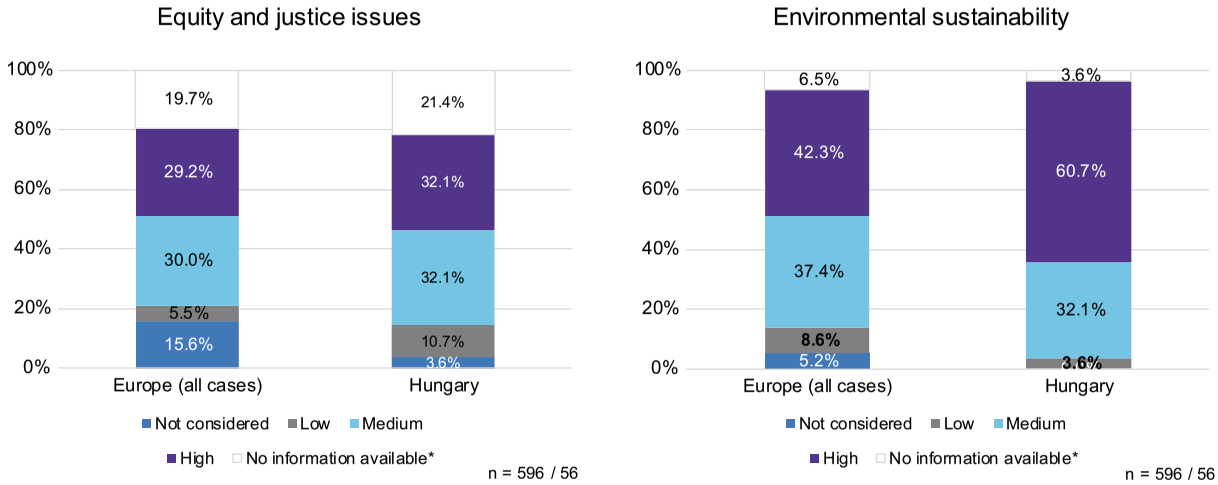

Fig. 4.5 Distribution of mapped cases according to how much equity/justice issues and environmental sustainability are considered (Hungary and Europe—all cases) (*Data sources* Szőllőssy & Vadovics, 2022; Vadovics & Szőllőssy, 2023c, 2023d)

intensifying undemocratic processes (Bogaards, 2018; Bos, 2023). This phenomenon has some historical references as well. Environmental issues have been shown to have played a part in the change of political regimes of the 1990s (e.g. Corry, 2014; Jancar-Webster, 1993).

To further understand the (energy) system-contestation capacity of the Hungarian cases, it is interesting to explore how much consideration they give to equity/justice and environmental sustainability issues independently of one another and to what extent they connect the social and environmental aspects of sustainability. Exploring whether a connection exists between these two aspects of sustainability also indicates if the cases are aiming for more profound change. For this analysis, we arranged the cases using a coordinate system (Fig. 4.6).

Forty-three out of the 56 cases could be analysed regarding these aspects.[2] As is evident from Fig. 4.6, most cases were located in the top quadrant of the coordinate system where consideration of equity/justice and environmental sustainability is defined as either "medium" or "high". An excellent example here is *Nagypáli, the renewable energy village*. This case connects the two sustainability aspects by turning a previously dying village into a flourishing one by creating a new development strategy based on renewable energy, giving everyone access to it and involving all inhabitants.

However, eight cases (14.2%), located in the bottom right quadrant, involve low or no recognition of equity/justice issues. At the same time, the number of cases with a low level of recognition of environmental sustainability is much smaller; only two cases were identified as such. Nevertheless, this indicates that the connection between the two sustainability aspects is not always established.

Establishing and strengthening the connection between social and environmental sustainability in cases could help overcome many of the current challenges in the energy system, e.g. the inequality of access, energy poverty and reducing overall energy use and carbon emissions. Finding solutions to current problems that are both socially and environmentally sustainable can contribute considerably to the creation of an energy system that uses less energy and produces fewer carbon emissions *and* is more just and equitable (Millward-Hopkins, 2022). Examples from

[2] For this analysis, we did not include cases categorised by case researchers as having "not enough information available based on desk research" regarding any of the three aspects studied here.

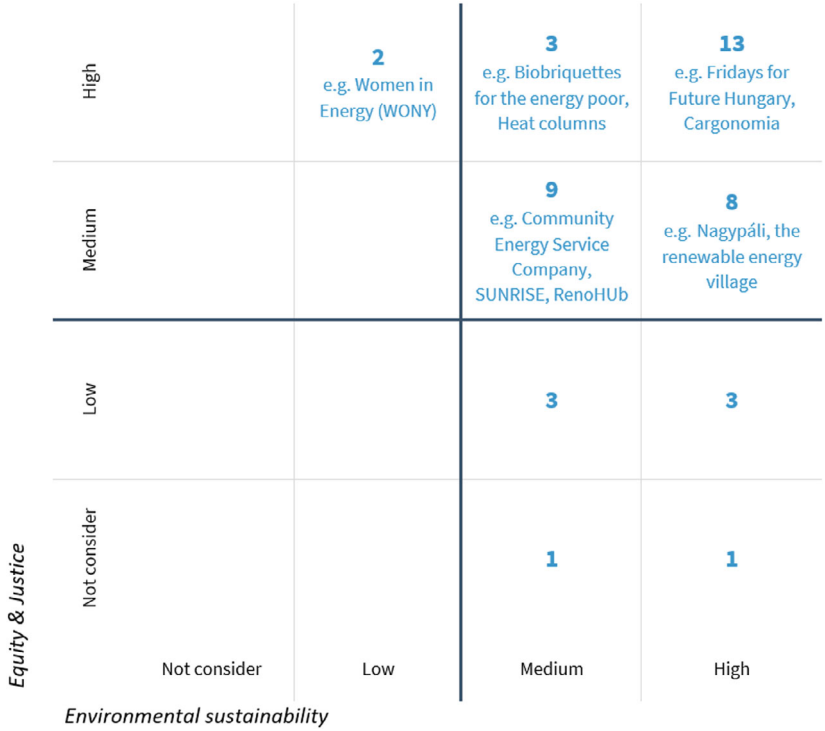

Fig. 4.6 Mapping the co-occurrence of Equity/Justice and Environmental sustainability in Hungarian energy citizenship cases, with cases mentioned in the chapter included as illustrations (*Data source* Szőllőssy & Vadovics, 2022)

Hungary include building energy and material-efficient heat columns to provide heating for those in energy poverty in the *Heat Columns* case and changing the prospects of a dying village by turning it into a flourishing one based on renewable energy, as described in the *Nagypáli, renewable energy village* case.

Concluding Reflections

In this chapter, we have presented a complex picture of diverse energy citizenship cases in Hungary and compared certain aspects of energy citizenship in Hungary to those in Europe generally. Looking at the main

actors and motivations behind the cases, we found both similarities and differences. Our findings illustrate the importance of organisations, especially NGOs and municipalities, in empowering citizens and providing them with the skills to become energy citizens, take on more active roles and start their own cases.

Another source of empowerment in Hungary is learning and inspiration from other cases—for example, in the context of European or cross-border projects or simply from various databases—an important source of motivation for starting cases of energy citizenship in Hungary. Partly as a result of this learning and adaptation of examples from elsewhere, such cases of energy citizenship may be frontrunners in the national context. In contrast, many of the latter would be considered early adopters in a European context. Thus, it is important to highlight the role of European and international cooperation and learning in fostering energy citizenship, especially in countries like Hungary, where citizen-based activity and initiative-taking have not been encouraged historically.

To conclude on a hopeful note, it is noteworthy that even in an unsupportive policy and regulatory context, we can identify numerous and diverse examples of energy citizenship. These cases have levels of system-contesting capacity similar to those found in more supportive environments. As the mayor of Nagypáli, the "engine and soul" of *Nagypáli, the renewable energy village* case, noted: "Problems need to be approached as challenges and new opportunities. [In this way] we can overcome barriers and remain innovative". Should a more supportive policy context develop alongside such an attitude—the latter which is already apparent in many cases—energy citizenship might multiply further in Hungary, helping achieve the transformation needed for the transition to a more just and sustainable energy system.

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CHAPTER 5

Energy Citizenship in Ireland: Beyond Individual Private Agency

Benjamin Schmid and Frances Fahy

Abstract This chapter uses several case studies to illustrate how energy citizenship has developed in Ireland since the Irish government first explicitly used the term "energy citizenship" in its 2015 "White Paper on Ireland's Transition to a Low Carbon Energy Future 2015–2030". In particular, the chapter demonstrates that citizen participation has extended beyond direct individual engagement in the energy system. Energy communities, as a collective form of energy citizenship, have become an important element of the Irish energy transition landscape and governance. Furthermore, mechanisms have emerged through which citizens have increasingly been able to participate directly in the shaping of energy policy. Interestingly, these forms of energy citizenship do not appear to be independent but rather interrelated and mutually influential. Overall, the findings on diversity of energy citizenship in Ireland in

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this chapter highlight the importance of understanding energy citizenship beyond individual private agency.

Keywords Energy citizenship · Ireland · Public participation · Collective agency · Citizen engagement · Energy communities

Introduction

Explicitly using the term "energy citizenship", the Irish government acknowledged in its 2015 "White Paper on Ireland's Transition to a Low Carbon Energy Future 2015–2030" that "[t]he transition will see the energy system change from one that is almost exclusively [g]overnment and utility led, to one where citizens and communities will increasingly be participants in renewable energy generation, distribution and energy efficiency" (DECC, 2015, p. 40). But how has the situation of energy citizenship in Ireland actually developed since then? And, notwithstanding this governmental acknowledgement, has energy citizenship been confined to participation in the aforementioned energy-related activities?

To explore these questions, this chapter adopts a broad understanding of energy citizenship by defining it as "forms of civic involvement that pertain to the development of a more sustainable and democratic energy system" (Pel et al., 2021) and illustrates three trends of energy citizenship in Ireland, based on document analysis and several exemplary case studies. Firstly, as envisaged in the 2015 White Paper, energy communities, as a collective form of energy citizenship, have become an important component of the Irish energy transition landscape. Secondly, mechanisms have developed through which citizens are increasingly able to play a direct role in shaping energy governance and part take in decision-making about energy policy. Thirdly, while individual private agency remains a crucial focus, the various aforementioned forms of energy citizenship are not independent but increasingly interconnected and mutually influential. Interpreting these three trends, the chapter overall argues that civic involvement in the Irish energy landscape has extended beyond individual private agency in the energy system towards an increasingly integrated field of action of energy citizenship.

Three Trends of Civic Involvement in the Irish Energy System

From Individual Private Agency to Collective Action in Energy Communities

The first key trend of civic involvement in the Irish energy system can be characterised as the expansion from private individual agency to collective agency within the framework of energy communities. But first, the focus on the empowerment of individual private action within Irish energy policy was already a significant change.

Ireland's energy system had long been strongly centralised. This was evident, for example, in the fact that small-scale renewable energies, such as photovoltaics, were not promoted by Irish energy policy prior to 2018 (Peters et al., 2018). Procedures to access the electricity grid were very long and cost-intensive (Gancheva et al., 2018). Moreover, for a long time, energy suppliers were not obliged to remunerate surplus electricity from photovoltaic systems, and feed-in tariffs for micro-generation support schemes have only been available since 2022. Therefore, small photovoltaic systems only functioned through self-consumption. With a building stock consisting of 97% individual houses, there was still potential for private action (Frieden et al., 2020). However, as with structural energy efficiency measures, the required resources were often lacking.

Against this background, the Irish government has implemented a number of policies aimed at promoting energy citizenship through individual private action, going back to 2012. These include energy literacy programmes or retrofit programmes for improving the energy efficiency of homes. Photovoltaics were also seen as a means by which Irish energy citizens could gain greater control over production and consumption (DECC, 2017). Hence, an understanding of energy citizenship has emerged in Ireland that is at least partly centred on individual private action.

What is striking about the situation in Ireland, however, is that this approach was not conceived on the assumption of isolated individuals. Rather, they are understood as part of communities, which is why a particular emphasis has been given to the empowerment of and within communities. As outlined in the 2015 White Paper, energy communities form one of the main pillars of the Irish government's plan to achieve its national and European climate and energy targets: "communities will

increasingly be participants in renewable energy generation, distribution and energy efficiency" (DECC, 2015).

In order to manage and promote the creation and development of energy communities, the Sustainable Energy Authority of Ireland (SEAI)—a state-funded agency founded in 2002 to provide policy advice and programme implementation (SEAI, 2018)—established the Sustainable Energy Communities (SEC) model, which is defined as "partnerships between public, private and community sectors whose goal is centred on renewable energy or energy efficiency" (Hannoset et al., 2019). SEAI has also launched the Sustainable Energy Communities Network to address and promote energy citizens within this community framework. In 2021, there were more than 600 SECs across the country, while SEAI's goal is to establish 1500 SECs by 2030, which would correspond to the number of all local communities in Ireland.

Typical examples of collective civic action within energy communities are the Energy Communities Tipperary Co-operative (ECTC) and the Aran Islands Energy Cooperative. ECTC emerged in 2012 out of an initiative of the Tipperary Energy Agency and existing energy teams from Drumbane and Upperchurch, two local communities in county Tipperary. The cooperative aimed to "allow communities in Tipperary and surrounding areas to create local employment and community benefit through reducing their carbon footprint and generating community-owned energy" (ECTC, 2023). The nascent organisation also served as a pilot project for SEAI's Better Energy Community Scheme, which supports retrofitting of houses through capital funding, partnerships, and technical support within a community framework. ECTC fulfilled an intermediary role, mediating between individual communities and households in the region on the one hand and the programme on the other to jointly organise the insulation work and to leverage financial support from the programme.

The Aran Islands Energy Cooperative (Comharchumann Fuinnimh Oileáin Árann, CFOAT) is a civil society organisation that brings together the residents of the three Aran Islands, at the mouth of Galway Bay. The aim is to become self-sufficient in clean, locally owned energy and to help build the local economy of the islands. Similar to ECTC, CFOAT was created in 2012 out of an initiative of existing local development organisations. At the beginning especially, it relied on funding for community retrofit measures and construction of photovoltaic systems for households on the islands within SEAI programmes and EU projects. But for

CFOAT, such activities in the energy sector are ultimately a means to an end for various overarching community goals, such as creating jobs, stabilising the islands' population, preserving the language, culture, and the beauty of the natural environment, and also improving comfort in homes.

Both case studies demonstrate that energy communities encompass different forms of energy citizenship. The individual involvement of the participating households is embedded in a community framework. At the same time, the operation of the collective organisations themselves is based on civic engagement. The two cases also indicate that, as with many SECs, civic agency often does not emerge out of nowhere but rather draws on existing structures of civic and local voluntary action, such as regional energy agencies, tidy town working groups (an annual competition initiated by the government in 1958 to honour the best-kept town or village in Ireland) or other local development organisation formats. This also implies that for many communities, there is a reorientation of the content of existing civic involvement towards energy, particularly with regard to specific activities, but that sustainable energy is not necessarily the primary overarching goal. Rather, such energy measures often are a means to an end in order to pursue goals of community well-being and development. Sustainable energy determines the arena of action rather than the final purpose.

Finally, it is striking that despite the civil society orientation and self-empowerment within these collective organisations, there is often a strong dependence on public funding measures, particularly through funding programmes for retrofits or financing by means of participation in EU projects. Efforts to mitigate this dependency and to achieve long-term financial security through the construction and operation of collectively owned renewable energy production facilities have so far usually proven unfeasible. Persistent challenges remain in the accompanying policy and legislation, including funding and feed-in tariffs, grid access, and approval procedures.

From Individual Private Agency to Sharing in Self-(Energy) Governance

A second trend of energy citizenship in Ireland is the increased involvement of citizens in the shaping of energy policy. This area has also long been characterised by highly centralised structures, with decision-making

authority on energy policy issues primarily in the hands of the national government and state-owned agencies.

A key step in opening up the system of decision-making was the introduction of citizens' assemblies. It is worth noting that this format of deliberative democracy was not originally introduced in connection with energy or climate but as a reaction to disenchantment with politics and a lack of trust in public institutions following the 2009 financial crisis. A connection to the topic of "energy" took place in 2017 with the Citizens' Assembly on "How the state can make Ireland a leader in tackling climate change". 100 citizens, selected to be representative of the Irish population, took part in the deliberative process. After receiving impartial and objective advice from experts, the selected citizens debated the question of what policies the state of Ireland should pursue in response to climate change and developed a list of recommendations for the attention of the Irish parliament. Although not formally binding, these recommendations were addressed in a report by the all-party parliamentary committee (JOCCA) and were in large adopted by parliament. Both the assembly's recommendations themselves and the JOCCA report played a key role in the establishment of a Climate Action Plan in 2019, which included binding targets and emission caps. The assembly thus functioned as a catalyst for fundamental structural changes to how the Irish state was going about tackling climate change.

