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Representing Energy Citizenship for Positive Energy Districts: A socio-psychological analysis

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PhD in Psychology

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CIÊNCIAS SOCIAIS
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Department of Social and Organisational Psychology

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As every journey starts with small steps,

To Sonali and Pete, for nurturing my passion for research.

To my father, my grandmother and my cats, your spirits are always with me.

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I would like to give this space to thank all the people and institutions that have supported me in this long doctoral journey. This thesis could not come to fruition without the orientation, suggestions, and encouragement of my supervisor and my co-supervisor. Thanks Susana and Luísa for foreseeing all the challenges in my proposal and fieldwork from the beginning and still believing that I can do it until the end. It also owes Leonardo from Cis, ISCTE, and Marco and Nuno from the Psychology PhD program for their administrative supports, especially through the difficulties of the Covid-19 pandemic.

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MARIE SKŁODOWSKA-CURIE ACTIONS

Resumo

Com vista a uma transição energética com baixas emissões de carbono, a União Europeia (EU) está a promover Distritos de Energia Positiva (DPE), que produzem mais energia renovável do que consomem. A intenção é que promovam uma governação mais participativa, que descentralize e democratize as decisões sobre energia, tal como subjacente ao conceito emergente de cidadania energética. Até à data, a maioria das abordagens à cidadania energética centra-se no prosumerismo, que pode limitar os direitos, as responsabilidades e as relações dos cidadãos com a energia e o ambiente. Esta tese analisa quais as representações de cidadania energética que estão a ser promovidase negociadas nas políticas de DPE a nível da UE, nacional e local, por *stakeholders* e cidadãos, através de um estudo de caso de um DPE em criação - Torres Vedras, Portugal. Para isso, esta tese usa e articula contributos teóricos da governamentalidade, da governança participativa e da psicologia social crítica da cidadania. Este enquadramento teórico foi aplicado com base em estudos qualitativos que examinaram a institucionalização da cidadania energética (Estudo 1 - análise de políticas públicas), a sua mediação por distintos grupos de interesse (Estudo 2 - entrevistas com intermediários) e a sua apropriação ou resistência por parte dos cidadãos (Estudo 3 - grupos de discussão com cidadãos e impactos psico-sócio-ambientais associados. Os resultados demonstram que uma governamentalidade neoliberal hegemónica é promulgada e reificada através de políticas, partes interessadas e cidadãos para promover cidadãos de energia que são indivíduos eticamente responsáveis pela eficiência energética, excluindo da cidadania energética os cidadãos vulneráveis e as práticas energéticas coletivas. No entanto, alguns intermediários e cidadãos contestam também esta representação e propõem abordagens alternativas e mais transformadoras da cidadania energética, reivindicando a energia como um direito e um bem comum. Assim, esta tese contribui com conhecimento teórico e empírico para a compreensão emergente da cidadania energética.

Palavras-chave: cidadania energética, distrito energético positivo, governamentalidade neoliberal, representação social, psicologia social crítica da cidadania

Categorias E Códigos De Classificação Psycinfo:
2960 Processos políticos e questões políticas
4070 Questões e atitudes ambientais

Abstract

Towards low carbon energy transitions, the EU is promoting Positive Energy Districts (PEDs), which produce more renewable energy than they consume. On paper, they encourage more participatory governance which decentralises and democratises energy decisions, as captured in the emergent concept of energy citizenship. Most approaches to energy citizenship heretofore have focused on prosumerism, which might limit citizens' rights, responsibilities, and relations with energy and the environment. This thesis analyses which representations of energy citizenship are being fostered, negotiated, and resisted in PED policies at EU, national, and local levels, by stakeholders and citizens, via a case study of a PED in creation – Torres Vedras, Portugal. Accordingly, this thesis argues for crucial inputs from governmentality, participatory governance, and socio-psychological frameworks – namely, critical social psychology of citizenship. These frameworks were applied to qualitative studies examining the institutionalisation of energy citizenship (Study 1 – policy document analysis), stakeholder mediation (Study 2 – interviews with intermediaries), and citizen appropriation or resistance (Study 3 – citizen focus groups), along with socio-psycho-environmental impacts on justice, inclusion, and well-being. Findings demonstrate that hegemonic neoliberal governmentality is enacted and reified through policy, stakeholders, and citizens to create an energy citizen who is individually and ethically responsible for energy efficiency, excluding vulnerable citizens and collective energy practices from energy citizenship. However, some intermediaries and citizens contest this representation and negotiate and advance alternative, more transformative uptakes of energy citizenship, claiming energy as a right and as commons. Thus, this thesis contributes theoretical and empirical knowledge to our emerging understanding of energy citizenship.

Keywords: energy citizenship, positive energy district, neoliberal governmentality, social representation, critical social psychology of citizenship

PsycINFO Classification Categories and Codes:
2960 Political Processes & Political Issues
4070 Environmental Issues & Attitudes

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CHAPTER 1

Introduction[1]

> What is the source of energy from which we live? Well, you might say there is one source of energy that is purely physical, which is rooted in the chemistry of our body, […]. There is another source of energy, and that is the energy that springs from our being related to the world, our being concerned. (In *The pathology of normalcy* by Erich Fromm, 2010, p. 58)

The transition to low-carbon energy sources has been a key focus of efforts to mitigate climate change in European countries (EU-27). Therein, the energy sector accounts for 78% of green-house gas (GHG) emissions from fossil-fuel sources in 2018, including transportation (Eurostat, 2020). Bound by the Paris Agreement target of reducing 40% of GHG emissions by 2030, the EU 2030 climate and energy framework has committed to producing or sourcing more renewable energy. Furthermore, it intends to make energy distribution more efficient, and thus pro-actively encourages energy saving behaviours from end-consumers (European Commission, 2019).

To achieve this target, the EU and its member states have been building large scale renewable energy generation projects both within and outside Europe (Velasco-Herrejon & Bauwens, 2020). This has been accompanied by high voltage transmission and distribution grids, whilst simultaneously controlling the energy demands of consumers via energy efficiency, market rules, and flexible prices (European Commission, 2019). This fostering of large-scale centralised renewable energy generation has mostly reproduced the previous fossil-fuel and nuclear based systems energy model, which is mostly centralised with top-down decision-making (Batel & Rudolph, 2021; A. Carvalho et al., 2019). As such, the deployment of renewable energy generation and associated infrastructures is often met with local opposition (Wolsink, 2020) because it often reproduces or creates new socio-environmental injustices and inequalities (Batel, 2020). Hence, many European countries are developing digital technology and infrastructure which enables local renewable energy production and exchange in a decentralised way. This reduces dependence upon the central grid, whilst aiming to also empower citizens and stakeholders to join the state in governing their energy system. This is

[1] This chapter is partially based on the published paper of the author of this thesis:
Nguyen, M. T., & Batel, S. (2021). A Critical Framework to Develop Human-Centric Positive Energy Districts: Towards Justice, Inclusion, and Well-Being. In *Frontiers in Sustainable Cities* (Vol. 3, p. 88). Frontiers. https://doi.org/10.3389/frsc.2021.691236

especially the case in so-called smart and sustainable cities (Caramizaru & Uihlein, 2019; Levenda et al., 2020).

Positive Energy Districts and Neighbourhoods (PEDs) represent one such decentralised energy initiative. This program aims to facilitate the design, implementation, and scaling-up of 100 districts across Europe which produce more renewable energy than they consume by 2025. Established in 2018 by the Action 3.2 on Smart Cities and Communities of the European Strategic Energy Technology (SET) Plan, the PED program framework was co-created by city representatives, research & innovation representatives, and urban stakeholders via workshops and working groups organised by the Joint Programming Initiative (JPI) Urban Europe in 2019. Within the PED framework, three main functions – energy production, efficiency, and flexibility – are leveraged in order to achieve climate neutrality and energy surplus (JPI Urban Europe / SET Plan Action 3.2, 2020). This means that in order to meet zero emission targets, PEDs require local renewable energy production at municipal and household scales for self-consumption and feeding to the grid. This surplus of electricity could then be utilised to power district heating or cooling, and even electrical vehicle charging. On the demand side, energy efficiency measures such as retrofitting buildings, smart meters, and public or shared transportation are implemented in order to reduce energy consumption. With smart-grids, energy storage, and ICT technologies, energy flexibility is set to optimise energy systems by shifting the load in peak hours, thereby redistributing the energy surplus (Sikder et al., 2016).

In addition to this, *human-centric* is one of the key guiding principles of PEDs to ensure the quality of life in cities and of citizens, including preventing energy poverty as well as promoting sustainability and resilience of energy supplies (JPI Urban Europe / SET Plan Action 3.2, 2020, p. 8). Energy poverty "occurs when a household is unable to secure a level and quality of domestic energy services – space cooling and heating, cooking, appliances, information technology – sufficient for its social and material needs" (Bouzarovski, 2018, p. 1) and has increasingly been identified as one of the key areas where the social inequalities of contemporary energy intensive societies are evident and reproduced. However, within this PED framework, there are no concrete definitions of what that a human-centric approach means, nor are recommendations on how to implement it identified. Rather, local authorities and other stakeholders are left to interpret what human-centric should signify and imply.

Meanwhile, a recent review by Ingeborgrud and colleagues (2020) highlights that energy and urban policymakers are still routinely in favour of top-down, centralised economic and technological interventions to address energy problems. In fact, recent research on smart cities and associated policies and initiatives towards decentralisation and sustainability has

demonstrated how interventions are still often performed with a business-as-usual, neoliberal capitalist rationale and associated *green growth* logic (Levenda et al., 2020), green growth meaning a sustainable economy and continued economic growth could be achieved simultaneously (Hickel & Kallis, 2020). Perpetuating this rationale implies the reproduction of social inequalities and environmentally destructive impacts that could threaten the human-centric principles that PEDs are striving for (Batel, 2020; Silva & Sareen, 2020).

Within this green growth rationale, energy users are expected to change from passive consumers to more active citizens who submit to prescribed energy-efficiency behaviours in their private sphere and also actively engage with producing energy (B. Lennon et al., 2020). This change in roles and relations between citizens and the state in energy issues has been conceptualised as *energy citizenship* (Devine-Wright, 2012) and is key to understanding how PEDs can be ecologically sustainable while being inclusive, just, and promoting the well-being of all.