Apart from developing recommendations, the assembly pursued the goal of addressing the Irish public as citizens and raising awareness of climate and energy challenges. Linked to this, the assembly's effort to be representative of the Irish citizenry created legitimacy for climate policy. The citizens involved had significant agency in the design and formulation of the individual recommendations themselves, rather than just voting in favour or against the recommendations in the final vote. It was precisely this freedom in the agenda-setting that contributed to the high approval rate achieved for the individual recommendations:

> It is that agency that you give the assembly members to be part of the preparation of the recommendations and the formulation of them. It is definitely more acute in the case of climate change. Because at the end of it there was just widespread agreement that urgent action needed to be taken. There was no disagreement about that. (Own interview with assembly stakeholder)

On the one hand, the implementation of the Citizens' Assembly suggests that the voice of citizens, broadly speaking, is being taken more into account in policy-making. This may be regarded as a shift in energy citizenship as well, understood here as the role prescribed to citizens in energy governance. The role of citizens as actively involved actors in self-governance is increasingly acknowledged. On the other hand, only a small group of citizens was actually involved in the assembly. From a critical perspective, if energy citizenship should imply the involvement and empowerment of as many individuals as possible in issues that affect all citizens in the energy system, then the assembly only signified a minor change.

Yet the Citizens' Assembly signalled further changes in the way citizens are involved in the process of shaping energy policy. Particularly in the area of public consultations that precede the adoption of legislation, efforts are being made to make them more inclusive and consequential. One example of this is EirGrid's "Shaping our Electricity Future" project. The state-owned electric power transmission operator of the Republic of Ireland has been tasked by the government with preparing the electricity grid for 80% renewable electricity by 2030. This aim will have a significant impact in terms of new transmission lines and areas for large-scale electricity producers and consumers.

In order to define a strategy, EirGrid carried out an extensive consultation process inspired by the Citizens' Assembly. The consultation process included several online workshops, an online consultation platform and partnerships with various organisations to make the consultation as inclusive and meaningful as possible to ensure engagement with the public and all stakeholders. This involved a three-day deliberative dialogue with 99 representative participants and cooperation with the Irish Rural Link and the National Youth Council to guarantee adequate representation of rural and young audiences. The dialogue also included the National Adult Literacy Agency to ensure that the language used was accessible to a non-technical audience.

What is important for energy citizenship in this context is not only the endeavour to open up participation in decision-making on energy policy to as many members of the public as possible, i.e., the civic involvement through the participation of citizens per se. Also significant is a paradigm shift within organisations that carry out consultations, in this case, EirGrid—a shift in how and when consultations are carried out.

> One key learning from this series of workshops is that community and rural stakeholders want to actively engage in the debate and influence the decision affecting their region. Infrastructure developers such as EirGrid must consult and engage with communities at all stages of a proposed project, if it is to get community consent. For too long developers have progressed projects without the consent of local community, this historical mistrust must be addressed if Ireland is to meet its renewable energy target. (Irish Rural Link, 2021)

Overall, these two formats can be interpreted to indicate a change in how citizens are increasingly and more significantly involved in political decision-making processes. This trend is not limited to energy issues but is an expression of a more general reorientation towards more participatory governance. Where energy issues are concerned, it becomes the subject of a kind of public energy citizenship that transcends how "energy citizens" have previously been conceived in government policies. Depending on the assumed expediency of energy citizenship, questions arise as to who a participating public actually is and should be, as discussed above. When it comes to the active involvement of all citizens, for example, highly technical language still represents a major hurdle for broad participation in energy-related consultations.

Towards an Integrated Field of Action for Energy Citizenship in Ireland

A third trend of energy citizenship in Ireland is that the different forms thereof, outlined in previous two trends, do not develop independently but increasingly interact with each other. Together they start to form an integrated field of action of civic involvement in the Irish energy system.

First, such a development is indicated by the growing involvement of energy communities in energy governance and the shaping of energy policies. As described above, Sustainable Energy Communities are first and foremost conceived as an instrument to support the implementation of government programmes. But beyond that, they also play a formative role in local governance. Within the SEC Network, each SEC has the task of drawing up an "Energy Master Plan" for the geographical area in which they are active. The Energy Master Plan identifies potential for energy efficiency and renewable development in the region. The energy communities thus take on a particular planning function and compensate,

to a certain extent, for local governments that are responsible for such local strategies in other countries. Participation in and through energy communities therefore does not only take place in a material capacity, in infrastructure of energy production and consumption, but also exhibits an element of self-government of the community itself.

Yet another way in which energy communities play a part in energy governance and therefore have a link to public forms of energy citizenship is through their involvement in consultation processes. Both of the case studies mentioned, ECTC and CFOAT, regularly make submissions to public consultations on new legislation. For example, ECTC participated in the consultation of the County Tipperary Development Plan 2022–2028, and CFOAT in the public consultation of the Micro-generation support scheme or the Grid Development Policy for offshore wind in Ireland. Furthermore, some energy communities are also involved in policy-making via more informal channels, for example, by being consulted as credible experts based on their experience.

Secondly, indications of interlinkages between different expressions of energy citizenship can also be found in the content of participatory processes themselves, for example, when energy communities or options for individual energy citizens feature in proposals. For instance, two of the 13 recommendations of the Citizens' Assembly concerned measures related to renewable micro-generation for private citizens and the promotion of community-owned renewables. Furthermore, in the "Shaping Our Electricity Future" consultation process, stakeholders emphasised the importance of including the needs and potential of energy communities in the strategic planning of the electricity grid (The Citizens' Assembly, 2018).

Conclusion

This chapter has identified three trends to show how energy citizenship in Ireland has evolved since 2015. Overall, a landscape emerges in which civic involvement in the energy sector appears in a variety of forms that go beyond individual private agency. Energy communities are increasingly assuming key positions in Irish energy governance. While they themselves are an expression of civic engagement, these organisations also provide a framework for the agency of individuals and households in communities. Individuals are thus not seen as isolated actors but as embedded in communities.

Parallel to this, forms of participation have developed that enable citizens to play a greater role in shaping energy policy. This has led to an expansion of energy citizenship from the private sphere, focusing on empowering individuals' and households' energy practices, to the public sphere, where citizenship takes the form of sharing in self-government. Overall, the findings that reflect a diversity of energy citizenship practices in Ireland highlight the importance of understanding energy citizenship beyond individual private agency.

What is striking about these developments is that, despite their different characteristics and areas of action, the different forms of energy citizenship do not remain independent but increasingly interact with and reinforce one another. Another noticeable trend is that new forms of energy citizenship, understood as civic involvement, appear as intertwined with institutional changes including changes in the way governing actors conceptualise and consider citizens in decision-making processes. Change at the level of civic involvement thus goes hand in hand with institutional learning. Given the high diversity and simultaneously increasing integration of different forms of energy citizenship, it is therefore important to consider this emerging field integrally at the institutional level as well.

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CHAPTER 6

The Evolution of Energy Citizenship in the Netherlands: From Protest to Partnership with Business and Government

René Kemp, Marianna Markantoni, Job Zomerplaag, Bonno Pel, and Ali Crighton

Abstract This chapter traces the dynamic history of energy citizenship in the Netherlands, an evolution from grassroots protests to partnerships with businesses and government entities. Through a comprehensive analysis of historical events, case studies, and policy developments, the study shows how energy citizenship in the Netherlands has evolved from opposition to nuclear power in the early 1970s to today's diverse and multifaceted initiatives. The research employs a mix of qualitative methods,

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including interviews, document analysis, and workshops, focusing on Dutch energy citizenship initiatives such as Weert Energie, Ameland, LSA, and Loenen Energie. These examples not only showcase transformative goals and agency but also reflect the *Poldermodel*, a consensus-based decision-making process prevalent in the Netherlands characterised by collaboration and negotiation between multiple stakeholders, including the government, employers, labour unions, and other relevant parties. The paper also examines the role of intermediaries in enhancing energy citizenship and how changing power dynamics and institutional structures have influenced the energy transition. By comparing the rise and nature of energy cooperatives from the 1980s to the present day, the study highlights significant shifts in citizen engagement, technological adoption, and policy influence. The findings reveal that while energy citizenship in the Netherlands has achieved notable successes, it continues to navigate complex challenges in pursuit of a more sustainable and democratic energy future.

Keywords Chequered history · Protests · Public-civic partnerships · Energy citizenship · The Netherlands

Introduction

Energy citizenship, while a conceptually abstract term, is tangibly manifest in the activities of its practitioners in the Netherlands. As defined in the EnergyPROSPECTS project (Pel et al., 2021), energy citizenship involves various forms of public engagement with the energy system. The historical

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trajectory of this engagement in the Netherlands is rich and varied, beginning with a movement against nuclear power (Verbong et al., 2001). This shift commenced in 1971 when Jannie Möller (a schoolteacher) established Working Group Atom (Werkgroep Atoom). This working group morphed into the Working Group Nuclear Energy and the Reflection Group Energy. People from universities, activists, and young professionals joined the groups, many of whom later ascended to influential roles as professors, initiative founders, and opinion leaders.[1]

In partnership with The Council for Environmental Defense, in 1972, group members made their mark by presenting an anti-nuclear report to the Parliamentary Commission on Nuclear Energy, signalling their rapid emergence as a recognised voice in the energy debate. Subsequently, the focus of activism broadened to encompass alternative energy sources; a shift notably mirrored in academic curricula across universities. The Dutch response to the Club of Rome's *Limits to Growth* report further amplified interest in renewable energy, a trend reflected in the report's significantly higher sales in the Netherlands than in the United States. This widespread attention spanned civil society, business sectors, government, and scientific communities, indicating profound national engagement with sustainable energy concepts.

Presently, energy citizenship in the Netherlands has evolved beyond the domain of young, technically inclined individuals. It now encompasses a diverse array of participants across various age groups and backgrounds. This evolution has given rise to a spectrum of forms of energy citizenship, including movements like Fridays for Future, Grandparents for Climate, energy cooperatives, and platforms dedicated to discourse on energy system issues and sharing community-based renewable energy project strategies. This change in context, underscored by the broad acceptance of climate change as a pressing global issue leading to flooding, droughts,

[1] Wim Turkenburg, initially a Ph.D. student, later became a prominent figure in the energy sector, assuming roles such as professor of science, technology, and society, chairman of the Energy Council (AER), and member of the environmental council (Vromraad). Likewise, Eric-Jan Tuininga and Wouter van Dieren, former members of Werkgroep Atoom, co-founded Bezinningsgroep Energiebeleid, an influential think tank on energy policy in the Netherlands. Wouter van Dieren was a co-founder of Milieudefensie (Dutch Friends of the Earth) and initiated the Institute for Environmental and Systems Analysis (IMSA) in 1984.

and widespread environmental degradation, has heightened public awareness of carbon emissions from various sources and underscored the urgency of transitioning to low-carbon alternatives.

Thanks to private and public investments and citizenship action, solar photovoltaic (PV) systems have become increasingly accessible, both in terms of cost and availability, catalysing the formation of energy cooperatives across the Netherlands dedicated to initiating community-driven solar and wind energy projects. These initiatives have found support in government policies that are not only encouraging the reduction of energy consumption but also actively facilitating the shift away from fossil fuels. This policy direction is exemplified by the European Union's commitment to phase out fossil fuels by 2050 and the impending ban on new petrol and diesel cars by 2035. Furthermore, the integration of digital technologies is evident in the adoption of car-sharing platforms and specialised organisations that use advanced software to streamline these sustainable practices. A comparative analysis of the growth in the number of energy cooperatives from 9 in the 1980s to 705 in 2022, starkly demonstrates the significant expansion of these initiatives, mirroring the evolving landscape of energy citizenship in the Netherlands. Between 1993 and 2005, no new energy cooperatives were being established.

Initially concentrated on wind energy, after 2005 these cooperatives pivoted towards solar energy before reverting to wind, albeit this time on a much larger scale involving multi-million-euro projects. These projects are notably collaborative in nature, involving partnerships with project developers and energy companies. The evolution in the focus reflects the growing sophistication and scaling of renewable energy initiatives. The extent of solar energy adoption is particularly notable in residential areas. Currently, two million houses in the Netherlands are equipped with solar roofs, accounting for one-quarter of all homes, including 35% of private houses and 16% of social housing units. Despite this widespread adoption, collective solar energy contributes only 1–2% of the total solar power in the country. In contrast, collective wind energy represents a more significant 5% of total onshore wind capacity, indicating a strengthening trend towards larger, more professionalised renewable energy projects.

This chapter aims to closely examine four illustrative cases of energy citizenship—Weert Energie, Ameland, LSA, and Loenen Energie. These cases are explored through interviews, document analysis, and a workshop on transformative agency. The analysis seeks to understand how these initiatives navigate the complex interplay of external contexts and their

own strategic approaches in a landscape where business and government entities possess crucial assets. Prior to examining these cases in detail, the subsequent section will present findings associated with a comprehensive database of Dutch energy citizenship cases, setting the stage for an in-depth exploration of the four highlighted initiatives.

A Bird's-Eye View of Energy Citizenship in the Netherlands

In the comprehensive study conducted as part of the EnergyPROSPECTS project, we gathered data on 39 distinct cases of energy citizenship in the Netherlands. To clarify, these cases are part of a European database created by the EnergyPROSPECTS project,[2] with categorisations based on specific criteria that reflect the dynamic energy citizenship landscape in the Netherlands. After briefly describing the history of energy citizenship, we now portray the variety of energy citizenship initiatives existing today. A significant portion (89.7%) of these cases comprise citizens' collectives, such as the Citizen Wind Cooperative Achterhoek and EMEC (the first energy cooperative in Maastricht), while a smaller fraction (10.3%) represent individual initiatives.

The analysis revealed diverse areas of focus among these cases. Approximately 28.2% aim for holistic, broader change, as seen in initiatives like Buurkracht (Neighbourhood Power) and Ecovillage Aardehuizen (Ecovillage Earth Houses). In contrast, a larger segment (66.7%) comprises energy-specific initiatives, including Energy Common Leidschendam-Voorburg and Foundation Hydrogen Energy Limburg, with a single case primarily centred on mobility, MeerDelen (More Sharing). A significant observation was the attention to disadvantaged groups in about one-third of the cases (33.3%), although a specific gender focus was less prevalent, constituting only 12.8% of cases, like Collectieve Kracht (Collective Strength).

The majority of these initiatives were established after 2010, with nearly a quarter starting between 2011 and 2015, e.g., Bospolder-Tussendijken, and almost half between 2016 and 2020, e.g., the Drechtsteden cooperative (illustrated in Fig. 6.1).

[2] https://data.energyprospects.eu/.

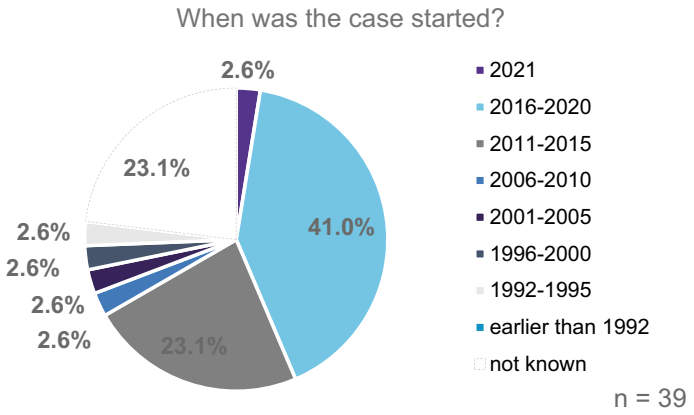


Fig. 6.1 Foundation year of initiatives (Crighton et al., 2022)

The objectives of these cases varied, with nearly half (46.2%) promoting self-sufficiency, followed by energy saving (35.9%) and carbon emission reduction (28.2%). Community Virtual Power Plant Loenen (cVPP) and Clever Net in Sustainable Lochem are examples of energy-saving initiatives, while the National Association of Active Residents and Wijkenergiewerkt (Neighbourhood Energy Works) focus on reducing carbon footprints.

Community development was a significant goal for initiatives like Buurkracht (Neighbourhood Power) and bridging the gap between citizen collectives and scientists was a key motivator for Collectieve Kracht. The forms of these Dutch cases varied, with cooperatives constituting 25.6%, NGOs 23.1%, and partnerships (public, public-private, etc.) 12.8%, alongside non-profit companies/enterprises at 12.8%. The rest of the cases are constituted of individuals (10.3%).

Funding sources were diverse, as depicted in Fig. 6.2: 20.5% of cases relied on local public funding, e.g., Wijkenergiewerkt, another 20.5% on national public funding, e.g., EnergieKronenberg, and a smaller proportion (10.3%) on European public funding, e.g., Warm in de Wijk. In almost a third of cases (30.8%), a membership fee constitutes another source of funding, e.g., Community Virtual Power Plant Loenen (cVPP). For less than one-quarter of cases, there are/were no additional sources of funding (e.g., REScoopVPP, Buurtwarmte, Wijk C Stroom). This

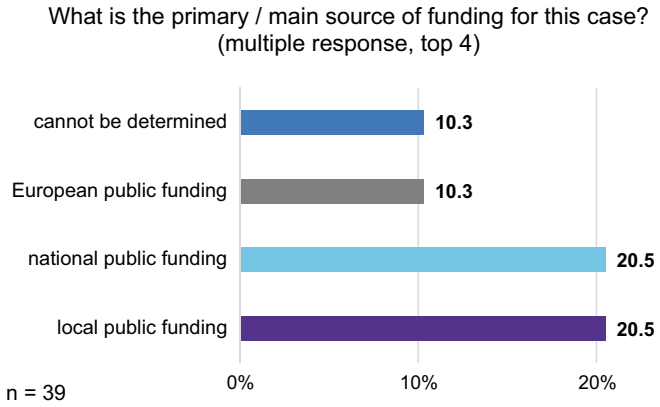


Fig. 6.2 Primary sources of funding (Crighton et al., 2022)

shows that primary sources of funding are varied, with public funding constituting the primary source for 41% of the cases.

The level of hybridity in these initiatives was noteworthy, with over half (56.4%) displaying a high level of hybridity, involving diverse actors and institutional logistics, as seen in Landelijk Samenwerkingsverband Actieve bewoners (LSA). The degree of citizen power varies, as illustrated in Fig. 6.3, with 51.3% of cases exhibiting a high level of the latter (when effective control is exerted by citizens and votes are mandatory). An example is Wijkenergiewerkt, a social enterprise whose main aim is to benefit the neighbourhood through energy projects. Income that is generated goes to projects in the neighbourhood, and locals are trained to become energy installers to make the neighbourhood more self-sufficient. A medium level of citizen power, which categorises 15.4% of the cases, means that citizens can express their views, but their voices are not included on a compulsory basis (within deliberative, representative, or consultative processes).

Regarding justice and equity issues, one-third of the cases were classified as high level, one-fifth as medium, and only a single case as low. Nationally, over one-third (38.5%) of the cases are considered frontrunners and 12.8% are early adopters, such as Community Virtual Power Plant Loenen (cVPP).

However, it is crucial to note that the data are not exhaustive. At the time of writing this chapter, December 2023, no overview of energy

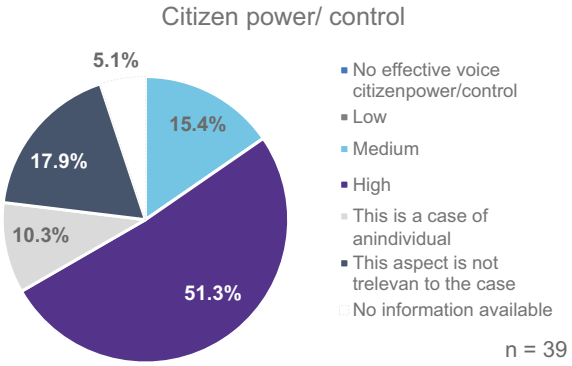


Fig. 6.3 Degree of citizen power (Crighton et al., 2022)

citizenship initiatives exists in the Netherlands. For energy cooperatives, comprehensive data from HIER[3] is available, indicating the existence of 705 cooperatives in 2022 with a membership of 120,000, representing 1.5% of all Dutch households, an increase of 8% compared to 2021.

The Polder Model and Intermediation for Collective Energy Citizenship

By their nature, collective energy citizenship initiatives require collaboration and transactional interactions with various actors, including government bodies, financial institutions, practitioners, and academic institutions. The role and significance of intermediary actors and organisations in these processes is a focal point of our analysis in the EnergyPROSPECTS project. We find that intermediaries play a pivotal role in bridging the gaps and facilitating the attainment of objectives in energy citizenship initiatives.

In the context of energy citizenship initiatives, the Poldermodel plays a significant role in shaping how these initiatives are developed, implemented, and sustained in the Netherlands. The Poldermodel is characterised by collaboration and negotiation between multiple stakeholders, including the government, employers, labour unions, and other relevant

[3] https://www.hier.nu/LEM2022.

parties. The term originates from the historical practice of managing water levels in low-lying Dutch land (polders), which required unanimous agreement among all affected parties.

The Poldermodel's relevance for understanding public-private collaboration and intermediation in the Netherlands lies in its emphasis on cooperation and consensus instead of conflict and confrontation. This approach is reflected in various aspects of Dutch society, particularly in economic and social policy, where it has been credited with fostering a collaborative framework for initiatives, where stakeholders—including citizens, energy companies, local governments, and NGOs—come together to discuss and negotiate energy projects. This collaboration ensures that diverse perspectives and interests are considered, leading to a balancing of interests and more comprehensive and inclusive energy solutions.

Yet, historically, the role of intermediaries in promoting and enabling energy citizenship, as well as in the broader context of energy democracy, has been overlooked, as highlighted by Warbroek et al. (2018). This neglect can be attributed to their contributions often not being recognised as significant or captured by standard research tools like interviews and surveys (Hyysalo, 2021). However, since 2003, there has been a gradual increase in research attention to intermediaries, although this is often marred by inconsistency in defining their roles and activities.

Our literature review (Markantoni et al., 2023) identified five primary types of intermediaries in the context of energy citizenship:

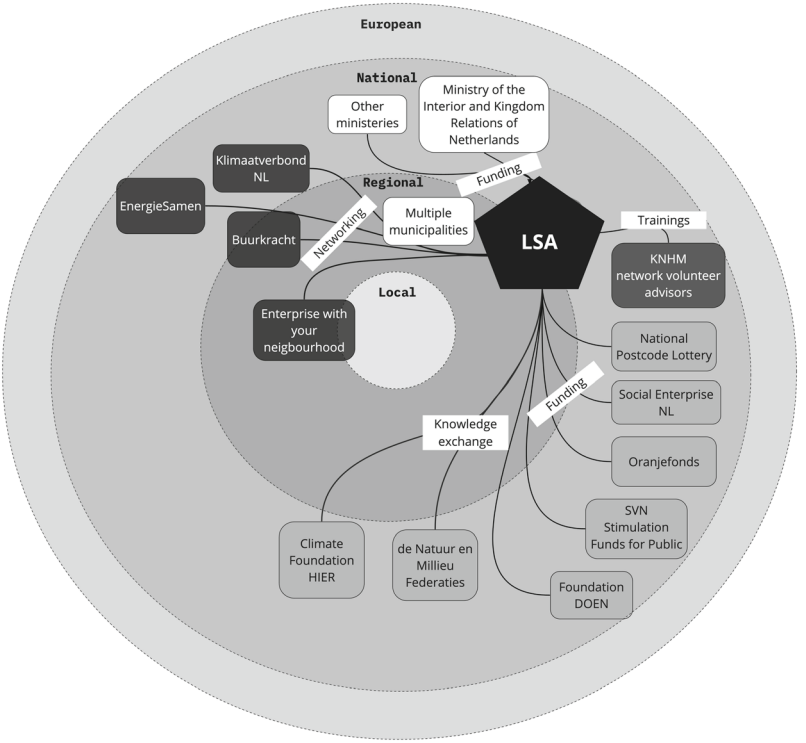
1. Commercial Intermediaries: These include banks offering mortgages or loans, thereby connecting capital providers with those in need of capital, and business lawyers and consultants who assist in negotiations.
2. Governmental Intermediaries: Examples are government agencies that manage programmes offering loans, funds, technical assistance for energy renovation and cooperatives, and platforms for facilitating knowledge exchange.
3. Non-Government Intermediaries: This group comprises chambers of commerce, cooperative networks, and civil society umbrella organisations like REScoop and the European Federation of Citizen Energy Cooperatives.
4. Other Civil Society Organizations: These entities are not explicitly established as intermediaries but play a significant role in the sector.

5. Intercessors: These individuals facilitate dialogue among diverse actors, fostering collective action and institutional change by learning about the beliefs, material interests, mandates, responsibilities, capabilities, and resources of specific actors.

In the cases we studied, the most prominent intermediaries were governmental, non-governmental, and commercial. Educational intermediaries, though less frequent, were crucial in providing scientific and technical expertise for innovative projects, such as the neighbourhood battery project by Weert Energie and the cVPP project by Loenen Energie. LSA, the National Association of Active Citizens, is depicted in Fig. 6.4 as an example of an intermediary organisation that is fostering collaboration across various organisational levels. This contrasts with more locally focused energy cooperatives that predominantly engage with regional and national-level intermediaries.

In many of the cases, intermediaries helped raise the level of ambition of their projects in terms of novelty and diversity. In the case of Weert Energie, a retired professional with first-class technical expertise in energy matters was involved in the pilot neighbourhood battery (COOP-Store) as project leader and facilitator. He acted as an intermediary in helping to write the proposal for the COOP-Store—the first and the largest battery project of an energy cooperative in the Netherlands. Weert Energie later entered into a partnership, for wind energy, with Eneco (a private company). The retired professional was a crucial intercessor in obtaining a subsidy from RVO, the Dutch agency responsible for implementing innovation policy, for the testing and running of a neighbourhood battery in combination with large-scale power generation in the city of Weert.

Another example of intermediation is the activity of a freelance energy consultant in the realisation of a local energy system called Energierotonde Ballumerbocht in Ameland, a Dutch island in the Wadden Sea area. With the help of an energy traffic circle calculation tool, which was used in several sessions, the consultant obtained buy-in from commercial parties by running realistic scenarios based on energy data and holding discussions on costs and revenues for everyone. The economic case of energy options and infra-issues was jointly investigated rather than individually on the basis of presumptions. A positive business case is essential for involving commercial actors. The consultant understood this and ensured that everyone would benefit from the cooperation. He is an example of



Legend

	Sorts of Intermediary actors
	Governmental intermediaries (i.e. created by government): agencies that manage programmes with loans and technical assistance
	Other civil society organisations: not created explicitly to be intermediaries, non-sector or umbrella organisations
	Educational intermediaries: independant research and education organisation or networks
	Non-government intermediaries: collective actors such as cooperative networks (e.g. REScoop), civil society umbrella organisations (for transition towns)

Fig. 6.4 Intermediary case study of LSA

a professional who is combining the values of energy citizenship with earning an income. In Ameland, citizens were involved in discussions and collective decisions about energy. At special meetings called *charettes*, domestic and large-scale energy options were discussed. This helped to create support for large techno-economic projects such as a solar park and the creation of an energy roundabout, a smart grid system which helps to deal with the irregular supply of and demand for renewable energy over the year. More than 1,200 households received energy advice from energy coaches, with 120 savings-related measures for municipal rental properties. Currently, the Amelander Energie Coöperatie has 300 members and 1,000 customers, serving the majority of the households on the island.

The case of the Amelander Energie Coöperatie and other initiatives provide tangible evidence of these projects' successful implementation and impact. Institutional changes, like the formation of New Energy Weert, illustrate how energy cooperatives can effectively collaborate with private businesses for mutual benefit. These cases underscore the value of intermediaries in transferring knowledge, fostering local experimentation, and advocating for local solutions such as the neighbourhood battery. As noted by Matschoss and Heiskanen (2017), intermediaries are crucial for introducing new methods and ideas that might otherwise go unconsidered, thus playing a pivotal role in the societal transition towards sustainable energy solutions.

Changing Dominant Institutions and Power Relations: A Partial Success

Transitioning to a sustainable and democratic energy system is a complex endeavour, necessitating fundamental changes in grid ownership, ensuring local community benefits, and reducing reliance on foreign energy sources. These changes, challenging due to their impact on existing power dynamics, require concerted effort and strategic navigation.

Insights from an EnergyPROSPECTS workshop in Eindhoven organised in 2023 (Kemp et al., 2023) highlighted the need for transparency in dealings with private project developers, known for their ability to transfer costs and risks while reaping benefits. In this context, the case of Weert Energie is instructive. The cooperative negotiated to develop a solar park on a landfill site initially contracted to a commercial entity with a permit for solar power generation but with a requirement from the city council for cooperative implementation. This led to Weert Energie

assuming full control, albeit paying a fee to the original permit holder, sparking significant debate within its membership council.

In Berkelland, local government decisions favoured project developers, allowing them to benefit significantly from green energy production policies. Despite the intention to involve communities as co-owners, the actual implementation favoured commercial interests. The rapid actions of project developers led to the establishment of multiple solar fields, eventually sold off to financial investors, with the local community largely sidelined in the process. The involvement of diverse actors, influenced by overarching trends like green capitalism and digitalisation, underscores Dutch energy citizenship initiatives' complexity and hybrid nature. This situation highlights the limitations of soft laws for ensuring community benefits in green capitalism scenarios.[4]

Both business projects and government-based neighbourhood energy projects warrant critical scrutiny. The Dutch government's policy of disconnecting from the natural gas grid raises concerns about potential new dependencies. Foreseeing a future when integrated energy systems enable communal energy sharing, storage, and usage, some experts argue that the focus should be on this rather than creating sustainable heat networks. A single-source heat grid, dependent on industrial heat or waste burning, risks creating new dependencies.[5]

The role of citizen action in shaping the energy transition is crucial. In the Netherlands, the REScoop network played a key role in advocating for a soft law in the Climate Accord, mandating community co-ownership in new local energy projects. Additionally, the project development fund for energy cooperatives in Limburg empowers these groups by providing financial support for hiring experts and compensating members for project development work.

These examples illustrate the multifaceted nature of the energy transition, involving a complex interplay of actors influenced by overarching trends like green capitalism and digitalisation. Energy citizenship, therefore, must extend beyond individual projects to encompass broader issues such as influencing policy, fair process advocacy, and equitable cost and benefit distribution. Positive developments in this realm include the

[4] https://www.nrc.nl/nieuws/2023/11/05/belgen-duitsers-chinezen-portugezen-allemaal-verdienen-ze-aan-berkellandse-zonnestroom-a4179801.

[5] https://energeia.nl/energeia-artikel/40105619/een-verleidelijk-warmtenet-voor-een-rechtvaardige-transitie.

professionalisation of energy citizenship initiatives, increased attention to energy poverty, and the strengthening of public-civic and private-civic partnerships, especially at local and regional levels (see Mihailova, 2023).

The development of public-civic partnerships is an important trend in the context of energy citizenship in the Netherlands (Overlegorgaan Fysieke Leefomgeving, 2022). These partnerships represent a collaborative approach whereby public entities, private organisations, and civic groups come together to address energy challenges. Such alliances are instrumental in harnessing diverse resources, expertise, and perspectives, leading to more inclusive and effective energy solutions (Notten & Hekman, 2022). public-civic partnerships often involve government bodies working alongside community groups to implement policies and projects that cater to local energy needs. This collaborative model ensures that public resources are utilised in ways that directly benefit communities, enhancing accountability and responsiveness.

Overall, energy citizenship initiatives and public-civic partnerships represent a progressive shift towards more democratic and participatory models of energy governance. They play a vital role in ensuring that the transition to sustainable energy systems is not only technologically and economically viable but also socially equitable and responsive to the needs of diverse communities. As such, they form one cornerstone of effective energy citizenship, embodying the principles of collaboration, inclusivity, and shared benefit central to a sustainable energy transition.

Conclusion: Reflecting on the Evolution of Energy Citizenship in the Netherlands

Over the past half-century, energy citizenship in the Netherlands has evolved significantly, marked by influential activities and strategic alliances. This chapter synthesises key insights from the EnergyPROSPECTS project (Kemp et al., 2023; Markantoni et al., 2023; Pel et al., 2021), drawing conclusions about how energy citizenship has shaped the Dutch energy landscape, the factors influencing the agency of energy citizenship actors, and the nature of transformative change in this domain.

Influence of Energy Citizenship on the Energy System

Energy citizenship has profoundly impacted the development of the Dutch energy system. This evolution is characterised by a blend of traditional Dutch collaboration, the Poldermodel, and a unique institutional context. This context is rooted in the active participation of civil society, seen in protests against traditional energy paradigms and the formation of partnerships that bridge the public, private, and civil sectors. The growth of these partnerships has not only diversified the energy landscape but also democratised the process of energy decision-making. Fitting in with a long tradition of collaboration (called the Poldermodel), public-civic and private-civic partnerships have been crucial in steering the energy system towards more sustainable and community-centric models.

Agency and Intermediation in Energy Citizenship

The transformative agency of energy citizenship initiatives hinges on several factors. Key among these is the ability to secure funding from both members and external sources. The role of information and communication technology (ICT) is pivotal, especially in co-shaping smart grid projects that are at the forefront of modern energy systems. Furthermore, the capacity to amalgamate various institutional logics and spearhead initiatives leading to institutional change underscores the dynamic nature of these actors. Significantly, intermediaries have emerged as a vital enhancer of actors' agency. These intermediaries bridge gaps and facilitate collaborations that would otherwise be challenging in the complex energy landscape.

The Path to Transformative Change

The journey to achieving transformative change in the realm of energy citizenship has been arduous and is seldom wholly transformative. The process involves navigating a terrain marked by entrenched power dynamics and competing interests. Despite these challenges, there have been notable strides towards establishing more democratic and equitable relationships within the energy sector. However, such changes are often susceptible to reappropriation, reflecting the ongoing tussle between established energy paradigms and emerging, more inclusive approaches. In the last few years, the energy transition has become a polarising issue,

with climate action activists repeatedly blocking the A15 highway and right-wing political parties criticising the climate policies of the national government (especially the government climate fund of 35 billion euros for 2024–2025). This is part of a broader trend in Europe. Transformative change is hard-won and subject to counterreactions. The views of Dutch local government officials regarding the tasks they can delegate to citizens and their ability to do so are described in the article *Everybody Should Contribute, But Not Too Much* by Uittenbroek et al. (2022). The overall conclusion is that local government officials have "moderate trust in citizens' capabilities, but a low willingness to transfer responsibilities". They welcome energy citizenship activities that share energy expertise in the neighbourhood and involve organising community activities. They appreciate the policy suggestions of the former, but actual policy choices are mainly considered a government task. The devolution of government tasks raises the difficult issues of who is accountable for the quality of outcomes and adequate use of tax-based resources. Devolution is usually associated with accountability-related obligations.