1.1. State of the art and problem statement

Studies on energy citizenship have primarily been conducted within the realm of social and political sciences, focusing on the structural shift away from a state-centric, top-down governance model towards a more participatory approach that emphasises democratic participation of citizens in the energy sector (Burger et al., 2015; Szulecki, 2018). In this literature, it has been often assumed that the decentralisation and democratisation of energy systems could empower citizens in various forms (Becker & Naumann, 2017; Szulecki, 2018). Nevertheless, empirical studies of past energy decision-making processes demonstrate that changes in governance structure do not always bring about more inclusive participation and more empowerment. In fact, discourse of what is a good energy citizen is normally shaped by dominant groups and ideas while excluding marginalised ones, hence perpetuating social inequalities and injustices (Gailing, 2016; Waitt et al., 2016).

These undesirable effects are further explained from governmentality scholars who argue that the shift from "government to governance" is not simply a retreat of the state but rather a change of its governmental rationality (Amos, 2010; Rose et al., 2006; Sending & Neumann, 2006). According to Foucault's genealogy of governance (1991), by shifting from disciplinary to neoliberal governmentality, the state and non-state authorities shape citizens' worldviews so that they actively control their own behaviours (Rolfe, 2018). Under the EU's participatory governance turn, the dominant worldview of energy is to widely promote it as commodity in a

liberal capitalist market, leading to the formation of citizens' subjectivity as consumers who efficiently use and produce energy for their own economic or environmental interest (B. Lennon et al., 2020).

In theory, the rise of neoliberal interventions and discourse in participatory governance may commodify and individualise energy citizenship representation, rendering less agency for energy users to engage actively and collectively with roles other than consumer or prosumer (Batel et al., 2016; B. Lennon et al., 2020). So far, there is limited empirical research on the role neoliberal governmentality plays in the social construction of energy citizenship; this thesis aims to contribute to such research. Accordingly, it will also rely on the critical approach of the socio-psychology of citizenship (Andreouli, 2019) that proposes that research on citizenship should not only focus on conventional scripts of actions but also rights claims that disrupt these scripts of action. In other words, different epistemic approaches to energy and society research are needed to scrutinise the meaning-making processes of energy citizenship to see if there is any prefiguration of alternative discourses that resists hegemonic neoliberal discourses, such as degrowth (Adams et al., 2019; Cornish et al., 2016).

1.2. Research approach and research questions

In sum, several authors argue that energy transitions are happening under a hegemonic neoliberal governmentality (Batel et al., 2016; B. Lennon et al., 2020), within which decentralised PEDs and participatory governance of energy are being proposed (Brisbois, 2019; Burger et al., 2015). By examining the meaning-making of energy citizenship within and for PEDs, this research aims to explore if and how participatory governance in PEDs is contesting or reproducing neoliberal governmentality, in what ways, and by whom. It also intends to explore alternative discourses that could prefigure different governmentalities or counter-conducts to the neoliberal one while discussing the potential consequences or implications for just and inclusive PEDs.

These enquiries are investigated with an integrated framework of governmentality and social representation theory (SRT). Governmentality framework (Foucault, 1991), as this thesis will present in more details in the theoretical Chapter 3, unravels how energy citizenship subjectivities are shaped by rationalities, technologies of government (or governance strategies), and technologies of the self (or psychological tactics). Meanwhile, social representation is the process by which we construct and transform our reality (Moscovici, 2001) to understand how citizenship meanings are not only socially co-constructed as in dominant,

hegemonic representations, but also contested as in emancipated and polemic representations (Howarth, 2006). Paying closer attention to the lived experiences of these subjectivities, SRT analyses how governmental rationalities can either be reified or negotiated and contested through the meaning-making process of energy citizenship from institutional to mediating and to public spheres (Castro & Batel, 2008), thus allowing us to explore alternatives to neoliberal governmentality.

By combining the SRT with governmentality frameworks, this thesis will try to answer the following questions:

1. How is energy citizenship represented and experienced through participatory governance in PEDs?
2. Is participatory governance in PEDs reproducing or challenging neoliberal governmentality?
3. What consequences/implications do different representations of energy citizenship have on just and inclusive PEDs?
4. What are possible prefigurations or alternatives that could foster transformative energy citizenship for sustainable PEDs at all levels (environmental, social, cultural, economic)?

This thesis answers these questions based on a qualitative research approach that facilitates more in-depth examination of the interaction between individual, contextual, cultural, and institutional dimensions of representations (Castro & Batel, 2008) of energy citizenship within PEDs. To collect rich evidence and assess a wide range of factors in a specific context, this research investigates a single case study. This case study approach also allows researchers to adapt the project design to the local context (Sovacool et al., 2018). The Torres Vedras Municipality in Portugal was chosen as a case study due to its robust sustainability plan and interest in developing into a future PED. Torres Vedras has been part of the Covenant of Mayors since 2010 and received the European Green Leaf Award in 2015. The municipality's commitment to reducing carbon emissions by 29% and electricity consumption by 21% before 2020 compared to 2009 levels was stated in the municipal strategic plan for sustainable development and action plan for climate change adaptation (Akhatova et al., 2019).

1.3. Thesis structure and significance

This dissertation is organised in three parts – theoretical, empirical, and conclusions. The theoretical part starts with the introduction of the concept of Positive Energy District in

Chapter 2, which will show how this concept is linked with other smart city and net zero building proposals. This chapter also provides a broad context of how PEDs are framed in EU policy as well as its funding and coordinating bodies, which is important background information for the empirical Study 1 in Chapter 6. After mapping PED cases and their configurations of actors and practices in Europe, the need for future research is highlighted in order to design, implement, and scale up PEDs in a just and inclusive way. This chapter also gives a brief introduction of the case study of Torres Vedras in Portugal as a potential PED case on which the empirical part will focus.

From this context of PEDs and the need for future research, **Chapter 3** will present a critical narrative review of energy citizenship as an emergent phenomenon in the social studies of energy in smart cities and PEDs. By comparing two main bodies of research from governance and governmentality on the topic, this research positions itself within the social constructionist approach to see energy citizenship as subjectivities that are socially co-constructed rather than fixed identities and legal statuses. These subjectivities are expressed and researched through socio-psychological processes that were identified from the literature reviews of social research on smart and sustainable cities as well as decentralised renewable energy projects. Five significant socio-psychological processes were found for consideration when investigating the impacts and constitution of energy citizenship subjectivities and related decisions and infrastructures, namely risk, uncertainty, and trust; distributive justice; recognition justice and people-place relations; procedural justice; and routines and capabilities. Based on that, the following **Chapter 4** will introduce the critical socio-psychological approach to the meaning-making of energy citizenship and also introduce the integrated framework from governmentality and social representation theory.

This theoretical part lays ground for the following empirical part. Before going into the empirical studies to answer these questions, it is important to mention the empirical context of the case study. Therefore, **Chapter 5** will give an in-depth introduction to Torres Vedras, its policy framework, infrastructure, and sustainability plan. Then, the empirical studies based on this case will be introduced. **Chapter 6** – Institutionalisation of Energy Citizenship focuses on analysing which representations of energy citizenship are fostered in PED policies at EU, national, and local levels. **Chapter 7** – Mediation of Energy Citizenship focuses on analysing representations of energy citizenship by mediating systems, i.e. representatives of the municipality of Torres Vedras, technical experts, companies/cooperatives, and civil societies working on energy, urban mobility, and public participation/inclusion in the local case study. **Chapter 8** – Citizen representations of Energy Citizenship examines, based on focus group

discussions with Torres Vedras citizens, their representations of energy citizenship as related to PEDs, including their lived experiences and impacts on justice, inclusion, and well-being.

Chapter 9 concludes the thesis with a general discussion. After summarising the thesis and its findings, this thesis will present the theoretical and practical contributions of the research. It will then reflect on the limitations of the empirical work, the methodology used, and the integrated theoretical framework in studying Energy Citizenship in PEDs, thus opening the floor for future research and policy practices.

In sum, this thesis aims advance our knowledge of energy citizenship at theoretical, methodological, empirical, and practical levels. By critically examining the meaning-making of energy citizenship as an emerging socio-psychological concept, the integrated framework of governmentality and social representation theory provides a novel theoretical and methodological ground to unravel the reproduction, contestation, and negotiation of a neoliberal governmentality in participatory governance practices. This has the potential not only to support policymakers, stakeholders, and citizens in challenging the norms and consequences of a neoliberal governmentality, but also to inspire the practical exploration of its alternatives in everyday practices. This critical approach contributes to our understanding of power relations and renegotiation between laypeople and experts in the participatory processes within PEDs, which is a usually overlooked dimension in governance research (Bakker, 2010; Howarth, 2006; Negura et al., 2020). It also helps us understand to what extent PEDs' participatory governance can promote their goals of sustainability, inclusivity, and justice in safeguarding human and non-human well-being at both local and global levels.

CHAPTER 2

POSITIVE ENERGY DISTRICTS

A local response to global challenges

In the face of rapid urbanisation and the escalating challenges posed by climate change, cities worldwide are embracing innovative approaches in order to transform themselves into more sustainable, resilient, and liveable spaces. One such pioneering initiative gaining momentum is Positive Energy Districts (PEDs). These districts represent a paradigm shift in urban planning and energy management, aiming not only to reduce environmental impact but also to generate a surplus of energy, contributing to the local energy grid. This chapter introduces the object of research by giving an overview of the concept of a Positive Energy District, the context of where and when it emerged, its evolution, the distribution and practical examples of existing PEDs, the actors and practices involved in PED configurations, the need for future research on this topic, and a brief introduction of the case study.

A Positive Energy District is first defined in SET Plan Action 3.2 as "an urban territory with annual zero imports of energy or CO2 emissions aiming to surplus productions of renewable resources" (SET-Plan Working Group, 2018, p. 581). In other words, a Positive Energy District is an urban area designed and developed to produce more energy than it consumes over the course of a year. This surplus energy is typically derived from renewable sources, such as solar, wind, and geothermal, coupled with advanced energy efficiency measures. The primary objectives of PEDs encompass environmental sustainability, energy autonomy, and the creation of vibrant, resilient communities. PEDs overlap with other similar concepts in urban planning, as Derkenbaeva and colleagues (2022) suggest:

> PEDs arose from earlier concepts with comparable meanings [7]. Extensively discussed concepts and terms include (Net) Zero Energy Buildings [7–11], Nearly Zero Energy Buildings [12], Energy Positive Neighborhoods [13–16], Positive Energy Blocks [17,18], Energy Neutral Districts [19], and Positive Energy Districts [5,6,20]. A key common thread among these concepts is the goal that a building, neighborhood, or district is able to meet its energy demands from low-cost, locally available, environmentally friendly renewable sources. (p.1)

There are different ideas, however, of how to define a PED – their physical limits can be buildings, neighbourhoods, city borders, entire urban areas, or urban areas and their rural periphery. There is also debate on whether a PED should source renewable energy entirely in the local area – making for an autonomous PED – or source it from other areas – making for a virtual PED.