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CHAPTER 7

Advancing Energy Citizenship: Hindering and Supporting Factors in Latvia's Energy Transition

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Abstract This chapter explores the hindering and supporting factors in the development of energy citizenship in Latvia. This contribution identifies key threats arising from the complex economic landscape shaped by geopolitical dynamics and escalating energy costs, as well as the level of

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political commitment in the field of climate policy and renewable energy. The chapter identifies a lack of confidence in public institutions and collective efforts as one of the critical obstacles to broader engagement with energy citizenship initiatives. The chapter also highlights several factors that contribute to the development of a framework energy citizenship. These include robust financing and investment prospects in this field, initiated by the EU and national level support schemes; the pivotal role of decarbonisation technologies and renewable energy sources, particularly household solar installations as well as Latvia's natural resources, encompassing residual forestry materials and solid biomass. National policy recommendations are included to conclude this chapter. Overall, this contribution broadens the understandings of energy citizenship development in Latvia, paving the way for future potential policy decisions and strategic interventions.

Keywords Energy citizenship · Energy communities · Energy awareness · Energy poverty · Energy and climate plans · Prosumerism · Public involvement · Renewable energy resources · Social factors · Trust

Introduction

In recent years, Latvia has faced critical challenges due to risks to energy security and the surge in energy prices driven by the aftermath of the COVID-19 pandemic and intensified by the Russia's war of aggression against Ukraine. The war has affected gas prices, increased inflation, and slowed the economy. In response, measures for addressing energy security and price stability in the short and long term were enacted in circumstances of a sharp decline in the import of fossil energy resources from Russia. In the pre-war period, over 95% of natural gas and a significant share of electrical energy were imported from Russia (Eurostat, 2024a). The Nord Pool exchange terminated electricity trade with Russia in May 2022, and as of 2023, natural gas imports have been stopped by the government, thus completely reshaping the country's energy policy.

The need to synchronise (no later than the end of 2025) Latvia's power grid with the European Union (EU) grid is increasing in strategic importance amidst these challenges. Despite difficulties, opportunities emerge in the form of more active civic engagement and abundant renewable

energy resources (RES), promising a resilient and economically supportive energy system.

Geopolitical and economic circumstances in recent years have favoured the emergence of energy citizenship initiatives, fostering individual and collective energy prosumerism, including elements of energy communities and active public engagement in the energy debate. However, there are other factors in play as well. For energy citizenship initiatives to thrive, it is important to have a supporting legal and institutional framework, market conditions, and social environment. The following section analyses these conditions in the Latvian context.

Policy and Institutional Framework

Governance at the National Level

Latvia's commitment to achieve climate neutrality by 2050 (Cabinet of Ministers, 2020), aligns with EU policies and directives, forming a basis for the implementation of the Fit for 55 package. The National Energy and Climate Plan for 2021–2030 (NECP 2030, 2020) seeks to promote a climate-neutral economy by improving energy security and public welfare in a sustainable, competitive, cost-efficient, and safe way based on market principles. NECP2030 also aims to "promote economically justified energy self-production and self-consumption (Public involvement in energy production)". Following a comprehensive public consultation process that spanned from November 2023 to June 2024, the government approved the updated NECP2030 in July, 2024.

The updated NECP2030 sets new ambitious policy targets and measures for all sectors to achieve them (Table 7.1). As of 2021, Latvia had already demonstrated significant progress in reducing overall greenhouse gas (GHG) emissions, surpassing the EU target of a 55% cut compared to 1990 levels, with a commendable reduction of 58.8%. Looking ahead to 2030, Latvia has committed to an even more ambitious target, aiming for a 65% decrease in overall GHG emissions.

In terms of effort-sharing sectors, Latvia is committed to a −17% reduction in GHG emissions from the latter by 2030. Turning towards renewable energy sources (RES), Latvia has demonstrated a strong commitment to increasing the share of renewable energy in its final energy consumption. As of 2021, the total share stands at 42.1%. Specifically, Latvia has achieved a remarkable 57.4% share in heating and cooling,

Table 7.1 Energy and climate targets for 2030 in EU and Latvia

Target parameter	*Target values for 2030*[1]		
	EU targets	*Actual values/ Latvia (2021)*	*Latvia (targets set in 2024)*
Cut in overall GHG emissions (in % compared to 1990 level)	−55	−58.8	−65
Effort-sharing sectors (% compared to 2005 levels)	−40	+1.0	−17
Share of renewable energy in final energy consumption (%)			
Total:	42.5	42.1	61
In heating and cooling:		57.4	66.4
In buildings:		57.2	65
Energy efficiency			
Primary energy consumption (GWh):		52,291	44,717
Final energy consumption (GWh):		48,511	40,240
Cumulative savings in final energy consumption (GWh):			29,522

while in buildings, the share of renewable resources is 57.2%. Energy efficiency is a focal area for Latvia, and the results are promising. Primary energy consumption has to be reduced from 52,291 GWh in 2021 to 44,717 GWh in 2030. Nevertheless, Latvia still has a lot of room for improvement in terms of economic development, energy consumption efficiency, and GHG emission efficiency (Lin et al., 2023).

Current legislation in Latvia establishes a solid foundation for energy communities, electricity sharing, and peer-to-peer trade without imposing stringent restrictions (Rozentale & Blumberga, 2021). Nonetheless, the detailed government regulations governing the operations of energy communities are currently mired in an inter-institutional consultation process.

The governmental assessment (January 2024) indicates a risk of not achieving the target defined by the Effort Sharing Regulation (for sectors

[1] Target values are set in the updated NECP2030 (July 12, 2024) available at https://commission.europa.eu/document/download/3e07cbed-22c0-4b69-a8e5-887e0c6aa09e_en?filename=LV_FINAL%20UPDATED%20NECP%202021-2030%20%28English%29_0.pdf.

not included in the emission trading scheme), as well as GHG emission intensity reduction target in the transport sector. It is unlikely that the country will meet the mandatory energy targets, including renewable energy and cumulative energy consumption savings goals, without additional measures. To address this, the government envisages increasing the share of RES in electricity generation by expanding wind and solar power capacity. Additional efforts will focus on expanding and modernising biomass energy facilities and increasing the capacity of heat pumps and solar collectors for heating and cooling.

Since January 2023, energy and climate policies have been centralised under the Ministry of Climate and Energy, streamlining the former responsibilities of multiple ministries. Key legal acts governing the energy sector include the Energy Law, Electricity Market Law, Energy Efficiency Law, and Law on the Energy Performance of Buildings. Climate issues are addressed by the Law on Pollution, with a new Climate Law being in the public consultation and interinstitutional harmonization process since 2021.

The impact of these policies on energy citizenship initiatives in Latvia is encouraging, as the role of citizens in the transition of the energy system is recognised, which is a departure from the current, passive consumer-oriented approach towards active energy citizenship. In addition, active public involvement in the achievement of the goals of the energy sector is very important for preventing the financial consequences of EU sanctions for non-compliance with national goals, which would indirectly affect the whole economy (the outflow of money diminishing financing available for key priorities and critical issues).

Governance at the Local Level

The last administrative-territorial reform completed in 2021 significantly reduced the number of local municipalities from 119 to 43. In 2022, the Local Governments Law was revised. The law specifies the autonomous functions of municipalities and, among other components, specifies energy-related tasks, including heating, waste management, and public transportation. It adds a new function—promoting climate change mitigation and adaptation measures.

The amended Energy Law (2022) mandates municipalities to promote energy efficiency, also benefiting public participation and activism. In June 2024, the Parliament has adopted the next amendments to this Law,

which provide that local governments must take into account the national energy and climate targets when planning heating supply in their territories. At the same time, another law, the amended Energy Efficiency Law (2022), provides that municipalities must implement energy management systems. Municipalities have the right to implement voluntary initiatives that benefit local society, including those that support and promote public involvement in energy and climate-related policy formulation and communities' energy initiatives.

Over half of all Latvian municipalities (23 municipalities by 2024) have developed local energy and climate action plans, contributing to decentralised, citizen-inclusive renewable energy production and energy efficiency improvements, primarily in public buildings, but also supporting the residential sector. Energy-efficient and sustainable transport is one of the main areas that most municipalities include in their plans, thus providing a new perspective for the involvement of citizens by promoting environmentally friendly mobility, such as walking and cycling.

The general level of state support for municipalities and individuals in increasing the energy efficiency of buildings (for insulation projects in the public, private, and multi-apartment building sectors) has been significant thanks to EU co-financing. The increased administrative capacity of local governments after the amalgamation also contributed to the success of the acquisition of available funding. However, there are still inhibiting factors, determined by distrust in state-initiated activities, limited knowledge, and administrative burdens, the complexity of requirements, and the diversity of interests of the citizens who are involved. Process coordination and consultations are one of the solutions for promoting citizen involvement.

The political framework moderately supports the energy transition, emphasising civic participation without clear quantitative targets. Policies and initiatives aim to reduce energy consumption, promote self-production, and address challenges like energy poverty and rising costs for households.

Energy Sector Decarbonisation and Liberalisation

To achieve climate neutrality by 2050 and the targets set for 2030, the gradual decarbonisation of all sectors of the economy is a crucial necessity. This can be done by changing energy consumption habits, opting for more efficient solutions, and replacing the consumption of fossil energy resources with energy produced from RES.

Current Advantages in Terms of the Energy Transition

The evolution of the energy sector hinges on strategically harnessing inherent strengths and advantages, which, when employed discerningly, emerge as pivotal contributors to the development of energy citizenship. Foremost among these advantages is the abundance of domestic natural resources. Latvia lacks economically viable fossil fuel deposits; however, it is the fourth-largest country in Europe in terms of the proportion of forest area, encompassing 52% of its territory. Additional advantageous factors encompass the notably low population density, expansive uncultivated land, flat topography, and optimal wind speeds, all conducive to the efficient and cost-effective utilisation of wind energy for electricity generation.

The next advantage is a robust **energy supply infrastructure** based on the three co-existing networks—electricity, natural gas, and district heat supply. Such infrastructure allows for faster switching and system optimisation, taking into account both network coverage and population density in major cities and their suburbs. The electricity grid can provide almost 3.5 times more electricity than the national consumption. It particularly encourages the development of solar photovoltaic (PV) and wind parks.

Another advantage is **liberalised energy and natural gas markets** and **cost-based tariffs**. Since 2015, every customer (household) has been able to participate in the deregulated electricity market. This creates the foundation for the development of prosumerism and selective behavioural choices.

Energy Production and Consumption

In the winter of 2022 and 2023, Latvia's natural gas consumption dropped by 30% compared to the average consumption over the last five years. To further reduce natural gas demand, Latvia should accelerate the scaling up of energy efficiency measures to decarbonise its building stock as well as industry and put in place new financing and support measures (European Commission, 2023b).

Although Latvia had the third-largest share of renewable energy consumption in the EU in 2020 (42.1%), this is mainly achieved using solid biomass fuel in district- and individual-level heat production and hydro energy in electricity generation. The country aims to increase the

renewable energy share to 61% by 2030, focusing on RES utilization increase in heat production, transportation, and electricity generation.

The significant contribution to achieving the renewable energy target involves changes in the daily habits of residents and the installation of microgeneration capacity. The years 2022 and 2023 were characterised by the intensive installation of PV panels—both in private households and the service and industrial sectors. By July 2024, installed solar PV capacity connected to the distribution grid reached 500 MW with additional 750 MW capacity reserved for future solar PV parks.[2]

An important driver of this development has been state support mechanisms based on revenue from the auction of emission allowances (the Emission Allowance Auctioning System), which provides funding to partialy subsidise the energy-related activities of the population, resulting in the installation of over nine thousand solar PV panel systems in households by the end of 2023. By September 2024, the number of supported PV panel systems has already exceeded twelve thousand with a combined capacity 97,837 kW. In July 2024, the total number of solar PV microgenerators (below 11.1 kW) in all sectors reached 22,300, with a combined capacity of 188 MW. This demonstrates the rapid pace of transformation of the energy production model in the country.[3]

Achieving national energy and climate goals involves the implementation of strategically important wind park projects. A national company, Latvian Wind Parks (established by the national power utility Latvenergo and the state company Latvian State Forests), aims to invest one billion euros in constructing wind parks in several municipalities with a total capacity of at least 800 MW by 2030. Despite the potential benefits, the emphasis on installing large production capacity in state policy poses a risk to energy citizenship development, mainly since citizens have limited input in decisions about such projects of national importance that may significantly impact the lives of nearby communities and typical landscapes.

At the end of 2023, the installed capacity of onshore wind energy was quite small, amounting to 128 MW, representing approximately 4% of

[2] Overview of Electricity Supply (August 2024). Sadales tīkls. Retrieved on September 24, 2024 from https://sadalestikls.lv/lv/elektroapgades-apskats.

[3] Latvian Environmental Investment Fund. Statistics of the Emission Allowances Trading Instrument support to households for utilization of RES, Table 7. Retrieved on September 24, 2024 from https://ekii.lv/index.php?page=atbalsts-majsaimniecibam.

the gross final electricity consumption in Latvia, while the EU average is 16%.[4] On the other hand, the total capacity of onshore wind farm projects for which the environmental impact assessment (EIA) procedure has been completed exceeds 900 MW. These are projects that will be potentially installed in the near future. The capacity of projects that have applied for the EIA process is even greater (8,400 MW by the end of 2023).[5] These figures show the intensity of the processes and the scope of projects that require public involvement for impact assessment and following decision-making.

Energy Market Liberalisation

The liberalisation of the electricity market occurred in Latvia in several steps and was finished on January 1, 2015, when every single customer (household) was permitted to participate in a free power market. In 2023, Latvia has fully opened up the retail market for natural gas. Since the energy market liberalisation in Latvia, there has been a notable increase in the number of households installing solar PV panel systems to generate their own electricity. This has led to a greater sense of energy autonomy and a feeling of being actively involved in the energy system, thus supporting the very concept of energy citizenship and paving the way for collective self-production.

Social Aspects of Energy Transition

Energy Poverty and Income

According to the Ministry of Economics, in 2021 and 2022, the price of energy resources (electricity, natural gas, coal, oil, and wood) increased rapidly, reaching an extraordinary level. The average wholesale price of electricity in Latvia in 2022 reached 226.91 EUR/MWh, 225% higher than the average price in 2021. The average price of natural gas in 2022 reached 134.40 EUR/MWh, 291% higher than the average monthly

[4] Official Statistics Portal. ENA040 "Electric capacity and produced electricity from renewables". Available at https://data.stat.gov.lv/pxweb/en/OSP_PUB/START__NOZ__EN__ENA/ENA040.

[5] Information withdrawn from the Environment State Bureau data, available at: Ietekmes uz Ietekmes uz vidi novērtējumu projekti | Vides pārraudzības valsts birojs (vpvb.gov.lv).

price in 2020. The average thermal energy tariff in the 2022/2023 heating season in Latvia was 121 EUR/MWh, but in several municipalities, the thermal energy tariff exceeded 200 or even 300 EUR/MWh. Under these conditions, energy poverty becomes a serious problem for the government.

In general, addressing energy poverty is a multifaceted challenge, involving dimensions such as low income, the excessive costs of energy services, and unsatisfactory housing conditions (primarily related to energy efficiency). Energy poverty is widely spread in Latvia—reaching 27.3% (Karpinska & Śmiech, 2023), which is close to the proportion of people at risk of poverty or social exclusion, which stood at 26% in 2022 (Eurostat, 2024b). The number of households unable to afford adequately warm housing is tending to increase, in 2022 reaching 7.1% but dropping to 6.6% in 2023 (Eurostat, 2024c).

The Energy Law (2021 amendments) determines the state's responsibility for supporting households affected by the energy crisis. In 2022, the government provided a significant amount of financial assistance to households, totalling 1.4% of GDP. This support was primarily focused on helping households to cover increasing energy costs. However, there are no specific investment-support mechanisms targeted at socially vulnerable households regarding energy efficiency or RES installation. The conditions of participation are the same for everyone, regardless of income level, thus excluding households that cannot make pre-finance and co-finance investments.

While these efforts aim to alleviate energy poverty, co-financing requirements and the need for broader support underscore the complexities of the issue. The new programme Renovation of Social Housing or Construction of New Social Housing, financed by the national EU Cohesion Policy Programme 2021–2027 (Cabinet of Ministers, 2021) and launched in 2023, aims to set up municipal social or rental apartments for least 1,865 persons by the end of 2029. To reduce the impact of high energy prices on households with low and medium-low income levels in the long term, in December 2023, the Law on the State Aid for Energy Supply Costs was adopted, and the Ministry of Climate and Energy drafted regulations to enact this law in practice. The Regulations On the State Aid to Energy Supply costs were adopted by the government in September 2024. Ministries are also preparing to create a social climate plan. But in general, the understanding of energy poverty and its connection with energy citizenship in Latvia is only now developing

in all governance circles. Knowledge about these issues is being built through the participation of local municipalities and non-governmental organisations (NGOs) in EU projects (some of which include Power Poor and Sustainable Energy Infrastructure and Market), which focus on developing tools for citizen involvement, support schemes, demonstration activities, working on alternative financing options, raising awareness about energy communities and cooperatives, thus reflecting the landscape of energy citizenship information in the country.

The updated NECP2030 (2024) addresses energy poverty, with measures to reduce it and ensure a just energy transition. The Plan sets a target to reduce the population in energy poverty below 5% by 2030. Specific measures include support to the renovation of multi-apartment buildings for at least 2017 households at risk of energy poverty, including funding for the installation of heat meters for the building's heating system. The renovation of private houses will also be supported. The reduced VAT rate will continue to apply to wood fuel and heat supplied to residents. Additionally, a reduced electricity tariff is introduced for vulnerable groups of society (so called "protected users").

Energy Literacy, Awareness, and Skills

The Eurobarometer survey (European Commission, 2023a) shows that EU citizens continue to overwhelmingly back the energy transition and expect massive investment in renewables. In Latvia, a public survey on energy-related behaviour informs that more than half (56%) of respondents had already reacted to the increase in energy prices by implementing energy efficiency measures in their households (38%), but only 4% had installed an energy microgeneration device. Another survey (2021) implemented by the distribution network operator (SJSC Sadales tīkls) revealed that 33% of respondents whose households are equipped with smart metres have used the data to revise their electricity use habits or choose the most appropriate electricity tariff plan. The latest (2024) data from the operator shows that 99.8% of customers have installed smart meters and the proportion of active data users has increased to 50% of all residential end-users.

The Energy Efficiency Law stipulates that the sectoral ministry shall elaborate measures to promote energy efficiency in households by providing information on energy efficiency on its website. Since 2010, literacy in matters of improving the energy efficiency of buildings has

been promoted by the Ministry of Economics, which runs an information programme called Let's Live Warmer. Another source of public energy literacy is related to support schemes for installing renewable energy systems in households and related information and capacity-building measures. In addition, the publicity and information requirements for publicly funded projects are important factors contributing to awareness and literacy-building elements in various energy projects, especially in the field of energy efficiency.

Since 1997, a proficient national mechanism for fostering public awareness has been exemplified by Elektrum Energy Efficiency Centre, a venture administered by the national power utility Latvenergo. This centre is dedicated to informing consumers about energy efficiency to foster the smarter and more efficient utilisation of electricity, water, and heat resources.

The national climate portal[6] provides climate information related to energy use, thus developing the public's understanding of anthropogenic activity and the impact of individual choices on global climate change. This knowledge is an essential motivating factor in the energy citizenship context.

Trust in Institutions and Collective Endeavours

The decline in public trust in the government, as revealed by an OECD survey (OECD, 2022), underscores the urgency of fostering constructive dialogue with society. The survey reveals that only a quarter of Latvian residents trust the government.

This lack of trust in institutions and collective efforts is a significant challenge in the energy citizenship context, hindering the effective involvement of citizens in the energy system and reducing the opportunity for society to participate in energy policy-making processes. Further, it does not promote the understanding and acceptance of new technologies, including in the field of energy and especially RES. Building trust is crucial for fostering collective efforts and encouraging community participation in the necessary transition towards a more sustainable energy system.

[6] National climate portal available at https://klimats.meteo.lv/.

The Role of Citizens in Energy Sector Governance

Decentralisation of the Energy Sector: Energy Communities

In Latvia, promoting citizen participation in the energy sector, especially by creating energy communities, is a new thing, associated with many uncertainties and differences of opinion. While public engagement in zero-emission energy self-production is increasing, it remains relatively low. The number of solar PV installations in single-family dwellings has grown strongly due to factors like rising electricity prices, robust grid capacity, streamlined permitting procedures, and state co-financing programmes. But this is not the case for multi-apartment buildings. Apartment-owner communities focus on energy-efficient renovations of old apartment buildings without installing decentralised solar technologies.

To boost microgeneration and enhance the renewable energy share, regulations that support the formation and operation of energy communities are crucial. Energy communities can play a pivotal role in driving the energy transition, serving as role models that inspire active participation in energy-related activities. Their success creates a positive ripple effect, encouraging others to join the transition.

The regulation for the registration and operation of energy communities has been stuck in government corridors since 2020. Limited support from society and a lack of leadership and advocacy, coupled with the stalled legal framework, hinder progress. Stakeholders representing the energy sector, NGOs and individual owners support the need for specific regulations and compensation mechanisms, highlighting the importance of bridging the gap between government policies and practical implementation.

A number of EU projects on energy communities will hopefully bridge this gap. The results of the EU Horizon project COME-RES Community Energy for the Uptake of RES in the Electricity Sector: Connecting Long-term Visions with Short-term Actions (2020–2023) produced recommendations and business models that could be useful for the implementation of energy citizenship in Lavia. However, due to an incomplete legislative framework, energy communities are still at an embryonic stage.

Fair Transition: Compensations for Communities

Current economic and financial mechanisms are not able to provide adequate benefits to communities (local villages, interest groups such as farmers, and local recreational businesses) so that they are ready to accept the compromises and risks that may be associated with new energy installations in their surroundings and affect their traditional way of life. Citizens are not only concerned but also insufficiently informed about the environmental and health risks (noise, pollution, loss of biodiversity) associated with the construction and operation of large-scale energy facilities such as wind farms and waste incineration plants. The solution to this question touches on different dimensions of fairness and the right to influence decision-making.

According to the Law on Local Municipalities, municipalities are responsible for local spatial planning, which includes the location of infrastructure facilities. In recent years, this has created obstacles to the implementation of the plans of the government and investors. In 2022, the government, considering this a threat to achieving the goals of the national energy policy defined in NECP2030, decided to limit the decision-making powers of local governments regarding wind park projects with a capacity of more than 50 MW, which have been granted the status of national significance. Such changes also affect citizens' ability to influence the results of EIAs. Therefore, local communities and like-minded citizens have used the voting platform My Voice (Mana Balss[7]) to collect votes and submit proposals to parliament. This platform has evolved into a powerful tool for digital democracy, promoting citizen engagement in political decisions. Any Latvian citizen can submit a proposal once its identification has been established via authorised digital tools. The initiative called Better Practices in Wind Park Construction in Latvian Forests placed on the platform on November 25, 2023, has, in three months, collected more than 2,000 votes, and been shared numerous times on social media.

Amendments to the Electricity Market Law, which entered into force in 2023, determine wind farm payments for the development of local communities (this applies to new wind power plants with a capacity of 1 MW or more). However, the development of wind farms in Latvia has slowed down due to fragmented state and local politics. After a phase of

[7] The portal My Voice (Mana Balss) manabalss.lv.

slow development in 2000–2017, in which the installed capacities did not exceed 78 MW, stagnation followed in 2018–2022. The next wind farm of 59 MW started operation in September 2022. In August 2024, two years after the amendments to the Electricity Market Law, the government adopted regulations on compensation payments for local communities. The appropriateness of the proposed compensation payments remains uncertain.

Participative and Empowering Frameworks

The energy citizenship landscape in Latvia reflects diverse perspectives and sources of motivation. The thirty-two studied cases[8] demonstrate that dominant motivational factors include recognising climate change and growing public involvement (34.4% of cases) and acknowledging personal responsibility for engaging in renewable energy (25% of cases). While most cases (56%) focus on energy production, there is significant interest in mobility and holistic approaches to sustainable and just energy issues. The cumulative impact of these cases can bring about substantial change, democratising energy ownership, fostering local economic development, creating job opportunities, and enhancing energy access and affordability for marginalised communities (Ikstena et al., 2022).

An analysis of energy citizenship cases in Latvia identified three distinct types of energy citizenship (initiatives):

1. Active Citizens: These individuals are already actively engaged in various civic matters and participate in energy transition activities. They possess a considerably well-developed understanding of participatory tools and mechanisms but may need further capacity building to promote their deeper comprehension of the energy system and its elements, including stakeholders, policy, technologies, and economics.
2. NIMBY (*Not in My Backyard*): This group is characterised by their opposition to specific energy-related issues, such as nuclear energy, reliance on natural gas from Russia, or air pollution. Wind energy turbines (offshore and onshore) are a subject of ongoing debate in

[8] All the data concerning the analysed energy citizenship cases is available at data.energyprospects.eu.

Latvian society. Local groups are vocal in their resistance to these specific aspects of the energy landscape.

3. Political-Economic Focus: For many, the predominant source of motivation associated with the energy transition and energy citizenship in Latvia is economic considerations. Related efforts are primarily aimed at saving on energy costs and ensuring energy independence for the country.

Increased public involvement is deemed crucial for achieving the energy transition. However, no single dominant entity is responsible for initiating energy citizenship, with NGOs and state/municipal departments both actively involved. A robust legal framework facilitates public participation in decision-making in Latvia, incorporating various instruments such as working groups, consultative councils, and public consultations. Recent legislation also enhances participation at the local level. Initiatives like participatory local budgets empower residents to contribute to small-scale infrastructure needs.

The broader engagement of NGOs in energy and climate discussions is essential. One of the good examples of this is the Environmental Consultative Council, which consists of 20 environmental NGOs that are addressing the environmental impact of energy and climate policies. Latvian NGOs are also actively cooperating under the umbrella of the Green Barometer,[9] following the political processes related to the environment and climate. These movements are vital for promoting renewable energy, advocating for clean energy policies, and raising awareness about the need for change. By emphasising transparency and participation, these efforts empower citizens to shape energy policies and systems, ensuring their right not only to access energy but also to influence related policies.

Conclusions and Policy Recommendations

The updated NECP2030 specifies many directions crucial for the development and operation of energy citizenship, including the need to direct financial and capital flows to "green" or ecologically sustainable investment; the need to transform the energy system, including paying attention to vulnerable users and solutions that reduce social isolation; to support

[9] Website of the Green Barometer (available in Latvian). www.zalais-barometrs.lv.

individual self-consumption; regulate and implement energy communities and electricity sharing; and, above all, commit to a just transition, eradicating energy poverty and ensuring energy availability. At the same time, the understanding and knowledge of public and local governments and planning regions about low-carbon development and innovative technologies are assessed as insufficient, and the goals of mitigating climate change are not sufficiently prioritised in the public's mind; this affects the choices and behavioural patterns of businesses and households/individuals. It suggests vast opportunities, but also requirements, for energy citizenship initiatives.

The following three directions for policy improvements emerge from extensive energy citizenship studies (Hajdinjak et al., 2023; Ikstena et al., 2022):

1. **Barrier Removal**: Eliminate barriers to implementing low-emission technology solutions and developing energy communities, as well as to public participation in decision-making and engagement in energy initiatives. Implement measures to promote public participation, increase knowledge and skills, and facilitate sustainable technology integration.
2. **Clear Responsibility**: Create a special structure (agency, department to supervise and coordinate the development of energy citizenship in Latvia). Its function should include planning, monitoring, and evaluating measures aimed at promoting energy citizenship in society and defining indicators for evaluating progress.
3. **Prosumerism with justice**: When promoting prosumerism, the government should consider principles of justice, particularly in terms of cost distribution. Ensure that the benefits and costs of prosumer initiatives are fairly distributed among social groups. Address energy poverty by providing equal opportunities for all social groups to engage in energy-related activities, with a particular focus on tackling energy poverty. The economic stability and predictability of energy sector behaviour will be better managed by governmental agencies.

Specific support provided to energy communities, one of the most promising forms of energy citizenship, should be targeted to providing

education, organisational assistance for community building, and technology consulting, including resource-sharing solutions among community members. There is a need to promote planning measures and provide research support for the cost-benefit analysis of energy communities. One of the tasks for such research is to identify the optimal configurations of energy community members and production capacity. It is known that all successful European energy community pilot projects take place with the involvement of regional distribution network operators. It is thus necessary to provide support and create multilateral cooperation pilot projects for energy communities that involve households, municipalities, small companies, distribution networks, and financing bodies. Only by implementing such pilot projects will it be possible to identify real obstacles to developing such a system of cooperation.

There is a need for strengthening the monitoring of social aspects, including equity, inclusion, and education, with regard to energy sector funding. Research-based evaluation is needed to ensure a comprehensive understanding of the impact of the energy sector on society. This should include an assessment of the social, employment, and skills impacts of a just transition and energy poverty.

In terms of compensation schemes, there is a need to integrate the cost of ecosystem services, creating a comprehensive approach to addressing the impacts of renewable energy development on local communities and surrounding ecosystems and landscapes. Finally, there is a need to enhance inclusive decision-making and avoid centralised decision-making processes when developing renewable energy projects.

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CHAPTER 8

Energy Citizenship in Bulgaria: Revealing the Current Energy Landscape and the Way Forward

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Abstract This chapter examines the energy citizenship landscape in Bulgaria. Based on the review of 22 energy citizenship initiatives in the EnergyPROSPECTS project, the chapter establishes that a typical Bulgarian energy citizenship case can be described in the following way: it is supported by public funds (often the EU), operates on a local or municipal level, does not participate in larger networks, and is managed by or significantly benefits from the involvement of an NGO. The chapter then turns its attention to the external conditions, which support or hinder the emergence and development of energy citizenship in the country. It argues that Bulgaria's current political situation is, in principle, conducive to cultivating energy citizenship but too unstable to offer concrete support. Technological developments are creating a range of opportunities, while concerns about climate change are a strong source of motivation. The analysis shows that the economic, legal, and social contexts strongly deter the development of energy citizenship in Bulgaria.

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Introduction

Several features distinguish the energy landscape in Bulgaria compared to most other European countries. The proportion of people living in energy poverty is the highest of all EU Member States. The energy market has still not been fully liberalised and remains dominated by large state-owned actors such as Bulgarian Energy Holding. The electricity market is practically divided among the three largest electricity companies, each supplying electricity to customers in "their" part of the country. Energy prices are regulated by the Energy and Water Regulatory Commission—a specialised state regulatory body that controls retail prices in the gas and electricity markets and issues licenses for electricity generation, trading, transmission, and distribution. Regulated prices for all final consumers will be phased out only in 2026.

Until the crisis caused by the Russian invasion of Ukraine, Bulgaria was heavily dependent on fuels imported from Russia. However, it has since accelerated its attempts to diversify its energy supplies and become a regional energy hub. The country is a net electricity exporter (mainly to Romania, Greece, and North Macedonia).

Bulgarian citizens are generally positively inclined towards the idea of generating their own electricity or undertaking the energy renovation of their homes. However, they are rarely interested or willing to participate in groups or communities that pursue specific goals (Hajdinjak et al., 2024). This claim is also valid for energy communities. By 2023, only one energy community has been established and registered in the country.

The chapter first looks at the 22 energy citizenship initiatives that were analysed in the frame of the EnergyPROSPECTS project. Then, it examines the external conditions that significantly impact the emergence and development of energy citizenship in the country.

Bulgarian Energy Citizenship: Actors, Motivation, and Objectives

A total of 22 energy citizenship cases were mapped. While they all try to shape the trajectory of a more sustainable and democratic energy future, they differ in terms of the motivations of the actors who established them and their objectives. The cases also rely on different funding sources. This selection of cases did not aim for representativeness; the main aim was to present the energy citizenship diversity in the country.

Most cases are collective undertakings and involve a variety of actors working together—NGOs, municipalities, educational institutions, businesses, and/or citizens. Over half of them were initiated by two or more individual citizens or municipal authorities. NGOs played a significant role in establishing one-quarter of the initiatives, showcasing the importance of organised civil society in driving sustainable energy practices. Business enterprises and educational institutions, such as schools and universities, are also important initiators of energy citizenship practices, each accounting for 13.6% of the mapped cases (Ispyridou et al., 2022).

Regardless of who initiated the energy citizenship cases, NGOs seem indispensable for their continuous and successful implementation. The latter's involvement is prominent in half of all the Bulgarian cases. Curiously, municipalities, which are important initiators of cases, are rarely engaged in implementation. The explanation is that municipalities are often involved only as intermediaries, providing funding (either from municipal, national, and/or EU budgets) and monitoring activities conducted by someone else (NGOs, educational institutes, or citizens). Almost one-third of the cases are based on the efforts of individual citizens working together in informal groups. Educational institutions are also actively involved in nearly one-third of the cases (Ispyridou et al., 2022) (Fig. 8.1).

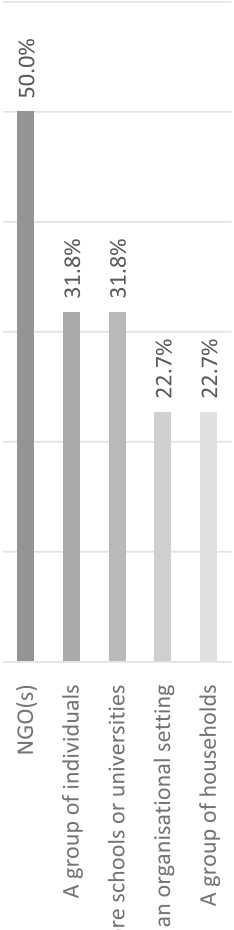

Fig. 8.1 Which actors are involved in the energy citizenship cases? (Ispyridou et al., 2022)

The analysis of the cases shows that the majority are either concerned with direct energy production and/or reduction of energy consumption (41%) or are engaged with activities that aim to contribute to a broader change in the energy system (41%). A smaller group of cases (14%) focus on sustainable mobility solutions (Ispyridou et al., 2022).

About two-thirds of the cases are only active in Bulgaria (22.7% at the local level, 22.7% at the municipal level, and 18.2% at the national level). Only a small number of initiatives (4.5%) have an international dimension. Less than a quarter of the cases are included in larger networks (either national or international), which suggests a pronounced individualist streak and an underdeveloped culture of cooperation (Ispyridou et al., 2022).

The funding sources for energy citizenship cases are quite diverse. Most (27.3%) rely on donations, crowdfunding, membership fees, ad hoc local public funding, and self-generated income, demonstrating the former's adaptive and resourceful nature. On the other hand, 13.6% of cases operate without any specified financing, indicating a limited scope and ambition and the potential need for diversifying funding strategies. A very significant source of support for Bulgarian energy citizenship is European public funding (22.7% of cases), underscoring the importance of external assistance in fostering sustainable energy practices in the country (Ispyridou et al., 2022).