Figure 2.1 *Visual illustration of a Positive Energy Districts (Urban Europe, 2020)*

As technical-economic configurations, PEDs leverage the potential of renewable energy sources to meet the energy demands of the district. Solar panels, wind turbines, and other sustainable technologies are strategically integrated into the urban landscape to harness clean energy (SET-Plan Working Group, 2018). Furthermore, efficient energy and storage systems are crucial for balancing supply and demand fluctuations. Advanced battery technologies and smart grid systems play a pivotal role in storing excess energy during peak production periods for use during high demand phases (Fichera et al., 2021). PEDs employ cutting-edge technologies for intelligent infrastructure management. This includes smart buildings, connected transportation systems, and data-driven decision-making tools that optimise energy consumption and enhance overall efficiency (Erba et al., 2021). Promoting a sustainable mobility plan with eco-friendly transportation options is integral to PEDs. Electric vehicles, bike sharing programs, and pedestrian-

friendly designs reduce the carbon footprint associated with commuting within the district (Zuo et al., 2022). PEDs embrace the principles of a circular economy, focusing on waste reduction, recycling, and repurposing. Circular economy practices ensure that resources are used more efficiently and contribute to the sustainability goals of the district. Rather than focusing solely on individual buildings, PEDs take a holistic approach, considering the entire district as a synergistic system (Clerici Maestosi et al., 2024).

In terms of impacts, by relying on renewable energy sources, PEDs strive to achieve carbon neutrality or even carbon negativity. This has a significant impact on reducing greenhouse gas emissions and combating climate change. The integration of green spaces within PEDs contributes to biodiversity conservation because urban greenery and sustainable landscaping provide habitats for diverse flora and fauna, fostering a healthier ecosystem (Casamassima et al., 2022). PED transitions are also expected to stimulate economic growth by creating employment opportunities in the sectors of renewable energy, technology development, and infrastructure maintenance. Over time, the implementation of PEDs leads to reduced energy costs for residents and businesses. The surplus energy generated can be sold back to the grid, creating additional revenue streams for the district (Trevisan et al., 2023). The planning and development of PEDs involve active participation from local communities. This engagement is expected to foster a sense of ownership and community pride, contributing to social cohesion (Baer et al., 2021). The emphasis on sustainable mobility, green spaces, and clean air improves the overall health and well-being of residents. Reduced pollution and increased physical activity in PEDs also are expected to positively impact public health (Derkenbaeva et al., 2022; Hearn, 2022). The following subsection will elaborate more on how PEDs emerged, which policies gave rise to them and what frameworks or ambitions they are set to achieve.

2.1. Contextualisation of Positive Energy Districts

The concept of Positive Energy Districts, under a more general concept of smart cities, gained traction in the early 21st century as cities worldwide began to focus on developing strategies to mitigate the environmental impact of urbanisation. In it, Sustainable Development Goals intersect, namely (7) Affordable and Clean Energy, (11) Sustainable City and Community, and (13) Climate Action. The rise of Positive Energy Districts can be attributed to climate change awareness, renewable energy advancements, and policy initiatives. Firstly, increased awareness of climate

change and its consequences has led governments and municipalities to seek more sustainable and eco-friendly urban planning solutions. For example, Covenant of Mayor and Green Flags Cities are networks of cities that have similar objectives to PEDs. Secondly, the advances in renewable energy technologies, such as solar and wind power, district heating and cooling, smart meters and smart grid have made it more feasible to integrate these sources into urban environments, helping cities achieve energy self-sufficiency. Furthermore, many governments and local authorities have implemented policies and regulations that encourage sustainable development and energy-efficient practices. These policies often include incentives for renewable energy adoption and stricter environmental standards for buildings and infrastructure while alleviating unequal impacts such as energy poverty.

PEDs were an object of policymaking for the first time in 2018 in European Strategic Energy Technology – SET Plan Action 3.2 – Implementation plan for Europe to become a global role model in integrated, innovative solutions for the planning, deployment, and replication of Positive Energy Districts (SET-Plan Working Group, 2018). The SET Plan was established in 2007, and Action 3.2 has been developed since 2015 in alignment with the EU Energy Efficiency in Buildings Directive. Another EU policy that gives context to the PED is the 2019 EU clean energy package which is based on the EU Commission's new rules for consumer-centred clean energy transition 2016 and previous directives on Energy Performance in Buildings (EU 2018/844, Directive 2010/31/EU), on Renewable Energy (2018/2001/EU), and on Energy Efficiency (EU 2018/2002).

At the operational level in an urban context, the main coordinating body for PEDs is the transnational Joint Programming Initiative (JPI) Urban Europe, which provides a well-established Programme Management Structure to facilitate the implementation of 100 PEDs by 2025 in Europe (Gollner et al., 2019). Horizon 2020 also has provided a framework for encouraging innovative approaches to urban sustainability. Funding from Horizon 2020 has facilitated interdisciplinary research, technological innovation, and collaboration among cities, businesses, and research institutions (Almeida et al., 2021). A remarkable difference between the PED initiative and other renewable energy community programs is that its agreed upon framework has a holistic ambition to integrate different sectors of urban planning, including energy, mobility, housing, and public space. At the same time, consulting with different urban stakeholders who come from different contexts and cultures contributes to a reference framework that ensures that PEDs not only provide the quality of life that residents aspire to, but also be inclusive and

sustainable (JPI Urban Europe / SET Plan Action 3.2, 2020). These human-centric principles set PEDs apart from other smart cities programs, which mostly focus on technology and efficiency.

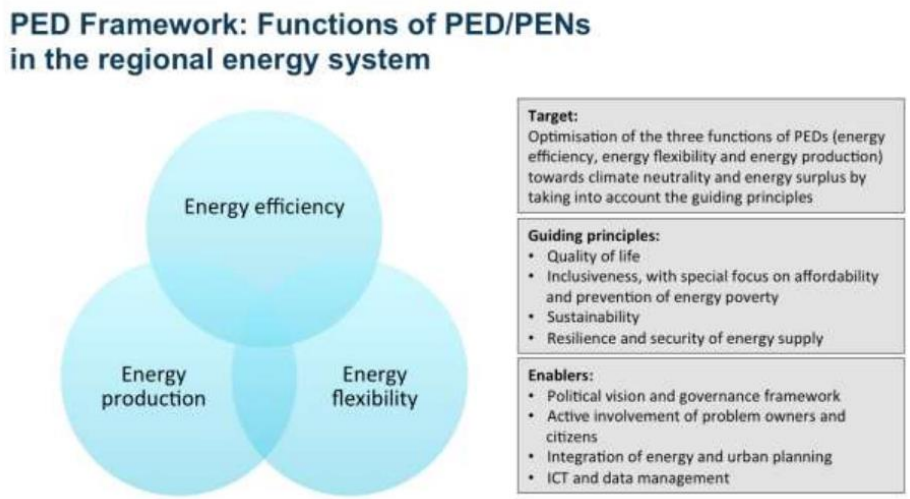

Figure 2.2 *Functions of PEDs/PENs in the regional energy system, from PED white paper*

(JPI Urban Europe / SET Plan Action 3.2, 2020)

2.2. Data-mapping and practical examples of Positive Energy Districts

In Europe, up to February 2020, there are 61 case studies of PEDs presented in the PED booklet (Gollner et al., 2019). Among these, 28 projects declared the ambition to fully become a PED and 32 projects present the ambition to implement some PED features. These projects are from different development phases: in operation, in implementation, and in planning. The distribution of these projects is illustrated in the map below.

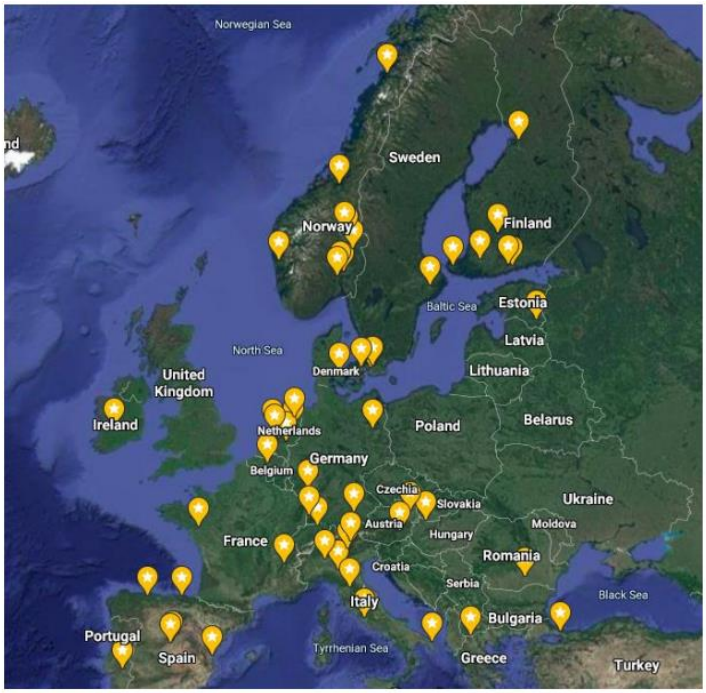

Figure 2.3 *Geographic distribution of PED projects from PED Booklet*

(Gollner et al., 2019)

The Horizon 2020 research and innovation program has also supported numerous projects to develop and implement PEDs in different cities and contexts. According to the PED map on the PED-EU-NET platform, there are 24 registered PEDs at different stages that are listed as: PED case study – project that meets the objective of positive net yearly balance and other criteria of a PED; PED relevant case study – project that does not necessarily meet the positive net yearly balance of energy but follows PED criteria; PED lab – pilot actions that provide opportunities to experiment with the planning and deployment of a PED.

As a PED is set to be replicable and scalable on the city level, there are some examples of cities that are leading PED ambition such as Amsterdam and Copenhagen. Amsterdam's "Smart City" initiative includes the development of several PEDs. The Buiksloterham district, for example, integrates renewable energy sources, smart grids, and sustainable mobility solutions to create a self-sufficient urban ecosystem. The ReGen Village project in the suburbs of Amsterdam is another example which aims to create a self-sufficient residential community. It incorporates renewable energy systems, smart grids, and sustainable food production to achieve a net-positive impact. In Copenhagen, the Nordhavn district is a flagship example of a PED. The area utilises a

combination of wind power, solar energy, and advanced energy storage to not only meet its energy needs but also contribute surplus energy to the city's grid. There are also PED examples in non-residential area such as the Lyon Confluence project in Lyon, France. The project is transforming a former industrial area into a sustainable district that emphasises energy efficiency, green spaces, and sustainable transportation.