The diverse spectrum of energy citizenship actors, ranging from individuals and municipalities to NGOs, naturally means that the reasons and motivations for the initiatives are also quite different. However, they can be clustered into several groups. The most prominent driver, valid for 36.4% of the mapped cases, is commitment to the ongoing energy transition, reflecting citizens' collective effort to promote a more sustainable future. Another dominant source of motivation (31.8% of cases) is the aspiration to increase citizen involvement. This involvement can also happen through online platforms, where virtual communities are formed in which participants exchange experiences about sustainable energy consumption (Ispyridou et al., 2022).

Almost one-quarter of initiatives (22.7%) are driven by the desire of the involved actors to produce their own energy from renewable sources or at least use such forms of energy produced by someone else. It should be noted, however, that this type of motivation does not mean

that these cases represent energy communities or cooperatives, the most typical form of energy citizenship in most European countries. In fact, by 2023, only one energy community had been established in Bulgaria ("Izgrei.BG").[1] Other cases dealing with renewable energy production include the installation of hybrid energy production systems in three social housing buildings in Plovdiv (an EU-funded project) and two student projects designed to produce solar energy (Fig. 8.2).

Regarding objectives, almost two-thirds of the analysed energy citizenship cases are striving to reduce their carbon footprint, and almost a third promote energy saving. This indicates the commitment of energy-citizenship-related actors to efficient energy use but may also reflect the persistent problem of energy poverty in Bulgaria.[2] Other objectives are ending dependence on fossil fuels and facilitating prosumerism (Ispyridou et al., 2022) (Fig. 8.3).

Based on the results of the mapping, a typical Bulgarian energy citizenship case can be described as being supported by public funds (often EU), operating on a local or municipal level, not participating in larger networks, and being managed by, or significantly benefitting from, the involvement of an NGO.

[1] Izgrei.BG is the first energy community in Bulgaria. It was established in 2021 in Plovdiv (south-central Bulgaria). It is a member of the European Federation of Renewable Energy Cooperatives. The community's first pilot project was a 4-kW solar PV installation in Belozem village. Izgrei.BG also advocates for community energy. Participants disseminate information on the topic through conferences, local gatherings with citizens, and online sessions.

[2] Bulgaria has the highest level of energy poverty of any country in the EU. A quarter of the population is unable to keep their home adequately warm (Eurostat, 2023b). Despite this, only 14% of the cases focus on issues related to disadvantaged or underrepresented groups (Ispyridou et al., 2022).

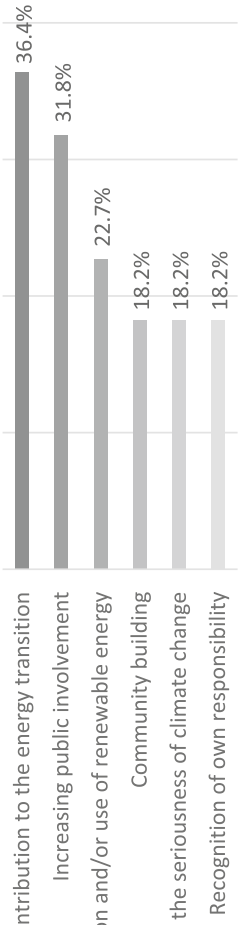

Fig. 8.2 What motivated the start of the energy citizenship cases? (Ispyridou et al., 2022)

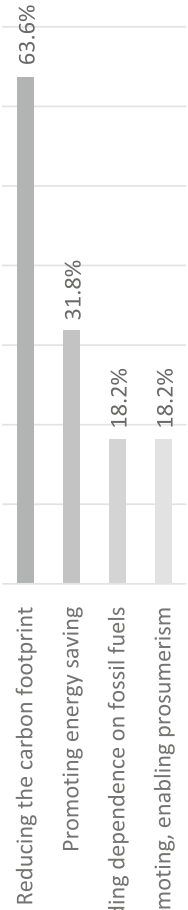

Fig. 8.3 Objectives of the energy citizenship cases (Ispyridou et al., 2022)

Multiple Barriers, Limited Opportunities—Contextual Conditions for Energy Citizenship[3]

The Political Environment—On Course, but in Troubled Waters

On the surface, Bulgaria's broader political framework appears to support energy citizenship. Crucial strategic documents such as the *Strategy for Sustainable Energy Development of the Republic of Bulgaria until 2030 with a horizon to 2050* (Ministry of Energy, 2021) and the *Integrated National Energy and Climate Plan of the Republic of Bulgaria until 2030* (INECP) (Ministry of Energy, Ministry of the Environment and Waters, 2020) acknowledge that citizens should play an active role in the energy system.

INECP stipulates the elimination of all trade and legislative barriers, which currently hinder individual citizens or energy communities from storing or selling the electricity they produce. Measures proposed for encouraging the active participation of energy consumers in the market include promoting local energy communities, developing platforms that enhance information transparency and dynamic electricity pricing, and elaborating a regulatory framework that creates incentives for consumers.

On closer inspection, it is clear that progress towards these objectives has stalled. One reason is political instability. Five general elections were held over two years (April 2021 to April 2023) until a government was finally formed with the reluctant support of the two largest coalitions in parliament. Given the history of bitter rivalry between the two formations, it is no surprise that the political situation remained volatile even after the government was formed. This has hindered progress in many areas, including the energy transition.

The other significant barriers to progress in the energy sector are Bulgaria's weak democratic culture and underdeveloped political traditions. Many citizens are reluctant to participate in public and community activities, including energy communities and other types of energy citizenship.

[3] The following section is based on the main findings from the PESTEL analysis of the political, economic, social, technological, environmental, and legal (P-E-S-T-E-L) conditions that have an important impact on the emergence and development of energy citizenship in Bulgaria. See Hajdinjak et al. (2023).

Economic Situation—The Tightening Noose

Economic factors largely define which energy citizenship initiatives Bulgarian citizens can engage in—especially costlier ones such as investing in renewable energy sources (RES) installations, house retrofitting, purchasing an electric vehicle, etc. A recent study showed that in 2022, Bulgaria occupied the penultimate place in the EU in terms of the purchasing power of households (SEGA, 2022). In 2022–2023, Bulgaria experienced high inflation and a rise in energy prices (OECD, 2022). Along with Estonia and Lithuania, the rise in natural gas prices was the highest in the EU (Eurostat, 2022). Although the cost of electricity remains the lowest in the EU (€0.114 per kWh compared to the EU average of €0.289) (Eurostat, 2023a), covering this remains a huge burden for many Bulgarian households.

Paradoxically, while energy prices are a considerable problem for vulnerable consumers, their relatively low level (compared to other EU countries) may discourage more affluent citizens from investing in RES installations, given the longer payback periods. This additionally complicates the already unfavourable situation, in which the still unliberalised energy market and complex administrative processes related to the self-consumption of energy hinder the development of energy citizenship initiatives.

The general economic situation and energy prices, in particular, clearly discourage or hinder certain types of energy citizenship. However, they stimulate less costly forms of engagement, such as rethinking energy consumption behaviour and searching for more sustainable choices, including in the mobility sector.

A variety of economic policy measures were implemented in 2022 to help citizens weather the energy crisis. Some directly support energy citizenship. One such measure is the national scheme for supporting households in the area of RES—part of the Bulgarian *Recovery and Resilience Plan*. Since 2023, households have been able to apply for financial aid to purchase solar installations for domestic hot water supply or photovoltaic systems with a capacity of up to 10 kW. By the end of 2025, the scheme is expected to have supported more than 10,000 households (3e-News, 2022).

Financial mechanisms that allow consumers to invest in energy efficiency measures act as enablers of energy citizenship. They provide households with the financial resources required to implement measures

that would otherwise be unavailable to them and motivate people to invest in RES solutions. On the other hand, these measures often remain inaccessible to vulnerable consumers.

Social Landscape—Poverty, Weak Energy Literacy, and Distrust

The huge problem of energy poverty in Bulgaria was already mentioned in previous sections. The combination of low disposable incomes, high energy prices (relatively, compared to income), and the poor quality of buildings hinders the development of RES cooperatives. Low-income and vulnerable households are less likely to upgrade their old and ineffective heating systems, purchase energy-efficient appliances, or invest in small-scale RES installations.

Another considerable barrier to energy citizenship development is the low level of knowledge about solar systems, wind turbine installations, and biomass installations. This leads to the low level of social acceptance of such technologies and, respectively, their slow uptake (Trifonova, 2021).

Citizens' trust in the institutions of representative democracy is persistently low. Only 11% of Bulgarians trust political parties and 9% trust parliament. Confidence in the government dropped from 24% in October 2021 to 16% in June 2022, probably due to the political crisis in mid-2022 (Smilov, 2022).

Another barrier to developing energy communities in Bulgaria is the historical experience with "cooperatives". Many people connotate any form of cooperative or community with communism and reject them (Association SIP, n.d.). The Civic Health Index survey has established a very low level of willingness to engage in any organised form of civic activism aimed at improving the areas in which citizens live (Sofia Platform, 2021).

On a more positive note, two recent studies show that 50% of adult Bulgarians have a positive attitude towards participating in the energy transition and would like to be able to generate their own electricity to meet their household needs (Hajdinjak et al., 2024; World Wildlife Fund, 2021).

Technological Opportunities—Better Accessibility, Growing Acceptance

Solar photovoltaic systems have become more accessible in recent years. The return on investment is currently estimated to be 5–8 years.[4] As a result, in 2023, the operational capacity of solar power plants exceeded 2,200 MW capacity, with nearly 600 MW added in 2022 and 700 MW in 2023 (Johnson et al., 2023). According to the Electricity System Operator, over 31% of the national electricity supply is currently produced by solar parks, equivalent to that generated by the country's sole nuclear power plant, Kozloduy, and exceeding the output of Bulgaria's thermal power plants (22%) (Nikolova, 2023). Despite these positive trends, photovoltaic technologies remain inaccessible to many citizens for the reasons already discussed. Additional obstacles are time-consuming bureaucratic procedures and ambiguous energy policies (Solar Academy, 2022).

Another important technological process is the digitalisation of the energy system. One potential opportunity for strengthening energy citizenship, especially on a household level, is the introduction of smart metering, which is already underway, although far less widespread than in other European states (Jones, 2023). However, smart metering remains limited to the capital, Sofia, and a few other large cities.

By far the most popular technology-based approach that involves citizens in the energy transition has been the energy-efficient renovation of buildings. The first programme was launched in 2005 with the renovation of 50 multifamily apartment blocks (Lecheva, 2022). Since then, several financial mechanisms have been made available: the Operational Programme "Regions in Growth 2014–2020", the Residential Energy Efficiency Credit Line, the Energy Efficiency and Renewable Sources Fund, National Trust Ecofund, and Energy Savings Performance Contracts (Sustainable Energy Development Agency, 2015). This support is especially important for the approximately 1.8 million Bulgarians who live in the multi-apartment panel blocks built during the communist era. These buildings are highly energy inefficient, poorly maintained, and in various stages of deterioration.

[4] This is an estimate made by many companies that install photovoltaic systems for households. Some of these offers can be found on the following websites: https://pvpower.bg/cases/30kw/; https://isomatech.com/; https://www.photovoltaic-panel.com/blog/how-long-is-the-payback-period-for-installing-a-home-pv-plant; https://solarenergy.bg/primeren-investitsionen-plan.

Environmental Issues—Concerns and Potential

A multitude of recent natural hazard events, including flooding, wildfires, drought, and extreme temperatures, have been a significant source of motivation for citizen action to reduce carbon footprints and energy consumption. Pollution is also a major concern. Water pollution has been a lasting problem in many parts of the country, and air particulate matter has consistently exceeded permissible levels in many cities. Environmental NGOs such as Za Zemiata (For the Earth) have repeatedly challenged the authorities over their passivity regarding air pollution.

Citizen movements against climate change have also become quite popular.

Bulgaria has excellent natural potential to participate in the green energy transition. Its position in the European south makes it an excellent location for solar power (Gramatikov, 2007). Solar thermal water heating is already used extensively in the country's larger cities, and the installation of solar power plants has been progressing at an astonishing pace in recent years (see previous section).

Wind energy has huge potential, and wind power plants are being developed (700 MW generation capacity in 2022), but progress has been slow because of environmental concerns. The areas with the greatest wind potential coincide with the protected areas (Natura 2000) and ornithological sites. This limits the potential for installing wind turbine parks and renders them controversial among environmentalists. For example, citizens and environmental activists strongly opposed the construction of an autonomous hybrid RES system just outside the Central Balkan National Park (3e-News, 2021).

The conflict between the promotion of RES and the protection of natural biodiversity has perhaps hindered the emergence of certain types of energy citizenship focused on energy generation. However, it has sparked other forms—activism and protests. Opposition to RES has also been fuelled by the fact that the authorities prioritise exceedingly large investments, which require greater land use, while smaller RES projects with smaller environmental impacts remain difficult to implement.

Legal Framework—Incomplete and Complicated, Yet Catching Up

Bulgaria has not yet transposed all provisions of the Clean Energy for all Europeans package from 2016, especially those that refer to the "self-consumer of electricity produced by RES, jointly operating consumers of own energy from RES and renewable energy community (REC)", as regulated by Directive (EU) 2018/2001 (REDII). Therefore, the current legislation in Bulgaria lacks the provisions required to support the establishment and functioning of energy communities. This problem is aggravated by the challenging administrative procedures associated with obtaining permits and licenses from relevant authorities (Bezuhanova et al., 2023). Several amendments to legislation are planned, but there is no specific timeframe for these.

Bulgaria is also lagging regarding legal measures dedicated to helping vulnerable consumers and addressing energy poverty. After years of foot-dragging, a definition of energy poverty was finally proposed in January 2023 that states that all households that fall below the official poverty line after paying their energy bills are energy poor. This definition of energy poverty was among the amendments to the Energy Act passed by the National Assembly on its first reading in October 2023. However, the Act was vetoed by the President and returned to the parliament for reconsideration. One of the reasons for this is that the definition of energy poverty was considered too narrow. At the time of writing this chapter, the revised Energy Act had not yet been passed.

Bulgaria has some of the most lengthy and burdensome administrative procedures in all public spheres of all the EU Member States, which also applies to the energy sector. The lack of clear rules increases uncertainty, discourages citizens, and increases costs and delays in implementing energy citizenship projects and initiatives. On the other hand, not being obliged to follow specific regulations, the first energy community in Bulgaria was registered as a limited liability company, enabling it to participate in business operations—something normally considered to be beyond the scope of the activities of an energy community.

Conclusion

The mapping study, in which 22 Bulgarian energy citizenship cases were analysed, has shown that energy citizenship is a relatively recent phenomenon but has good prospects to develop even in the rigid

Bulgarian energy landscape. As may be expected at this early stage of the development of the phenomenon, most of these energy citizenship initiatives significantly rely on the support of intermediaries.[5] This support often comes in the form of funding, but it can also encompass logistical help, consultation, or guidance. It is also not surprising that most of these initiatives operate on a relatively small scale (household, neighbourhood, or municipality) and focus on concrete and practical activities that nevertheless contribute to the "greater good"—reducing the carbon footprint and promoting energy saving.

The less encouraging finding of the study is that only about a quarter of energy citizenship cases have been initiated by individual citizens. The rest have come about within an organisational or institutional setting (NGO, municipal authority, school or university, or business). The involvement of citizens in energy citizenship cases (organised by someone else) is more pronounced, which may be an indication that Bulgarian citizens are concerned and willing to participate in the energy transition but lack initiative, skills, and ambition, but perhaps also faith in their ability to make a difference.

Energy citizenship progress is further hampered by the predominantly unfavourable context. Although the current political environment favours the active engagement of citizens in the energy transition, the political situation is too unstable to give us grounds for anything other than cautious optimism. The Integrated National Energy and Climate Plan until 2030 acknowledges that citizens should be active participants in the energy system. However, few specific measures that would support such a role are foreseen. Bulgaria has yet to transpose the relevant provisions of the "Clean Energy for all Europeans" package or define the conditions for establishing energy communities. The European Commission has already criticised the country and may impose sanctions in the near future. The fact that provisions regarding the establishment and operation of renewable energy communities and citizen energy communities (provided by REDII and IEMD, respectively) have not yet been introduced into Bulgarian legislation hinders the emergence of energy citizenship initiatives as there are no clear rules and procedures that should be followed.

[5] For more on the role of intermediaries in enabling and promoting energy citizenship, see Markantoni et al. (2022).

Technological developments that are becoming ever more affordable and accessible are creating numerous opportunities for energy citizenship. At the same time, concerns about climate change, the environment, and pollution all have strong motivational power. Unfortunately, it appears that the opportunities that are available are often limited to the relatively small group of citizens with access to information and resources. Being the poorest country in the EU, with the largest share of energy-poor residents, Bulgaria is (still) not fertile soil for the widespread cultivation of energy citizenship. This is further underlined by the current legal framework. Marginalised groups and vulnerable consumers are practically excluded from active participation in the energy system. Apart from social welfare programmes, which seldom stimulate active energy citizenship, no targeted policies deal with energy poverty and protect vulnerable people.

In conclusion, technological solutions and environment/climate-related concerns represent an opportunity for energy citizenship in Bulgaria. However, these opportunities are impeded by the low standard of living and the reluctance of many Bulgarians to participate in community initiatives—two factors that will not change easily or quickly. This puts even greater responsibility onto the shoulders of Bulgarian political actors to align the country firmly with the trajectory of the EU energy transition and establish a legal environment that supports rather than hinders energy citizenship.