Nonetheless, a review of the literature on PEDs has shown that not all districts are the same and one could not apply the same technology, economic model, or public policies universally due to differences in environmental, social, and psychological factors as well as political, economic, and technological readiness. The next subsections, thus, detail the relevant actors and practices that the technical configurations of current PEDs target and why we need more research on the potential consequences of governments only developing one-size-fits-all interventions in order to ensure just and inclusive PEDs.

2.3. Actors and practices in PEDs and future research needs

According to the SET Plan Action 3.2, energy production for building stock, transportation, and other demands in PEDs needs to be generated from renewable sources to ensure a net zero CO2 emission target. To make this effort easier, energy service companies (ESCO) would research, develop, and provide micro-generation technologies for citizens to produce and consume their own energy individually or collectively as an energy community. Citizens and communities, thus, would become prosumers who could also feed their extra energy resources into the grid and participate in the policymaking process for regulating such action. On the district level, the deployment of district waste heat and electric public transport may require cross-sectoral collaboration between different teams in the local government such as energy, transport, housing, urban planning, etc. As siting energy production facilities or altering transport infrastructure may affect the physical and social lives of the residents, city planners are also expected to involve citizens and communities in the associated decision-making processes to improve public engagement.

Regarding energy efficiency aspects, energy users, including transport users, and building property owners are the main targets of the PED framework. With the availability of energy efficient appliances, energy users are expected to adopt more energy conservation behaviours based on feedback from smart meters. Similarly, house or building owners could invest in

retrofitting to save energy costs in the long run. In transportation and mobility efficiency, to ensure that citizens would use more active and low-carbon modes of transport, city planners need to improve the inclusive design of the transport system through public engagement processes.

Finally, to be energy self-sufficient while still meeting quality of life goals, PED stakeholders need to work on flexibility to secure energy supply and redistribute the surplus. The development of smart grid technologies by distribution system operators (DSO) would be promising for shifting the load in peak hours. Energy users, once more, are responsible for adjusting their practices to avoid high electricity prices and accommodate for low energy supply scenarios. City planners, in this case, could help match the energy demand and supply dynamics by better planning and coupling energy generation with energy storage systems to turn buildings and electric vehicles into back-up batteries, for instance. These solutions sometimes need further investment and engagement from the community; hence, it gives rise to ownership and maintenance practices in the technology's host entity.

Table 2.1 *Relevant practices from actors in PED configurations from PED policies*

PED configurations	Actors involved	Practices
Energy production	Citizens and	Prosumption, public
micro-generation,	communities	participation
district waste heat,	Company (ESCO)	Service provision, innovation
electric mobility…	City planner	Cross-sectoral collaboration,
		Inclusive public engagement
Energy efficiency	Energy user	Energy conservation
smart meters,	Company (appliances)	Smart solution and data
buildings' efficiency,	House/building owner	provision
active mobility, …	City planner	Investment in retrofit
		Cross-sectoral collaboration,
		Inclusive public engagement
Energy flexibility	Energy user	Flexible consumption

PED configurations	Actors involved	Practices
smart grid,	Companies (DSO's)	Service provision, innovation
sector-coupling,	City planner	Cross-sector collaboration
energy storage, …	Community	Co-investment, co-ownership

While Positive Energy Districts hold promise, challenges include regulatory hurdles, funding constraints, and the need for effective community engagement (Koutra et al., 2023; Krangsås et al., 2021). Some researchers also showed concern about the unjust outcome that innovative interventions in PEDs could create such as energy poverty and environmental gentrification (Hearn et al., 2021; Sareen et al., 2022). Energy poverty (or vulnerability or deprivation) refers to an inability to access adequate energy services and innovations that are required to meet the basic needs of human well-being. This is especially true when a PED intervention requires skills and material investment that exclude certain citizens, especially those who are already marginalised and vulnerable such as the elderly, the unemployed, and the homeless. Meanwhile, environmental gentrification also connects to energy poverty. This is when those who cannot afford to stay in regenerated urban areas are displaced to another area and excluded from the benefits of the PED. The need for more PED research and for innovations adapted to different climate and socio-economic regions is emerging, especially in Southern Europe (Aparisi-Cerdá et al., 2022; Bruck et al., 2021); avoiding energy poverty and environmental gentrification as potential consequences of PEDs will require robust policy framework and citizen participation.

Located in the Southwest of Europe, Portugal has developed an ambitious National Energy and Climate Plan as well as a roadmap to achieve decarbonisation by 2050 (Portuguese Republic, 2019a). One of its actions is to develop smart cities and communities, such as PEDs, that can self-sustain via renewable energy. Torres Vedras Municipality, specifically, has a robust sustainability plan and interest in developing into a future PED. Torres Vedras has been part of the Covenant of Mayors since 2010 and received the European Green Leaf Award in 2015. The municipality's commitment to reducing carbon emissions by 29% and electricity consumption by 21% before 2020 compared to 2009 levels was stated in the municipal strategic plan for sustainable development and action plan for climate change adaptation (Akhatova et al., 2019). Based on data from the last Portuguese Census (Pordata, 2021), the municipality of Torres Vedras has around

83,000 inhabitants, of which 64% are aged between 15 and 64 years old and around 6,7% do not have Portuguese nationality, 65% have either no formal education (15%) or the basic level of formal education (50%), and the level of unemployment is around 3,5%. More specific information about the case study will be introduced in the empirical chapters.

CHAPTER 3

ENERGY CITIZENSHIP

A critical review from social sciences and humanities[2]

This chapter will discuss energy citizenship as a concept in the making. It will first present how energy citizenship emerged as a phenomenon in the social studies of energy. After defining and connecting energy citizenship with other concepts such as energy democracy and energy justice, this chapter will go on to discuss the challenges of current mainstream approaches to energy citizenship as a legal status and identity from a governance approach. From that premise, the thesis then discusses what a critical approach to energy citizenship should look like to avoid unequal socio-psychological impacts on different groups of energy citizens. Drawing from governmentality literature on the socio-psycho-political construction of energy citizenship, some scholars argue that participatory governance could potentially reproduce neoliberal governmentality, thus limiting citizens' engagement with energy to individualistic consumer or prosumer roles in their private sphere at the expense of more agentic and collective engagement in the public sphere. This critical literature review of energy citizenship thus sets the background for the next chapter of theoretical framework.

3.1. Energy citizenship – an emerging phenomenon in the social studies of energy in smart cities

3.1.1. Studies of social psychological impacts and responses to energy transitions in smart cities[3]

[2] This chapter is partly based on two published papers of the author of the thesis:
Nguyen, M. T., & Batel, S. (2021). A Critical Framework to Develop Human-Centric Positive Energy Districts: Towards Justice, Inclusion, and Well-Being. In *Frontiers in Sustainable Cities* (Vol. 3, p. 88). Frontiers. https://doi.org/10.3389/frsc.2021.691236
Nguyen, M. T., & Batel, S. (2024). Which energy citizenship in positive energy districts? A governmentality social psychological analysis of participatory governance. *Journal of Environmental Policy & Planning*. https://doi.org/10.1080/1523908X.2023.2291386

[3] The term *smart city* will be used in this chapter as an umbrella term to refer to different configurations aimed to promote the green transition, such as net zero and positive energy districts.

Social sciences and humanities (SSH) research on energy transitions and sustainability have increasingly examined not only how particular energy technologies[4] are accepted, contested or used by individuals and communities (e.g. Guerreiro et al., 2015; see chapter 1, section 1.1), but also how new forms of spatial-technological organisation also proposed within the green energy transition, such as smart cities, net zero cities and positive energy districts (see chapter 2), shape citizens' lives and are received by them. This has been considered crucial in fostering the green energy transition, as without the social acceptance of these new spatial-technological configurations, creating net zero or energy positive communities will be very challenging (see chapter 2, section 2.3).

Nevertheless, until recently, most of this literature focused on understanding the factors associated with people's acceptance or resistance to particular technologies within smart cities, such as smart meters (Guerreiro et al., 2015; Radtke, 2022), smart mobility systems (Barr & Prillwitz, 2014; Ryghaug et al., 2020), or neighbourhood renewable energy generation technologies (Schweizer-Ries, 2008). This literature has often revealed that several socio-psychological factors are key to understanding people's responses to these infrastructures, namely: risk, uncertainty, and trust, especially in technology proponents and local and national authorities as enablers of those technologies; justice in distribution, procedure, and recognition of people-place relations; and routines and capabilities.

Previous studies on public attitudes towards new energy technologies, and the siting of energy facilities, have indicated that risk, uncertainty, and trust are normally strongly associated with specific attitudes such as acceptance or rejection (Lima, 2006). Namely, the higher the perceived risk and the lack of trust in the social actors involved in the related decision-making process, the more people tend to reject the proposed energy technologies and infrastructures. The traditional and technocratic definition of risk perception concerns the individual evaluation or emotions and beliefs towards a potential threat (Lima, 2006; Weber & Stern, 2011). Meanwhile, trust is found to shape how people perceive risk, so the public's trust depends on perceiving the parties involved with handling the technology to be reliable, to have expertise, and to hold certain expected values (Greenberg, 2014).

[4] By energy technologies we mean technologies and related infrastructures involved in energy consumption and production for electricity, heating/cooling, and mobility related activities.

This research has also demonstrated that the siting of new energy technologies often gives rise to socio-ecological injustices. This transpires when the political, economic, environmental, socio-psychological, and health impacts of those technologies and related infrastructure are not recognised or distributed equally, or affected individuals and communities and their concerns are not heard, involved, or regarded (Devine-Wright & Batel, 2017; Jenkins et al., 2016). This has been conceptualised as *energy justice* (Sovacool et al., 2017) and can include distributive, recognition and procedural justice. These have been shown to be significant factors in public responses to energy technologies' deployment.

Recognition injustice is defined as "the processes of disrespect, insult and degradation that devalue some people and some place identities in comparison to others" (Walker, 2009, p. 615). This happens in smart cities when private energy services and low-carbon technology companies do not recognise certain groups of people as relevant in the decision-making processes, normally those already marginalised, such as the energy vulnerable. Flexible pricing of electricity or time-of-use tariffing (Sovacool et al., 2019), for example, has been found to disregard or fail to recognise the need of single parents or parents working long hours. Frequently, they have children and often concentrate all family activities at certain times of the day, thus making them pay higher electricity bills than other more flexible households (Sovacool et al., 2019). Hence, such customers are excluded from affordable, efficient, and quality low-carbon innovations, leading to energy poverty and related impacts on well-being.

Smart city initiatives often also involve public space changes such as retrofitting houses or altering transportation infrastructure to allow more energy efficient interventions and these may affect the physical and social lives of residents in different ways. While some changes might be seen as positive and improvements to the participants' quality of life (Sikder et al., 2016), others might contribute to what has been termed *green gentrification*. Green gentrification is defined by Anguelovski and colleagues (2022), as "strategies of restoring degraded urban environments, creating greenspace, or deploying climate-adaptive green infrastructure to improve an area's attractiveness while resulting in increased property values, housing prices, and physical displacement of working-class residents and racialized groups and cultures" (p. 2). This can also lead to community members' psychological displacement and related impacts on well-being and agency (B. B. Brown & Perkins, 1992; Ropert & Di Masso, 2021). For instance, Lamonaca and Batel (2023) showed, through a case study of a social housing smart city project in Italy, that

although residents generally express satisfaction with the aims of the smart city project, the proponent's failure to recognise their needs and attachment to their homes leads to detachment and reduced involvement and acceptance of the associated smart city projects. Also, Ali and colleagues (2020) concluded that the launch of a public park in Leipzig attracted wealthier households to move in, and subsequent rising rents placed mounting pressure on lower-income families, further marginalising them from accessing the area. By failing to consider citizens' place relations and the needs of the poor, elderly, homeless, and unemployed, policies and technologies can further exclude different groups from their design and outcomes.

Distributive justice is normally defined as the sense of equal distribution of costs and benefits, or of responsibilities and rights (Walker, 2009), in relation to a given project. As described by Sovacool and colleagues (2017), "costs is how the hazards and externalities of the energy system are disseminated throughout society […] benefits is how the ownership of and access to modern energy systems and services are distributed throughout society" (p. 677). An example from Sovacool and colleagues (2019) research on Norwegian and German electric car subsidies found that distributive injustices were particularly evident in the respondents' perception that costs were shared among all taxpayers, despite only a select few higher-income groups reaping the benefits. Distributive justice also extends to concerns around implementing PEDs when most of their technocratic solutions not only require investment and engagement from the PED community, but also require extraction of materials and workforces outside of the PED, such as from solar PV manufacturers, lithium mining for energy storage, or data centres for smart grid operations, which raise the issue of cosmopolitan or global injustices (Levenda et al., 2021; Sovacool, 2021).

Considered to be a key factor in the social acceptance of energy technology, *procedural justice* ensures that energy decision-making respects due process and representation (Sovacool et al., 2017). Therefore, under the multi-level governance perspective, institutionalised public participation procedures, such as the United Nations' Agenda 21, are encouraged at the local level (Geissel, 2009) through various democratic and participatory practices. These include public opinion surveys, community consultancy, participatory budgeting, and co-creation workshops (Becker & Naumann, 2017; Itten et al., 2021). However, social studies of energy have been revealing how energy-related policies and planning still often only incentivise a low and passive participation from citizens. This reflects traditional top-down and technocratic mainstream models of energy governance which fail to include, understand, or address citizens' and communities'

concerns from the beginning of energy-related projects, which often leads to opposition later in their implementation phase (A. Carvalho et al., 2019; Levenda et al., 2020). Another example from Sovacool and colleagues (2019) shows that citizens in Germany feel procedural injustice in solar subsidies due to the capture of policy by industrial interests, and meanwhile, citizens in Great Britain perceive procedural injustice in the deployment of smart meters without public participation or with misleading information from the suppliers that pressured citizens to adopt the device.

Furthermore, how to change inefficient routines and capabilities has been the main aim of many efficiency and flexibility interventions in smart cities because a large part of energy consumption behaviours – such as heating, cleaning, and showering – are found to be routine and habitual (Hess et al., 2018). This trend of research is captured in Sovacool's (2014) review paper that concludes that human-centred research has paid more attention to the routines and habits of energy users instead of the general technological and economic configurations shaping said routines. Meanwhile, lack of access to and engagement with technological innovations in citizens' everyday lives – such as smart meters, photovoltaic panels, and electric cars – has been shown to reduce active participation of citizens in energy issues (Ryghaug et al., 2018). This links with capabilities that energy users value, such as keeping good health, feeling respected, preserving indigenous identities, and feeling a sense of agency over one's life and community (Edwards et al., 2016; Holifield et al., 2017; Velasco-Herrejon & Bauwens, 2020).

In sum, it is important to consider socio-psychological factors such as people's acceptance of and engagement with PEDs vis-à-vis their success in contributing to a green energy transition. They give an account of how "green" energy technologies and related infrastructures affect people's everyday lives and places, and related well-being and quality of life. Relevant studies and literature have two shortcomings that increasingly have been identified by more critical approaches in the social studies of energy and the environment (Levenda, 2019). First, they tend to focus on acceptance of energy technologies separately, therefore neglecting a more integrated and holistic perspective on smart cities – PEDs in particular – and what people have to negotiate and do for them to be successful; second, they tend toward a top-down perspective, only analysing how people accept, resist, and contest smart city related technologies, which in turn assumes not only a normative uptake of smart cities, which is to say that they are inherently sustainable and what social scientists need to do is understand how to overcome resistance (Batel, 2020), but also

extremely narrow conceptions of what people can be and should do as energy citizens (Pel et al., 2022). This is to say, these studies tend to neglect how people are constructed as energy citizens within these spatial-technological organisations being proposed as "smart cities". They fail to acknowledge that smart cities are also political configurations – EU, national, and local infrastructure and planning policies enact them, and these rules allow or constrain highly specific types of citizenship. These citizenships and the socio-psychological impacts they generate or enable need to be examined, identified, and discussed for truly human-centric, just, and inclusive Positive Energy Districts to be able to exist. Contributing to our understanding of these impacts is what this thesis intends to do, and they will be discussed in depth in the next section.

3.1.2. Energy citizenship as an emerging concept in the governance of smart cities

The growing concerns and discussion around citizens' participation and engagement with energy issues at both local and national scales are reflected in increasing debates and empirical analyses on and around the concepts of energy citizenship and energy democracy (Stephens, 2019; Szulecki, 2018). The former has been defined as an "awareness of responsibility for climate change, equity and justice in relation to siting controversies as well as fuel poverty and … the potential for (collective) energy actions, including acts of consumption and the setting up of community renewable energy projects" (Devine-Wright, 2012, p. 72). The latter – energy democracy – has been conceived as "the transition and search for a new governmentality with new idealized political subjects (prosumers)" (Szulecki, 2018, p. 34; Wahlund & Palm, 2022). These definitions highlight that two transversal dimensions to energy citizenship and energy democracy are an increased participation of citizens in decision-making processes – or the endorsement of a participatory governance of energy systems – and a change from citizens being only passive consumers to being active prosumers or entrepreneurs in energy projects. These are also key aspects to be promoted within Positive Energy Districts and other smart city initiatives (Mihailova, Schubert, Burger, et al., 2022; van Wees et al., 2022).

A governance approach, as a concept rooted in political studies, is concerned with constellations of political instruments, institutions, and actors that collectively shape individual actions towards common goals. Specifically, governance analysis looks at modes of political steering through the triad of policy (goals & instruments), polity (institutions & procedures), and politics (actors & strategies), or in other words, the content, structure, and process of governing

(Bornemann et al., 2018; Burger et al., 2015; Sending & Neumann, 2006). Its research questions usually focus on structural issues, such as who is involved in the governing process, and what are their roles, relations, and procedures (Amos, 2010). Governance scholars understand citizenship as "a relationship between any kind of governmental institution and other social actors communicating with these institutions and with each other, i.e. citizens" (Bora & Hausendorf, 2006, p. 28).

Many sectors, including energy, are moving from the classic top-down, state-centric, direct control government to a liberal, participatory governance, where the state governs through multi-level (international, regional, national, local) and multi-partner (private, civil society, etc.) perspectives (Amos, 2010). In this participatory governance turn, scholars research how decentralised energy governance, i.e. network-based governance, changes citizens and stakeholders' relations, and how certain policy devices such as democratic process and incentives could promote or steer more citizen participation (Mihailova, Schubert, Martinez-Cruz, et al., 2022). Power, in governance's term, then, is understood as either zero sum, meaning non-state actors can only be empowered if the state holds less power in the classical government model, or as positive sum, in which state-private-society partnership could generate more power in a participatory governance model (Rolfe, 2018).

This implementation of energy citizenship, related energy democracy, and especially energy governance has begun to be considered too individualistic and commodified by some researchers in social studies of energy in PEDs and smart cities, which is to say that it is a citizenship that is often instrumentalised and co-opted by the state towards economic growth by making citizens responsible for active entrepreneurship in the energy domain (Cardullo & Kitchin, 2019; B. Lennon et al., 2020). In spite of this criticism, this commodified perspective of energy citizenship has been mainstreaming in energy citizenship literature and in international, national, and local governance practices on energy, given the emphasis on low carbon energy transitions in contemporary neoliberal capitalist societies (Batel & Rudolph, 2021) alongside their ethos of individuals as entrepreneurs in all domains of life (Han, 2017).

Despite the impacts of energy being omnipresent, visible and invisible, in everyone's everyday life (Ambrose, 2020), the dominant consumerist focus of energy governance has been shown to alienate people from being political subjects – or energy citizens – in the public realm. Namely, it discourages citizens from engaging with energy policy, having a voice, and influencing energy

decision-making processes (B. Lennon et al., 2020; Levenda et al., 2020). In turn, this lack of citizen participation in energy politics results in infrastructures that perpetuate social stratification by gender, age, and class. For example, Lucas and colleagues (2019) show how low-income households, people with disabilities, ethnic minorities, and otherwise marginalised people have less access to social service spaces in the UK due to reduced urban mobility, which is not only because they could not afford a car but also because they usually stay in social housing in peripheral areas that lack comprehensive public transport. This demonstrates how policy designs disproportionately stimulate more individual changes based on economic rationality, such as buying an electric car, than social change by collective actions (Batel et al., 2016).

The following subsection 3.2 examines how both governmental policies, as shown in chapter 2, and mainstream research in the social studies of energy in smart cities and PEDs have been promoting a view of people's relations with energy – or energy citizenship – that is mostly uncritical and neglectful of the political dimensions of energy. Thus, there is a need for a critical approach to energy citizenship that attends to the socio-psychological impacts, i.e., the consequences of different representations of energy citizenship, and prefigures other people-energy relations that care for human and non-human well-being (Pel et al., 2022; Silvast & Valkenburg, 2023).