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CHAPTER 9

Building Trust Through Energy Citizenship? The Developing Landscape of Energy Citizenship in France

Karin Thalberg and Camille Defard

Abstract In 2020, France was the only European Union Member State unable to meet its renewable energy targets. At the same time, the country strives to be a leader in the climate and energy transition and has recently launched an ecological planning strategy to accelerate its pace. In a highly centralised energy and political system, characterised by a stark polarisation between renewables and nuclear energy, what route will the energy transition take, and which roles do citizens, local authorities, civil society, and other stakeholders play now and in the future? This chapter sketches the current French landscape for energy citizenship, understood as citizen engagement and involvement in the energy production, consumption, and governance. Through three case studies across France, it portrays burgeoning engagement and cooperation among local

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and regional authorities, citizen-led energy initiatives, and the private sector. Notably, these advancements occur within a societal context where trust in the national government is low. For France to realise its aspiration of leading in the energy transition, building trust and bolstering collective mobilisation towards a shared vision of a carbon-neutral future appear crucial. Could energy citizenship be the way forward?

Keywords Energy citizenship · Trust · France · Energy transition · Public participation · Energy consumption · Energy governance · Energy production · Citizen inclusion

Introduction

A large societal transformation is required to reach climate neutrality by 2050. The French government's introduction of the *Ecological Planning Strategy* in 2023 aims to make France a leader in this quest and accelerate its climate and energy transition. Encompassing pivotal sectors such as transport, housing, ecosystem conservation, production, food systems, and consumption, the strategy will greatly impact the daily lives of citizens.

Yet, France's centralised political system has been faced with a 'crisis of mistrust' over recent decades (Arrighi et al., 2022). This mistrust was accentuated in 2018–2019 by the Yellow Vest Movement, a massive protest against soaring fuel prices and an increased carbon tax seen as unfairly burdening parts of the population (Defard, 2022).

The centralised nature of France's energy and climate governance, coupled with low confidence in national-level institutions and actors, raises concern for the ongoing energy transition. The transition not only implies uncertainties in terms of changes in citizens' everyday lives but also takes place in a context of high economic, social, and climatic insecurities. The imperative role of trust in fostering citizen support and involvement becomes evident, particularly given the substantial changes required to achieve climate neutrality.

Protests against national climate and energy policies perceived as unjust, such as the Yellow Vest Movement, represent just one facet of energy citizenship in France. Here, energy citizenship denotes citizen

involvement and engagement, particularly in shaping more just, democratic, and environmentally sustainable energy systems and transitions, within energy production and consumption systems as well as energy and climate governance. Despite France's highly centralised energy system, diverse expressions of energy citizenship are currently thriving, notably at the local level, which concurrently enjoys the highest level of public trust.

This chapter provides an overview of the developing landscape of energy citizenship in France but is by no means exhaustive. The material was collected through document analysis and interviews (see Hajdinjak et al., 2023 and Vadovics et al., 2024). First, it delineates the current roles of citizens within the French energy system: within in energy production, energy consumption, and the governance of the energy and climate transition. In relation to the latter, challenges related to trust are particularly underlined. Second, through several case studies, it explores the growing collaboration between local and regional authorities, citizen-led energy initiatives, and the private sector. These collaborations are forging new pathways for citizen involvement in the energy transition. In a societal landscape where trust in national authorities is declining, the chapter lastly discusses the potential role of energy citizenship in revitalising public trust and bolstering support for the energy transition. The potential of energy citizenship in building trust rests on two pillars. Firstly by facilitating citizen involvement in the energy transition by making sustainable choices, technologies, and investments affordable and easily accessible. Secondly, by increasing participation in decision-making processes at the local, regional, or national levels of government.

The French Energy Transition: What Roles for Citizens?

Energy Production

In 2020, France found itself as the sole European Union member to not meet its renewable energy targets. Still, the country's energy debate predominately circles around nuclear power, which remains a cornerstone of the government's decarbonisation strategy (France 2030 Strategy, 2023). Experts often portray these discussions as narrow and polarised, solely focused on positioning nuclear against renewable energy. While the discussions largely focus on electricity, constituting 24% of final energy consumption, there's a critical oversight. The broader challenge of

reducing the part of fossil fuels in the energy mix, amounting to a significant 62% of final energy consumption, remains inadequately addressed (Nguyen, 2022).

France's energy landscape is highly centralised, which mirrors the centralisation of its political system. This is especially visible in the electricity sector, where 69% of the electricity supply in 2021 was dominated by large-scale nuclear power (RTE, 2022). The centralised nature of France's energy system presents a number of challenges for citizen involvement in energy production. While the liberalisation of electricity markets from 2007 opened new opportunities for increased participation of local authorities and other economic actors, such as energy communities, the competences granted to local and regional authorities in France only gives them a limited degree of power. There is furthermore a lack of additional support for renewable energy deployment tailored to local needs. For this purpose, the central government needs to increase financing to local and regional authorities to carry out the transition as well as simplify permitting processes and lighten administrative burdens (Kerneïs, 2023).

Regardless of these barriers, France has seen a rise in local and citizen-driven energy production, i.e., energy communities in recent years, but less so than in countries with more favourable institutional support. This development is championed by a diverse coalition of stakeholders that advocates for a bottom-up, decentralised energy transition. Its members encompass interest groups from the renewable energy sector, NGOs, local and regional governments, social movements, and notably the French Agency for Ecological Transition (Bocquillon & Evrard, 2022). Despite the growing strength of this coalition, its vision largely appears to exist in parallel with the government's vision, without substantial interaction or mutual influence. The fact that energy communities are not mentioned in the Law on the Acceleration of Renewable Energy (2023) underscores this fact.

Energy Consumption

The residential and transport sectors are crucial sectors for decarbonisation, making up 31% and 28% of total final energy consumption respectively in 2021 (SDES, 2022). It's important to emphasise that energy consumption within these sectors largely mirrors the everyday activities of citizens and that their decarbonisation will have a large impact

on the latter. In recent years, the state support for the decarbonisation of these sectors have increased significantly. Of the total envelope, 46% of the French national recovery and resilience plan was directed towards climate investments, primarily towards building renovation and clean mobility which are core mechanisms to reduce energy consumption in these sectors and reduce emissions. However, these investments so far remain insufficient to achieve France's climate neutrality objective (I4CE, 2022).

With regards to energy retrofitting to decarbonise the building stock, despite a comparatively ambitious framework of regulation and subsidies: lack of financial resources, administrative barriers, and tenant arrangements continue to hinder citizens' involvement in the sector (Hajdinjak et al., 2023). Recently, the socio-economic challenges related to the energy transition were highlighted during the energy price crisis that hit Europe in the winter of 2021–2022. While France overall managed to reduce its total energy consumption by 12% (Nguyen & Breuker, forthcoming), the decrease in household consumption appears to be strongly related to economic and social concerns. For example, more than 75% of French households stated that they lowered their heating due to economic challenges (ibid.).

These numbers can be compared with data on energy poverty from before the crisis. During the winter of 2020–2021, 14% of households declared that they suffered from cold in their homes. The following winter, 2021–2022, when the energy price crisis hit, this number reached 20% (ONPE, 2022). Since then, the number of households suffering from cold indoor temperatures has continued to increase. In 2022–2023, 26% of French households suffered from cold homes, of which 42% said this was due to financial reasons (ONPE, 2024). While, numerous households thus struggled with the financial burden of heating, as well as of cooling, electricity, and transportation costs, even before the recent energy price shocks occurred, the current trends underscore the magnitude of this challenge in the French energy transition. The persistent and growing financial strain experienced by many French households, emphasises the urgent need for accessible and affordable clean alternatives for citizens to participate in the energy transition.

Governance of the Energy and Climate Transition

The energy transition in France has been marked by a series of deliberative and participatory exercises. Over the years, large public debates, such as the *Environmental Grenelle* in 2007, the *National Energy Transition Debate* in 2012–2013, and the more recent *Citizens' Convention for Climate* in 2019–2020, have been held. However, these initiatives have faced criticism for their limited impact on policymaking and the watering down of the citizens' recommendations.

The most recent exercise, the Citizens' Convention for Climate, was initiated after the Yellow Vests Movement's massive protests in 2018–2019. The movement mobilised against soaring fuel prices and an increased carbon tax. However, the Yellow Vests were not against climate and energy policy per se, but the socially unjust impacts of such policies (Defard, 2022). Moreover, one of the Yellow Vests' core demands was the implementation of a people's initiative referendum, seeking a closer alignment with direct democracy. Furthermore, in response to the question 'who should decide what is best for the country?', participants in the Yellow Vest movement answered 62% that it should be randomly chosen citizens (Arrighi et al., 2022).

Additionally, strengthening populism and low participation rates in elections are expressions of the 'crisis of trust' that France has been grappling with over the past decades (Algan & Cahuc, 2007; Arrighi et al., 2022). The lack of trust has been attributed to the centralised and conflict-ridden nature of French society, which affects social and societal interactions beyond the personal sphere (Algan & Cahuc, 2007). In 2022, the trust gap between the local/regional and national levels was the greatest in France among the European Union countries, amounting to almost 32 percentage points (Arrighi et al., 2022). In the same year, a majority stated that they did neither had trust in the president (61%) nor the elected members of parliament (64%) (Teinturier et al., 2023).

In light of the trust crisis and the demands of the Yellow Vests', the observation that the current governance system needs to be reformed to allow for more citizen participation is widely shared (Elouardighi & Treyer, 2022; France Stratégie, 2022). Despite this, the governance aspect is noticeably absent from the new Ecological Planning Strategy, overlooking the crucial challenges related to building trust and enabling citizen inclusion in the transition.

This section gave an overview of the current state of affairs and challenges to citizen inclusion in energy production, consumption (particularly targeting energy renovation), and governance in the French energy transition. The next section will give examples of energy citizenship initiatives that are working towards a more just, democratic, and environmentally sustainable energy transition, often through collaboration between citizen-based organisations, local authorities, and the private sector. It will furthermore discuss the potential role of these initiatives in revitalising public trust, overcoming challenges to citizen involvement, and bolstering support for the energy transition.

The Landscape of Energy Citizenship in France

Twenty initiatives were mapped with the objective to show a diversity of the energy citizenship landscape in France (see Thalberg et al., 2022). The foci of the cases were the following: direct energy production and/or consumption (8); holistic/focus on broader change (8); and mobility (4). The start of the initiatives was primarily motivated by contributing to the energy transition, increasing public involvement, and responding to a local or national demand for action. The most part of the initiatives were initiated by a coalition of actors, primarily, NGOs, national government bodies, for-profit companies, groups of citizens, and municipalities. In the next section, three of the initiatives will be further developed.

Hauts-de-France Pass Renovation: Responding to Socio-Economic Challenges for Citizen Involvement in the Energy Transition

Deep renovation of the building stock is a key lever in the energy transition, to reduce both energy consumption and emissions. At the same time, many households struggle with high investment costs and administrative barriers, as outlined above. In this context, **Hauts-de-France Pass Renovation** is an example of how a regional authority can create an enabling environment for citizen involvement in the decarbonisation of the building stock by making home renovation affordable and accessible.

Hauts-de-France Pass Renovation was initiated by the Hauts-de-France region (at the time Picardie) as a pilot project in 2013. Since then, it

has been operated by the regional one-stop-shop,[1] the Regional Public Service for Energy Efficiency. The initiative enhances energy efficiency in private buildings, both single-family homes and condominiums, through deep renovation works. At the time of its initiation, there was a strong political will by certain regionally elected representatives to pilot an innovative financing model and support households' access to energy renovation.

Pass Renovation relies on an innovative economic model through which the region can provide financial assistance to households, in particular for those with limited self-financing capacity, so that they can engage in deep energy renovation works. The financial mechanism consists of four parts: first, by pre-financing government subsidies and loans; second, by taking the energy savings generated by the renovation works into account in the repayment plan; third, by long repayment periods (15 to 25 years depending on the work carried out); and lastly, collective loans to condominiums, which are currently not widely distributed by the banking sector.

Another core feature of its operation is the process of creating a functioning ecosystem for energy renovation at the regional scale. The initiative involves public institutions, as well as regional and local authorities. Furthermore, more than 700 local companies and craftsmen have been mobilised to carry out the renovations, which furthermore strengthens job creation and local economy, while creating a market for energy renovations.

Energie Partagée and the Maine-et-Loire Charter: Local Renewable Energy Production, Mobilisation and New Forms of Governance for the Energy Transition Through Public/Private/Citizen Cooperation

Considering the trust deficit that exists in French society, and importantly the gap between trust in national and local authorities, citizen and locally led initiatives could pave the way for greater support and involvement in the transition. Two initiatives, **Energie Partagée** and **Maine-et-Loire**

[1] A one-stop-shop offers homeowners the information and services required to complete an energy renovation of their house: target communication to reach the right groups for the renovations; prepare tailor-made renovation and financial plans; coordinate the renovation process on behalf of the homeowner; ensure long-term and affordable financing; and guarantee results and post-work monitoring.

Charter, are examples of how innovative forms of democratic engagement and governance emerge at the local level in the context of the energy transition, particularly related to citizen-led development and financing of renewable energy projects.

Energie Partagée unites the citizen energy movement in France. The initiative advocates, provides project assistance, and finances citizen-led renewable energy projects. To carry out these activities, Energie Partagée consists of three different legal structures: a cooperative; an investment tool; and an association. The three parts of the organisation are linked through the core values defined in their founding charter. The organisation aims to build a strong ecosystem favourable to citizen-led renewable energy projects by supporting and financing initiatives that are in line with its charter. This ecosystem is made of many kinds of partners including an advocacy coalition, local authorities, regional support networks, funding partnerships, and private partnerships with companies for joint actions.

Moreover, Energie Partagée's investment tool is the first innovative funding tool for citizen investment in the production of renewable energy and energy efficiency in France. The fund collects savings from citizens through shareholding and invests the capital in citizen renewable energy projects, i.e., energy communities. The investment tool enables project promoters and regional stakeholders to raise the capital required to launch a project and to maintain citizen control.

At its core, Energie Partagée supports local democratic expressions and new forms of local governance. The initiative enables local residents and communities to produce their own energy or heat where they live, which creates local anchoring for the energy transition. The energy and heat production is controlled by local actors that govern the installations together and share the economic benefits. They furthermore respond to the challenge of trust by creating avenues for dialogue and cooperation to mobilise citizens and actors around the energy transition. Partnerships with local authorities are particularly important for Energie Partagée, as it creates legitimacy and credibility in the areas where renewable energy projects are set up. For larger projects, Energie Partagée provides solutions for citizens and local authorities to co-develop projects with private sector entities.

The social aspects of the transition, such as socio-economic inequalities and unequal opportunities for participation are also acknowledged by the initiative:

> […] we have a major principle which is that we must take into account the social aspects of energy and therefore make energy accessible to all, and this reappropriation of energy must be possible for everyone. From an energy price point of view, but also access to knowledge about how our energy is produced. (Interview, employee Energie Partagée)

The Maine-et-Loire Charter is inspired by Energie Partagée's model. Driven by the Département (i.e., a French government level in-between the local and regional levels), the charter was signed during the spring of 2023 by a mix of public energy actors, private developers, and citizen-based networks and organisations. The aim is to accelerate the deployment of renewable energy in the territory and promote local appropriation of the energy transition by creating a framework for cooperation between citizens, the public, and the private sectors based on shared values.

This initiative opens up a space to develop the local energy transition, importantly by reaching out to public authorities and citizens' groups that are not yet involved in locally governed renewable energy projects. To foster local anchoring and support for the transition, the initiative aims to maximise the local economic and social benefits of projects, pool skills and knowledge between actors, and importantly create new venues for dialogue to inform, involve, and listen, for all stakeholders, such as residents, elected representatives, economic players, and associations. A core value in the charter is to consider local needs and dynamics in the development of renewable energy projects.

The Maine-et-Loire Charter is a new way for the Département to work with private players and allows the territory to streamline diverging financial resources, knowledge, and capacities of the different actors involved. The Département has a monitoring and guiding role in this process, facilitates the establishment of partnerships, and supports the signatories over time in the co-creation of renewable energy projects and citizen involvement to that end.

Conclusions: Energy Citizenship—A Lever to Increase Public Trust and Support for the French Energy Transition?

This chapter has outlined citizens' roles in the French energy transition today and identified key challenges towards increasing citizen involvement and engagement. Notable challenges include, highly centralised energy system and governance, high levels of mistrust in national authorities, high investment costs and technical barriers that hinder citizen investment in, for example, energy renovation. Moreover, the governance and citizen-related aspects of the 2023 *Ecological Planning Strategy* remain largely absent.

Despite these challenges, the landscape of energy citizenship is developing, especially at the local level, which moreover holds the highest levels of trust among the population. The initiatives introduced in this chapter, Hauts-de-France Pass Renovation, Energie Partagée, and the Maine-et-Loire Charter, respond to the challenges mentioned above in a convincing way. The new forms of governance, democratic engagement, and citizen inclusion in the energy transition that these initiatives give examples of, have the potential to rebuild trust, especially for the large societal transformation required to achieve the 2050 climate neutrality objective.

The transition not only implies uncertainties in terms of changes in citizens' everyday lives but also takes place in a context of high economic and social insecurities where many households have limited financial capacities to undertake climate investments. Here, Hauts-de-France Pass Renovation could be described as responding to socio-economic challenges in the transition by ensuring administrative, technical, and financial to ensure access to affordable deep energy renovation works.

Considering the crisis of trust and the protest movements that have taken place during the past years, such as the Yellow Vests movement in 2018–2019, Energie Partagée and the Maine-et-Loire Charter show how trust for the transition could be rebuilt through gathering local actors and citizens around common objectives and values. They do this by mobilising a wide variety of stakeholders to accelerate the deployment of renewable energy sources, including strong citizen-based ownership and voice, and creating local arenas for co-creation and dialogue. Here, local anchoring is crucial. The initiatives mentioned achieve this by forming partnerships with local and regional authorities, but also by respecting local dynamics

and ensuring that local economies benefit and can therefore help create legitimacy and trust for the transition. Meanwhile, special attention to marginalised communities and citizens generally outside of these active forms of involvement needs to be further deepened, in order to ensure that the transition has a place for everyone.

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CHAPTER 10

Conclusions and Reflections: The Tapestry of Energy Citizenship Can (and Should) Be Woven by All

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Abstract This concluding chapter presents the rich tapestry of energy citizenship in Europe. It offers a summary and reflection on the various contexts and conditions for an emerging energy transition identified throughout the previous chapters. Across eight national settings, Belgium, Bulgaria, France, Germany, Hungary, Ireland, Latvia, and the Netherlands, many forms of energy citizenship were identified. These include individual and collective, and reformative and transformative

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forms. This chapter also reflects on the reality that the term "energy citizenship" is not (yet) widely known despite the many forms of it that flourish. The authors, themselves based in eight European countries, have highlighted case studies demonstrating exciting opportunities as well as considering the barriers different forms of energy citizenship encounter in various countries. In concluding this chapter, the authors ask *So, what next for Energy Citizenship?* and outline a summary of the ways in which energy citizenship initiatives can be supported and further developed. In addition, they highlight the significance of the overall research in providing opportunities to learn from the variety of energy citizenship that is prevalent across Europe. This collection concludes with a final reflection by the authors on the contribution of the overall collection and affirms the importance of sharing national and local experiences and showing case studies of energy citizenship.

Keywords Energy Citizenship · Energy transitions · Diversity · Energy policy · Knowledge sharing · Capacity building · Scenarios · Sustainability-driven energy citizenship

The chapters in this book have presented a rich tapestry of energy citizenship woven by many actors, both individuals and various forms of collectives and supported to different degrees by their immediate local and national contexts. This tapestry is still not complete with new elements being added by long-established and emerging actors. Meanwhile, some elements of the tapestry are being replaced or even mended as required and/or allowed by their specific contexts. Throughout this collection, the EnergyPROSPECTS team reveals the richness of the energy citizenship tapestry and yet the project team is aware of the limits

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to identifying and mapping all the many diverse and complex means of active participation in the energy system. Strikingly, despite this richness *the term "energy citizenship" is not (yet) widely known*, as observed by several of the chapters. Thus, this shows that the researcher and policy-maker community use a term that is not always, and not widely recognised and used by those identified by it.

Pel and Huhnt in their chapter on Belgium correctly observe that while energy citizenship is understood and defined differently depending on specific contexts and initiatives, we still use a universalist term to refer to very diverse cases from individuals installing solar panels and joining energy saving clubs through participation in climate councils, building energy self-sufficient co-housing communities and energy cooperatives to social movements opposing certain energy generation types or demanding climate justice and energy democracy. To take stock of this diversity, the chapters on energy citizenship in Belgium, Germany, and Hungary include "inventories", i.e. tables reporting on the many different individual and collective, reformative and transformative forms of energy citizenship mapped in respective countries. This diversity also highlights the fact that *energy citizenship is present everywhere*. It is evident in all walks of life, from the household through the workplace to the public sphere. It is present in existing organisations as well as in organisations specifically created to allow and empower energy citizenship, at municipalities, companies, and all levels of governance.

The richness and diversity of the tapestry suggest there are different sources of motivation and drivers for cases of energy citizenship. However, as Vadovics and Szőllőssy show in the chapter on Hungary, *there are some common motivating factors*, such as wanting to contribute to the (sustainable) energy transition, a recognition of the seriousness of climate change, wanting to produce and/or use renewable energy, a desire to increase (energy) self-sufficiency and to increase public involvement. In addition to these more common threads, and in some cases even overriding them in terms of local importance, there are particular social, economic, political, and environmental drivers for energy citizenship. Consequently, this manifests the emergence of new forms of activity and citizenship. Historically, these included the protest against nuclear energy that contributed to the creation of various social movements and provided an early forum for energy citizens, as indicated in the chapters on the Netherlands and Germany. Forms of energy citizenship can unite people in a desire to find more democratic ways of organising the

energy system, thereby serving as a way to protest oppressive regimes, as suggested in the chapter on Hungary. Moreover, as observed by Lagzdiņa and her co-authors in Latvia, existing forms of energy citizenship are often strengthened in the face of an unforeseen emergency such as a war. As evident, the results of which are often increasing energy prices and a growing need for self-sufficiency and energy saving. The Latvian chapter also reflects on how the global pandemic fostered various forms of energy citizenship in many localities. Finally, as noted by Schmid and Fahy in their chapter on Ireland, policymakers at different levels of governance increasingly recognise the need to involve citizens in decision and strategy-making when it comes to major decisions on developments in the energy system. Crucially, this shows that forms of energy citizenship also develop within top-down formats organised within and by governing bodies.

As indicated thus far, *energy citizenship is often born out of a desire to satisfy an unmet need or to find a solution to a pressing societal want*. It emerges as an impulse to find a way out of and cope with the climate emergency, a need to find alternative, more sustainable sources of energy at times of war. Energy citizenship manifests as an aspiration to re-establish trust in society and find sustainable ways to address energy poverty and make energy accessible to everyone. The lack of societal trust and confidence in public bodies and authorities is a prevailing issue in many European countries. This is a point evident in the Bulgarian, French, and Latvian chapters, all of which discuss how cases of energy citizenship are born out of this mistrust and a desire to rebuild trust and confidence by bringing citizens, communities, and different stakeholders together. However, it is vital that the new structures and models that emerge allow for diverse ways of service and engagement, involve a range of actors, and also create opportunities for empowerment. In highly centralised national systems and/or within often also centralised energy systems, citizens, and all other actors also need to develop new skills and roles so that they can contribute to the creation of a more sustainable, just, and democratic energy system. *Not having the skills, capacities, knowledge, or opportunity to participate in the energy transition is a specific form of energy poverty that needs to be recognised and addressed*. As observed throughout this collection, energy poverty in economic terms is endemic. Indeed, many cases of energy citizenship emerge as a need to develop solutions to a lack of access to energy and a struggle to satisfy basic energy needs. However, an increasing number

of cases across the countries studied by EnergyPROSPECTS recognise the importance of fostering active energy citizenship as well as making it available for everyone. Among other things, these can be achieved by disseminating reliable, research-based information that supports capacity building, community development, and network creation.

As evident, the energy citizenship tapestry requires *a diverse range of actors and activities*. As highlighted in the Hungarian chapter, this range of actors nevertheless varies across countries as a result of different contexts. These are driven both by existing regulations, the skills and capacity of actors, or even the demands of the energy system. Thus, in countries such as the Netherlands or Germany, where energy citizenship has been flourishing for some time and where citizens have become accustomed to energy communities and cooperatives, individual citizens are better equipped to become active energy citizens. Importantly, in many instances, this activation begins without organisation support. Yet, in countries like Bulgaria, Latvia, and Hungary, where there is more recently activated citizenry, organisations, particularly, municipalities and NGOs play a crucial role in kick-starting many cases of energy citizenship while also equipping citizens with the necessary skills for becoming active. Nevertheless, the role of organisations, government bodies, various funders, companies, banks, schools, and universities, should not be underestimated in any country. As intermediaries, they often support the development, maintenance, education, financing, and growth of energy citizenship; as illustrated in the chapter focusing on the Netherlands.

As the various chapters highlight, the richness of the tapestry is also the result of energy citizenship not being supported at the same level in the eight countries that are considered in this collection. This is despite the fact that all of them are members of the European Union. The importance of energy citizenship is recognised at the level of the Union. In fact, our research revealed that many cases of energy citizenship start as part of a project supported by the European Union or through funding distributed at the national level. However, such a recognition is not universal across the member states, and thus neither is the support available for developing energy citizenship. We found countries like Ireland where there is active support for energy citizenship both in policy and practice, countries like Bulgaria that support it in principle and in certain policies and countries like Hungary where even policies are not forthcoming. Such a variety of

policy and institutional context results in different forms of energy citizenship that flourish; although most forms are not exclusive to a single country.

Due to the diverse forms of energy citizenship, there is *a capacity to create channels for learning, exchange, dissemination, and growth* between them. As apparent in the project's mapping of energy citizenship, the resulting country profile reports, and indeed, the chapters in this book, we can determine that citizens around Europe arrive at often similar solutions to complex problems through utilising different instruments and/or pathways. These solutions and innovations, and the ideas and concepts behind them, are often not fully context-specific. Therefore, they could be utilised in and adopted to new situations. In addition, forms of energy citizenship and solutions that have already evolved in one context could be "exported" to new contexts, considering socio-cultural differences in their adaptation. For example, working models of energy cooperatives and, in fact, many other models of energy citizenship could be imported—with care to adapting them to the new context—from countries where they have been impactful to countries where similar models are just developing. This process of taking and adapting successful models of energy citizenship should by no means be limited to a perhaps historically more traditional West-East direction but should mean a mutual learning and exchange process between all European regions. Citizens could even be given an opportunity to visit and immerse themselves in models not yet found in their own contexts. This would foster inspiration and establish structures of learning, networking, and growth. To cite another example, solutions and structures for allowing access to and creating capacities and skills for deep renovation for (and with!) disadvantaged citizens exist in all European countries. Yet, they often use different models. Fostering interactions between actors involved in the development of the different models could enable the development of a richer energy citizenship landscape—or tapestry—and activate and empower more citizens. Thus, it is vital not to underestimate the role of learning, networking, and capacity building, and the significance of relevant European programmes and structures that foster these processes. Not only among researchers and experts like those of us involved in EnergyPROSPECTS but also among all stakeholder groups. The tapestry after all requires a richness of citizens and actors.

So, What's Next for Energy Citizenship in the EU?

In the EnergyPROSPECTS project, we examined the probable social, economic, political, legal, technological, and environmental contextual conditions that may have an important impact on the development and manifestations of energy citizenship in the near future (up to 2030) (Hajdinjak et al., 2024). From our research and consultation with stakeholders, two hypotheses have emerged in relation to the engagement of European citizens in the energy transition—an optimistic and a pessimistic one. However, based on our detailed analysis of selected cases of energy citizenship, a third is also being born.

The optimistic hypothesis is based on the expectation that several positive developments will converge to form a nurturing environment for the proliferation of energy citizenship. One such development would be the general economic situation, with slow but steady economic growth, and energy prices kept in check through different policy interventions and price correction arrangements. Secondly, the political formations that support the Green Deal and the just energy transition should maintain a working majority in the EU Parliament after the 2024 and 2029 elections, enabling a successful realisation of the vision of a citizens' role in the energy system enshrined in the Energy Union and the "Clean Energy for all Europeans" package. Thirdly, relevant legislation defining the legal status of Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs) would be passed on the EU level and in most, if not all, member states, specifying the rights and obligations of individual and jointly acting renewables self-consumers, and peer-to-peer trading. Fourthly, the general levels of energy literacy and awareness in society would continue to rise. This would in turn strengthen the perception that energy transition is a joint task of all European citizens, and the social acceptance of energy-efficient products, services, technologies, and appliances. The fifth development is widely accessible and affordable technological solutions, enabling the participation of citizens in the energy transition in various forms. Finally, there is an enhanced environmental consciousness and awareness of Europeans, motivating them to curb their energy consumption, change mobility habits, and in general act in a more responsible and sustainable way.

The pessimistic hypothesis rests on the expectation that energy prices will continue to rise and will become increasingly socially disruptive. A growing number of citizens, unable to cover their energy needs, might

express their resentment and discontent through protests. The rise of Eurosceptic and far-right political parties in 2024 and 2029 European Parliament elections would disrupt further political unification in the EU, including in the energy sector, with most member states enforcing different nationalist and protectionist strategies. Many states would be slow to introduce the needed legislation that would define the legal status of renewable and citizen energy communities, the rights and obligations of individual consumers, and measures to tackle energy poverty. Considerable segments of European societies would feel excluded and would perceive energy transition as an unfair process that only benefits energy corporations and high-income citizens. The levels of energy literacy and awareness would remain low, leading to distrust and rejection of new energy-efficient products, services, and technologies. Furthermore, most technological solutions and innovations would either focus on large-scale developments in industry and energy infrastructure or be accessible only to the more affluent citizens with good energy literacy and access to information. Many European citizens, especially the ones for whom social media is the most important source of information, would continue to minimise, neglect, or even deny climate change and its consequences. This would also lead to strong opposition to certain types of renewable energy projects, in particular the installation of large wind energy parks, but also construction of hydropower plants and solar PV parks.

In the positive scenario, we envision a wide range of opportunities for active energy citizenship initiatives, which could considerably help the EU to achieve its 2030 and 2050 energy and climate targets. In case that the negative predictions prevail, participation of citizens would be mostly limited to two energy citizenship types: saving energy and cutting energy-related costs (motivated mainly by financial necessities rather than environmental concerns) and protests (more often than not against the goals of the energy transition).

Interestingly, when looking at cases of energy citizenship in more detail, as we did with forty cases from the eight countries in this collection as well as Spain, a third future scenario of energy citizenship also emerges, one that goes beyond the positive scenario described above especially in terms of the need for (economic) growth. This new scenario and the new form of energy citizenship envisions a fundamentally different energy system and society. In our analysis (Vadovics & Szőllőssy, 2024), we use the term sustainability-driven energy citizenship to identify the cases that already indicate this new way of thinking and approaching

energy citizenship. *Sustainability-driven energy citizenship* brings together environmental and social sustainability, envisages and works towards an energy system that respects planetary boundaries, and at the same time satisfies the basic (energy) needs of all citizens within a just and democratic system (co-)governed by empowered citizens. Some of the cases mentioned in this collection have been found to be examples of sustainability-driven energy citizenship, for example, Extinction Rebellion Etterbeek in Belgium, Shared Energy in France, LaVidaVerde and SoLocal Energy in Germany, the Aran Islands Energy Cooperative in Ireland, and Cargonomia in Hungary. Working with them and similar cases from all over Europe, it might thus be possible to develop a third future scenario of energy citizenship.

Within EU legislation and policy, citizen participation in the energy system has primarily been conceived in three ways: as consumers; prosumers[1]; or as members of energy communities.[2] The vision of the citizen-as-consumer is enshrined in the core of EU energy policy, the Energy Union: "*[…] our vision is of an Energy Union with citizens at its core, where citizens take ownership of the energy transition, benefit from new technologies to reduce their bills, participate actively in the market, and where vulnerable consumers are protected*" (COM/2015/080). Furthermore, the Directive on Common Rules for the Internal Market for Electricity (2019/944) establishes common rules for an integrated and competitive "*consumer-centred*" European energy market. Affordability and transparency for consumers are especially highlighted through provisions on consumer empowerment and protection, together with open access to the integrated market.

While this vision and the accompanying provisions have opened up possibilities for direct citizen participation in the energy transition, the underlying conception of citizens and their roles needs to expand to face the prevailing challenge of delivering an energy transition that simultaneously is fast, socially fair, and democratically supported. Socioeconomic

[1] Self-consumption of renewable electricity or *prosumerism* is recognised under the Renewable Energy Directive 2018/2001.

[2] Two types of energy communities are recognised in EU legislation: *renewable energy communities (REC)* under the Renewable Energy Directive 2018/2001 Art.2(16). *Citizen energy communities (CEC)* are defined under the Internal Electricity Market Directive 2019/944 Art. 2(11).

and governance aspects of the energy transition need to be considered together with the fact that not everyone, for different reasons, can or wants to participate in equal measures. Energy citizenship, as a more holistic approach to citizen participation in the energy transition, is a promising lens to ensure that policymakers can address problems effectively, especially injustices that are present in the energy system.

An energy citizenship approach to the European energy transition acknowledges that there needs to be a place for everyone in the transition. To that end, common but differentiated responsibilities to act need to be recognised. *Policymakers need to make sure that changes that involve everyone need to be easy, accessible, and affordable, taking particular care of the most vulnerable citizens.* For those citizens who wish to go further, policymakers from the European Union, national and local levels need to adapt and simplify legislation, as well as facilitate access to financing to harness the potential of energy citizenship in reaching the European Union's energy and climate objectives.

This book has succinctly captured the various contexts and conditions for an emerging energy transition across eight national settings. Case studies highlighted throughout each of these chapters have demonstrated exciting opportunities as well as barriers and challenges faced, and how they could be overcome. The European Union has a great potential to create a framework for making energy citizenship available and accessible to all, as well as to allow for an exchange of experience between its member states. However, regarding national and European policy in this area, much work remains. As evident throughout this collection, there are nonetheless opportunities to learn from the variety of energy citizenship that is prevalent across Europe. Thereby, affirming the importance of sharing national and local experiences and showing case studies of energy citizenship. *Energy Citizenship across Europe* has made a convincing case for reframing how the concept of energy citizenship is understood, governed, and researched, strongly arguing for a broader recognition of the diverse array of energy citizenship. The tapestry of energy citizenship can (and should) be woven by all. As the contributors to this collection have proven, the tapestry will surely strengthen as the richness of energy citizenship becomes ever more apparent.

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Appendix: EnergyPROSPECTS Resources

Energy Citizenship Mapping Database of 596 Cases
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Energy Citizenship Country Reports

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