3.2. The need for a critical approach to energy citizenship to promote PEDs

3.2.1. Mainstreaming prosumerism in participatory governance

In the social sciences, citizenship has been defined both as a legal status and as the everyday relationship between citizens and the state, shaped by the wider context of legal directives, policies, technologies, and related norms (Isin & Nielsen, 2015). Most approaches within social sciences' studies on social, civic, and political citizenship have defined citizenship through the membership and group belongingness of citizens in a given group or ideological system, where rights and duties are prescribed (Turner, 2009). When it comes to energy issues, it has been proposed that energy citizenship can take place in the private sphere through energy consumption and production, in the public sphere through direct actions such as demonstrations or sabotage, and in the institutional sphere through invited participation in energy related policies and decisions (Sovacool & Dunlap, 2022; Walker & Cass, 2007).

Most literature on energy citizenship that focuses on its contents and conceptualisation, however, tends to take a positivist approach (see Pel et al., 2022 for critiques). They attempt to define or describe, at a general level, who is a good, active energy citizen and who is not, and which identities, attitudes, and behaviours they should hold to achieve a prescribed set of normative actions, as suggested above (see Silvast & Valkenburg, 2023 for critiques). Van Wee and colleagues' paper (2022) on energy citizenship in PEDs, for example, delineates different modes of energy citizenship through individual behavioural change as "both a strategy for citizen engagement and an expected outcome of citizen engagement;…becom[ing] members of energy communities; commit[ting] to external trading through a central operator, and even tak[ing] an individual role as a market player in P2P trading" (p. 4-6). This leads to a dismissal or other forms of citizenship that can be communitarian, collective, or reactionary. As Olivadese and colleagues (2021) commented:

> However, most citizens are still locked into their routinized unsustainable behaviors. To realize the citizen-as-consumer to energy citizen transition, multiple barriers need to be overcome, specifically institutional, infrastructural, financial, and regulatory. From an infrastructural perspective, a strong role of the government is required to overcome some of the current structural barriers. Investing in new energy infrastructures and providing legislations that enable innovative governance structures can bring citizens one step closer to the desired energy citizenship. (p.3)

The individualist approach still often sees energy citizenship as independent of the social and material conditions of individuals. An example from literature review is DellaValle and Czako (2022a) who show that most policies and research in energy poverty have tried to empower vulnerable citizens to take citizen-as-consumer roles not only by "empowering the capacity to consume energy and invest in energy efficiency" but also by "get[ing] specific needs acknowledged in the social structures in which energy poor citizens are embedded" (p.15). This highlights that the mainstream approach to energy citizenship still limits citizens to consumer or prosumer roles and does not "empower their [citizens] full capacity to shape and take ownership of the energy transition as political and social actors in the energy system" (p.15).

In fact, depending on the political economy and socio-technical configurations of each energy system at any given time, certain types of engagement are presented by the state and its associated

policies and legal directives as more desirable than others. Participatory governance – a new configuration of citizens and stakeholders observable in governing practices that aim to be increasingly decentralised and democratised (Szulecki, 2018) – is one such desirable form that is being increasingly encouraged, especially in PEDs (Olivadese et al., 2021). The first pillar of participatory governance is marketisation. After liberal advocates argued that the failure of the state in governing energy systems efficiently is due to a lack of market principles, a new relationship was negotiated between the state and the private sector to allow different businesses to compete in delivering energy services to the users instead of state-owned suppliers (Burger et al., 2015). This necessitates citizens who can choose energy services and adjust their consumption based on market rationality. Democratisation, the second pillar of participatory governance, is the culmination of decades of support by civil society and academia for more citizen participation in the decision-making processes that affect people (Arnstein, 1969).

When it comes to energy citizenship, these two pillars of participatory governance have been pushed for through *prosumerism*. Prosumerism refers to the act of producing the energy that one consumes, managing one's energy use efficiently, and even selling the surplus (Campos & Marín-González, 2020). Research on prosumers' attitude towards energy infrastructure in the context of a free energy market have tended to explain risk, uncertainty, and trust as individual cognitive biases in perceptions due to lack of information (see Steg et al., 2015). This manner of approaching risk perception and trust, in turn, favours planning and policy interventions which attempt to quantify, calculate, and estimate risks in order to provide more and better information for prosumers to make their decisions. However, they dismiss the emotional, experiential, value-based, and cultural dimensions that shape risk perception and trust (Douglas & Wildavsky, 1983; Groves et al., 2013; Lima et al., 2005).

Likewise, mainstream approaches to prosumers' sense of distributive justice have mostly focused upon financial issues, based on a conception of individuals as *homo-economicus*, namely, as those who take decisions based only upon economic and functional cost-benefit analyses (see Batel et al., 2016 for a review). For example, normative approaches to distributive injustice are often concerned with how the energy and transport companies implementing renewable energy or transport infrastructure can financially compensate affected local communities in the most cost-effective way possible (see Wolsink, 2018). Moreover, they might focus on the extent of financial incentives necessary to motivate citizens to buy electric cars or solar PV panels for their

households, whilst disregarding how this will only benefit a few high-income groups who have the capital and capabilities to invest in such new technologies (Sovacool et al., 2019).

To study how vulnerable citizens could achieve more prosumer status, mainstream approaches to recognition justice have been focused around household-scale material and economic factors that contribute to energy and transport poverty in order to help them overcome it. For example, scholars have contributed to evaluating affordability and accessibility of energy and transport services by uncovering which demographic groups (i.e., by age, gender, economic status) have high energy and transport spending relative to their income levels (Simcock et al., 2020). By highlighting these vulnerable cases, current policies not only favour targeted economic subsidies, such as reducing energy and transport tariffs for vulnerable regions and households, but also promote behaviour change programmes aimed at improving the cognitive capacity and energy efficacy of people's behaviours (see Jenkins et al., 2016).

Regarding the democratic ideal of procedural justice with respect to the prosumerism promoted by participatory governance, public participation is normally researched as a way to overcome people's negative responses to energy projects. This approach usually interprets local residents' opposition to energy projects as irrational, selfish, ignorant, and lacking objective information, framing residents as *NIMBYs* (Not in my back yard) (Devine-Wright, 2011). Despite other factors that offer better explanations than the "not in my back yard" motive, such as place attachment and energy justice issues (Devine-Wright & Howes, 2010; Wolsink, 2007), accusations of NIMBY-ism are still used by many researchers, policymakers, and energy companies who promote more tokenistic levels of citizen engagement, including informing, consulting, and placating (Arnstein, 1969). These are often regarded as sufficient to create social acceptance for prosumerism in an instrumental way (see also Devine-Wright, 2011; Jenkins et al., 2016; Levenda et al., 2020).

A vast amount of research in psychology and behavioural economics has been invested in understanding and changing individual patterns of energy consumption in order for prosumers to become more energy efficient (Burger et al., 2015; Steg et al., 2015). This mainstream approach examines how individuals' routines are formed not only by personal attitudes towards environmental problems based on their values and beliefs, but also by social norms i.e., the perceived expectations and behaviours of others (Ingeborgrud et al., 2020). Within this approach, recommended policies tend to use targeted communication strategies to appeal to audiences'

values and beliefs (Ingeborgrud et al., 2020). This can include cost-effective benefits for utilitarian values and environmental impacts for altruistic, biosphere concerns (Hess et al., 2018). It also harnesses social norms to nudge energy users into energy saving behaviours, for example, via feedback of average household energy consumption on a smart meter (DellaValle & Sareen, 2020).

While prosumers in participatory governance are usually seen as actively and directly participating in the governing of energy, it has recently been pointed out that policymakers are mainstreaming and institutionalising prosumerism only in its market form (B. Lennon et al., 2020), dismissing alternatives such as municipal and community ownership and control (D. Brown et al., 2020), and obscuring citizens' contributions to the collective good (Defila et al., 2018). Therefore, the current mainstream socio-psychological approach of research and policy practices designed to promote this prosumerism might create a scenario where increased empowerment in the market domain could result in citizen disempowerment in public and institutional spheres, as well as in local communities – or, in other words, in democratic life. It is this tension between different forms of energy citizenship that needs to be critically scrutinised by social sciences and humanities (SSH) research on smart cities, and PEDs in particular.

3.2.2. A critical socio-psychological to energy related projects and infrastructures

A critical SSH approach can be described as recognising that people-expert-place-technology relations are socially co-constructed throughout time and space (Walker, 2009). It thus aims to show that these relations reflect and often reproduce certain power asymmetries and related inequalities and injustices (Levenda et al., 2021). In other words, this critical approach contests the idea that science and research are value-free and apolitical. Instead, it aims to unveil how, in research, policymaking, planning, and practice, groups and individuals advance and promote certain interests and privileges instead of others, who benefits from this, and with what consequences (Batel, 2020).

Hence, a critical, human-centric perspective vis-à-vis energy citizenship in PEDs needs to consider key socio-psychologocal aspects, namely the well-being of energy citizens, including the impacts of PEDs on their lived experiences, health, and subjectivities. For example, research has shown that if the public perceives health risks and impacts for certain technologies, this can negatively affect people's health, despite technical-expert assessments to the contrary. Lima (2004) showed that communities living near a waste incinerator reported increased anxiety, stress,

and sleep deprivation due to the perceived health risks. Another example is given by Rudolph and colleagues (2017), who demonstrated how the annoyance felt by local communities living near "the world's largest wind turbine test centre in Denmark" was increased by their lack of involvement in that decision. This reveals the need for substantial citizen and community engagement, and, moreover, in a way that considers the emotional and experiential dimensions of people's risk perceptions and related trust issues.

Furthermore, socio-environmental justice and equity, in terms of inclusion, process, and outcome, must also be considered critically when discussing energy citizenship in PEDs. There are other symbolic, cultural, and emotional dimensions to distributive justice which cannot be quantified and compensated instrumentally, such as the spiritual relationships of people with local ecological systems. One example is the resistance of indigenous communities against the deployment of a geothermal plant in Chile due to their special relation with volcanoes (Vargas Payera, 2018). Past intergroup relations and injustices regarding people-place relations and associated collective memories are also important to consider. For instance, in the case of deployment of high voltage power lines and wind farms in Wales to connect to the English energy grid, local opposition was observed because the power lines were seen as perpetuating the colonial history of England exploiting Wales in past energy projects. The perspective of these new energy infrastructures therefore had a deep impact on people's lives and senses of place (Batel & Devine-Wright, 2017). If these hard to quantify dimensions of energy projects are not considered, the ill-distribution of costs and benefits can induce several socio-psychological harms such as reduced well-being, depression, and anxiety amongst those who experience these injustices (Lima & Morais, 2015). Beyond this, other under-acknowledged eco-psycho-geographical impacts of energy infrastructures have also been observed when people resist these unjust development plans to defend their lands (see Dunlap, 2020).

A critical approach in energy SSH has also sought to explain how energy poverty and vulnerability is a result of the misrecognition or non-recognition of certain groups and places at the societal and political level rather than at individual, cognitive levels (K. Jenkins et al., 2016; Simcock et al., 2021). Research in the feminist energy development field, for example, has contested the distorted view of gender mainstreaming in subsidising female-headed families to tackle energy poverty. Such an approach essentialises the vulnerability of women to poverty whilst obscuring the structural cause of said poverty, such as gender norms. In turn, this leads to the

marginalising of women in need within non-female-headed households (Listo, 2018). In the same vein, the unequal gender distribution of labour, especially in positions of power, might not allow women to participate in the decision-making processes of electricity production. Consequently, this excludes their needs and lived experiences from energy project design (Fraune, 2015).

Furthermore, while mainstream approaches often stigmatise some places as poor and unsustainable in order to legitimise economic and environmental development projects, critical research is mindful of other pertinent factors, such as how promoted changes in the physical and social composition of buildings, neighbourhoods, and cities might deeply affect people's well-being by further reproducing or even creating new exclusions and inequalities (L. P. de Carvalho & Cornejo, 2018; Lamonaca & Batel, 2023). As already mentioned, PEDs might displace those who cannot afford a low-carbon settlement from their home not only in a brick-and-mortar sense, but also in the sense of neighbourhood and community, which entails emotional and symbolic meanings, relationships, and socio-psychological impacts (Manzo & Devine-Wright, 2020).

Critical approaches to procedural justice propose ways to overcome tokenistic practices of participation by challenging the biased representations about the public often held by energy project developers and policymakers (Barnett et al., 2012; Walker et al., 2010). Critical inquiries into this issue pay attention specifically to the unequal power relations between experts and citizens within technocratic, low-carbon transitions and governance, and how they tend to preclude citizens from actually being able to influence decision-making processes (A. Carvalho et al., 2019; Knudsen et al., 2015). Research in this area, therefore, has been challenging the developer's conventional imaginaries of the public (Cotton & Devine-Wright, 2011). It seeks to advance alternative representations of the public as non-homogenous and non-static, indigenous, common-sense, experiential, and affective (Rodhouse et al., 2021). Thus, their lived experiences and bottom-up forms of knowledge are legitimate and relevant to include in energy related decision-making processes (Elkjær, Horst, Nyborg, et al., 2021; Velasco-Herrejon & Bauwens, 2020).

More recently, critical research reveals that the imperative of energy efficiency in energy conservation behaviour research and intervention not only purifies or depoliticises energy consumption with respect to its everyday practices (Shove, 2018) but also assumes consumerism as usual, i.e., energy users are locked into the consumer culture of appliances and lifestyles that require extensive and continuous energy consumption (McDonald et al., 2017). In turn, energy efficient smart technologies could lead to a rebound effect where overall energy usage increases

after saving energy via efficient appliances and practices, which could render efforts to reduce environmental impacts from energy consumption futile in human-centric PEDs (Shove, 2018). Therefore, a critical framework that examines how certain modes of government, such as participatory governance, create certain types of energy citizenship, such as the prosumer, is essential to deconstruct this emerging phenomenon and discuss its socio-psycho-political consequences.

3.3. A governmentality approach to the socio-psycho-political construction of neoliberal energy citizenship

3.3.1. Governmentality and neoliberalism

The conceptualisation of citizenship as something fixed and determined only by specific legal statuses contrasts with post-structuralist approaches, such as governmentality. Governmentality (Foucault, 1991), or "the art of governing at a distance" (Rose et al., 2006), can be defined as the use of systematic strategies and tactics for governing human actions by state and non-state apparatuses, powered by knowledge about how subjects think, behave, and feel. In other words, instances of governmentality could be understood as "conduct of conduct" when groups or individuals shape their own conduct or the conduct of the other (Rose & Miller, 2010). This is exemplified by *nudging* techniques, i.e. changes in the environment and social norms to increase the chance that a desired human decision is made or a certain individual behaviour is executed (Cromby & Willis, 2014; DellaValle & Sareen, 2020). Studies on governmentality of climate change through the trade of emission or carbon credit by Anabela Carvalho (2005), for example, concluded that:

> The management of climate change is by no means restricted to the state apparatuses of control but results from various modes of self- and co-regulation of corporations and individuals. Foucault's notion of governmentality, […], highlights 'the totality of practices, by which one can constitute, define, organize, instrumentalize the strategies which individuals in their liberty can have in regard to each other' (Foucault, 1988: 20). (p. 16)

Rooted in philosophy and history of the state, governmentality critically reflects on governance research and practices. Instead of taking the goals, structures, and actors of governing

as they are, governmentality is concerned with the process of governing through the nexus of knowledge and power, which is relevant to analysing citizenship because it conceives of knowledge as having productive power as well as controlling power. In other words, the definition of citizenship creates rights and duties as well as obligations based on the knowledge of what a good citizen is. Power, in governmentality's light, is more of a fluid idea of social production through the pervasive effects of techniques, approaches, and forms of knowledge than a commodity situated and exchanged between different institutions (see Rolfe, 2018).

The governmentality approach, therefore, "move[s] away from preconceptions about what citizenship is to how citizenship is done by putting the emphasis on citizenship as a 'communicative achievement'" (McIlvenny et al., 2016, p. 74). Thus, citizenship in this post-structuralist tradition is promoted subjectivities or various subject positions created through discourses or knowledge of the problems, i.e. problematisation, and is enacted through power relations between citizens and the state cum its apparatuses. In governmentality research, therefore, the state turns from explanans to explanandum. Its questions look like: What are discourses and contents of the state and non-state actors? How are they internalised or negotiated to shape individual and community conduct? How do power relations between different social actors define such knowledge on which the governmental rationality is based?

To understand how governance practices give rise to certain types of energy citizenship, the governmentality framework focuses on analysing how discourses on energy citizenship have been institutionalised and legitimised, and hence became or are becoming hegemonic. This framework identifies how those discourses become hegemonic through four particular elements: rationalities, technologies of government, subjectivities, and technologies of the self (Rose et al., 2006).

Rationalities are the underlying reasons used by governments to resolve what it defines as existential and ethical problems such as climate change, the COVID-19 pandemic, or terrorism. They are built upon sets of knowledge and assumptions about the world that shape social relations between actors, therefore also shaping citizenship claims and rules. Rationalities legitimise technologies of government, this is, all policy instruments, bureaucratic practices, and material devices that seek to set boundaries for human actions, hence embedding mechanisms of control (Inda, 2008). Technologies of the self refers to the psychological tactics that individuals adopt to enact and survey certain desirable behaviours based on the rationalities that they internalise and on the technologies of government with which they interact (Rose et al., 2006). This creates

subjectivities, which include all the practices and feelings that individuals can experience and which are realised through technologies of the self.

Since its development from Foucault's lecture in 1978, governmentality framework has been useful in understanding the spill-over of neoliberalism from political economy and associated policies, laws, and material infrastructures into social life. From the political economy definition, neoliberalism governs at the level of the state by reducing governmental regulation and interference as well as reducing welfare provision (Crouch, 2011; Harvey, 2005). In this neoliberal mode of governance, free markets are viewed as the most efficient mechanism for distributing resources based on individual needs and desires. Attempts by governments and other institutions to plan or regulate the economy are therefore viewed as interference that undermines individual freedoms. As neoliberalism is based on the assumption that people are rational economic maximisers, collective social provision has to give way to individualism, competition, enterprise, and consumerism, which leads to changes in personal and lifestyle choices in everyday life (Binkley, 2007). This echoes Wacquant's definition of the actually existing neoliberalism "as an articulation of state, market and citizenship that harnesses the first to impose the stamp of the second onto the third" (2012, p. 1). It is the market stamp on citizenship that governmentality can particularly elucidate in current energy and market driven societies.

A governmentality approach to neoliberalism is not only enacted at state level but also at the individual level in practices of self-regulation (Lemke, 2012). This approach connects how governance practices of neoliberal economy described above necessitate a commodified consumer's self-identity as a neoliberal form of subjectivity, i.e. *homo-neoliberalus*, that internalises market values such as self-interest and competitive social relations (McDonald et al., 2017; Teo, 2018). This is generated through the liberation of individual entrepreneurial freedoms in life projects such as self-development, individual happiness, and "ethics of care of the self" (A. Carvalho & Grácio, 2022; Lorenzini, 2018; Türken et al., 2016). This so-called possessive individualism (Bromley, 2019) abstracts individuals from society through discourses and techniques of individualisation that shift regulatory competences of the state onto individual as consumers (A. Carvalho & Ferreira, 2022; Maniates, 2001; McDonald et al., 2017). Consequently, citizen-consumers are required to take greater control and responsibility for their lives and manage their own risks (Han, 2017).

According to governmentality analysis, mainstream psychology has become the technology of the self or "technique of subjectification" (Hook, 2007; Narciandi, 2019) and reproduces neoliberalism as a dominant reality (Adams et al., 2019; Sugarman, 2015). Since the discourse of "no alternative to neoliberalism" could eliminate other emancipatory discourses that challenge it, some scholars have questioned the totality of governmentality in neoliberal subject formation (Harris, 2009; Stenson & Watt, 1999). Therefore, they advocate for more attention to be paid to the process of *subjectivation,* i.e. the adoption and/or negotiation of given subjectivities by the subject themselves, which could be observed through counter-conducts (Lassen et al., 2011; McIlvenny et al., 2016). This links with the idea of *prefigurative politics* that has been increasingly discussed in energy and environmental social sciences as key to tackling climate change and promoting climate justice, and that involves considering alternative discourses and practices to mainstream, Global North epistemologies, such as communitarianism, decolonisation, degrowth, indigenous knowledge, and ethics of care for other human and non-human beings (Alatas, 2010; Cornish et al., 2016; Siamanta, 2021). The following subsections explain the construction process of neoliberal energy citizenship in greater detail and discuss its consequences.

3.3.2. The socio-psycho-political construction of neoliberal energy citizenship in the era of participatory governance

The governmentality approach argues that in participatory governance, instead of exercising a coercive power over energy citizens by discipline and punishment to force, for example, energy saving behaviours, the contemporary state governs energy practices through policies and associated discourses that mainstream energy as a commodity, governed by market dynamics and that puts the responsibility for saving or consuming energy on individual citizens. This is then made at the expense of alternative discourses, such as energy as a social necessity or as an ecological resource (Devine-Wright, 2012).

In the turn of European countries towards free market economies, official discourses at both EU and national levels have valued and applied a neoliberal rationality to all domains, including energy (Tarasova, 2018). This neoliberal rationality has been operationalised through market-driven interventions which are set to make energy production and consumption visible, calculable, and thus, governable for both energy users and the government (Szulecki, 2018). Under the banner of participatory governance, these neoliberal technologies of government have been dispersed

through a network of universities, NGOs, and civil societies that politically consent to this market logic (Rolfe, 2018). To ensure that these measures and interventions will be taken up by citizens, psychological tactics and devices such as nudging and boosting changes in energy behaviours through social norms, smart meters, and curtailed information are used (Radtke, 2022).

The state governing via citizens' freedom of choice and self-responsibility, made possible by these psychological tactics and managerial devices, thus marks the advanced liberal or neoliberal form of governmentality (Han, 2017; Rose et al., 2006). As such, governmentality unveils how citizenship in current energy governance can be co-opted by neoliberalism, which limits the political participation of citizens to market participation (B. Lennon et al., 2020). Energy citizenship, hence, becomes a means for the state to influence the conduct of people in everyday life without direct state interventions and to define who are to be considered energy citizens and who are not. For example, critical research on mobility finds that the routine of frequent, low-cost, and private travel experiences (or hypermobility) is deeply driven by the dominant neoliberal connotations of autonomy and individual freedom, and also social status in relation to personal success, as well as wider frames about national progress and economic growth (Barr, 2018).

Neoliberal governmentality is also often supported by a *risk governmentality* in our modern societies (Beck, 1992; Giddens, 1999). Critical research on risk perception, uncertainty, and trust has shown that citizens' reactions to environmental or technological risks – or their subjectivities – are influenced by the framed rationality of risk such as climate change and energy insecurity (Dean, 2010). In addition, risk construction and people's relations with uncertainty are also intensified by social factors and power relations, such as current neoliberal capitalist dynamics (Groves, 2015). This can deeply impact and menace people's values, emotions, attachments, and related well-being since they have to deal with uncertainty every day and in every domain as their own responsibility (Kaika, 2017). This includes the climate crisis, job precariousness, and housing instability (Casanova et al., 2019), and also the uncertainty generated by new energy projects such as PEDs and the infrastructures therein. For instance, Batel and Küpers (2022) have shown how the large-scale hydropower electric plants planned to be built in Portugal since the 1960s until the current day have caused significant socio-psychological impacts on affected communities even before they were built, due to the uncertainty they generated, sometimes during decades, surrounding if, when, and how they would be built and related impacts to people's homes, villages, and sense of being.

Another very important aspect to consider, especially in PEDs, is energy poverty and how it can serve as a rationality to legitimise the technocratic and top-down interventions for energy and related urban interventions (see Lamonaca & Batel, 2023; Stojilovska et al., 2022). For example, the identification of geographies of domestic and transport energy poverty in mainstream research has aided policy makers in detecting what are called *energy peripheries*, which lack access to networked energy and transport infrastructures (Robinson & Mattioli, 2020). To ameliorate these stigmatised regions of poverty and unsustainability, many cities in Europe have seen the burgeoning of *green regeneration* projects involving the renewal of deprived urban neighbourhoods with green spaces and low-carbon initiatives, but without controlling for the increase in housing market prices (Ali et al., 2020; Simcock et al., 2021). By increasing the financial and smart values of the area, this environmental gentrification often naturalises neoliberal or smart energy citizens as the ones who deserve more to stay, thus displacing vulnerable residents who are unable to afford or accommodate such renovations (Cardullo & Kitchin, 2019). As their voices and relations with their homes, neighbourhoods, and communities are marginalised, this governmental strategy to address energy and transport poverty can, paradoxically, perpetuate energy poverty and marginalisation (L. P. de Carvalho & Cornejo, 2018) or just impede Positive Energy Districts and other smart city initiatives from actually contributing to a green energy transition (Lamonaca & Batel, 2023).

3.3.3. Consequences of neoliberal governmentality on energy citizenship

The governmentality framework is helpful for discussing the consequences of the hegemony of neoliberalism on the agency and subjectivities of energy citizenship. For example, a study concerning the public acceptance of smart meters in Portugal has shown that people's lack of acceptance and use of smart meters was not only due to potential health and financial risks, but also feelings of loss of control and privacy (Guerreiro et al., 2015). Similarly, a study on smart meters in France points out that citizens complained about the pre-setting of some home devices that they are unable to turn off, as they lose their capability to control and thus their sense of agency in their interaction with energy facilities (Bertoldo et al., 2015; Marres, 2012; Sadowski & Levenda, 2020).

Another consequence of neoliberal governmentality on risk and uncertainty is the tension between citizen and state responsibilities in mitigating these risks and uncertainties. A neoliberal

governmentality promotes personal responsibility in order to reduce risk, e.g. moving home and place of living as soon as possible when an area is becoming gentrified to avoid being the only neighbour left behind and psychologically displaced (Bouzarovski et al., 2018). However, the accountability for managing risks should lie with those who create and propose them (Bickerstaff et al., 2008; Rolfe, 2018).

As such, governmentality research in *political ecology*, which is how and why economic structures and power relations shape environmental change, has been moving away from normative, aspirational, and utopian justice imperatives, which are more characteristic of mainstream approaches. Instead, it focuses on highlighting the unjust consequences of current capitalist political economies within an intersectional, decolonial framework (K. E. H. Jenkins et al., 2020; Menton et al., 2020). For instance, Dunlap and Sullivan (2020) term the problem of distributive injustice as accumulation-by-alienation following Harvey's (2018) accumulation-by-dispossession, in which an economic value is abstracted from ecological systems, in this case land and energy resources, while alienating their symbolic relation to humans in order to quantify them, commodify them, and buy them out.

Nevertheless, not much research has examined how effective governmentality is in shaping citizens' desirable subjectivities in practice, particularly regarding people-energy relations. Some exceptions are research using social practice theory that shows that rhythm of life, working schedules, and infrastructures are structural constraints to changing routines, counter to *dispositifs* or technologies of government (Murtagh et al., 2014; Sovacool et al., 2018). As such, more structural, political, and economic changes must happen besides nudging and boosting techniques to allow for less energy intensive practices that can avoid rebound effects and to accommodate other types of energy citizens beyond the individualist consumer and prosumer, such as activist, caregiver, and steward of nature (Schneider et al., 2010).

In sum, governmentality criticises the co-optation of participatory governance by neoliberalism, which achieves its expected result by shifting responsibility from the state to citizens. While governance scholars often analyse the shift from government to governance mentioned above as a benign and inevitable step-back of the state to empower energy citizens, governmentality scholars argue that the step-back of the state is actually a step-into the private sphere of individuals (Rolfe, 2018, p. 580) that obliges energy citizens to control their conducts according to energy citizenship ideals. However, how subjectivities are lived and experienced by

the subject as well as the socio-psychological consequences of neoliberal governmentality have been underexplored. As McIlvenny and colleagues (2016) point out, not much research in governmentality looks at "how citizens negotiate relations among themselves and with other social actors, rather than with forms of institutionalized governance of citizens" (p. 74). This makes it important then to further scrutinise and discuss the meaning-making of energy citizenship, how it is experienced, and how it can be negotiated from the perspective of another theory of social psychology that acknowledges more agency in people's representing energy citizenship, which will be discussed in the next chapter.

CHAPTER 4

THEORETICAL FRAMEWORK

A critical social psychology approach to the meaning-making of energy citizenship[5]

This chapter constructs an interdisciplinary theoretical framework and methodological approach from the critical social psychology of energy citizenship, especially from social representation theory (SRT). As the previous chapter discussed, critical scholars find mainstream psychological research in energy governance to skew mostly to the quantitative, causal effect of socio-psychological factors in order to steer energy behaviours, while less attention has been paid to understanding the dialectical relation between them. This turn to psychology technologies in policymaking not only leads to prominent energy behaviour interventions in citizen's private sphere, such as smart meters, but also a widespread socio-cultural project that promotes positive psychology and self-entrepreneurship (Bertoldo et al., 2016; Guerreiro et al., 2015; Sugarman, 2015).

On the other hand, scholars of cultural psychology as well as sociological socio-psychology criticise this positivist-apolitical-individualistic approach and raise concerns about the consequences of the "commodification of self-identities" in many other aspects of life, including civic obligation (Adams et al., 2019; McDonald et al., 2017). According to Arland D. Weeks (1917), the first author publishing about the psychology of citizenship, the collectivistic notion of citizenship that advocates for common good over individual interest is overshadowed by the hegemonic "psychology of neoliberalism" (Loredo-Narciandi & Castro-Tejerina, 2013). This reinforcement of liberal individualism risks ruling out social commitment by the process called "radical abstraction of self from the context" (Adams et al., 2019). Thus, this leads to the corrosion

[5] This chapter is partly based on the published papers of the author of this thesis:

Nguyen, M. T., & Batel, S. (2021). A Critical Framework to Develop Human-Centric Positive Energy Districts: Towards Justice, Inclusion, and Well-Being. In *Frontiers in Sustainable Cities* (Vol. 3, p. 88). Frontiers. https://doi.org/10.3389/frsc.2021.691236

Nguyen, M. T., & Batel, S. (2024). Which energy citizenship in positive energy districts? A governmentality social psychological analysis of participatory governance. *Journal of Environmental Policy & Planning*. https://doi.org/10.1080/1523908X.2023.2291386

of character and erosion of democratic participation that are crucial for a just energy transition (Sugarman, 2015; Szulecki, 2018).

This chapter will explain how critical social psychology of citizenship could bring more insight into the meaning-making process of energy citizenship through the lens of social representation theory (Andreouli, 2019). By joining this theory with the governmentality and governance approaches to energy citizenship discussed in the previous chapter, we will discuss the implications of this critical social psychology approach to energy citizenship to examine and promote just and inclusive PEDs.

4.1. Critical social psychology approach to energy citizenship

Citizenship as a research problem was almost absent from social psychology as an academic discipline until ten years ago (Condor, 2011), and, when present, was mostly used to refer to national citizenships and related rights to be obtained within liberal democracies (Andreouli & Howarth, 2013). On the contrary, more recent and critical socio-psychological approaches to citizenship (e.g. Anderson & Gibson, 2020; Andreouli, 2019; Barnes et al., 2004) have expanded that normative approach to other uptakes of citizenship, based on everyday practices and prefigurations of other ways of doing citizenship. This battle over the meaning of citizenship is mostly enacted from minority, marginalised, and vulnerable groups and communities through their struggles related to meaning (Andreouli, 2019).

This critical social psychology approach to citizenship investigates how people make sense of citizen roles and negotiate different forms of citizenship, and when applied to environmental (Fonseca & Castro, 2022) or energy domains (Devine-Wright, 2012), how they make sense of energy citizenship. It especially examines the consequences of the hegemonic neoliberal model of energy citizenship as individual rights and duties in opening up or closing down other alternatives. For example, by making the "individual hold themselves accountable for whatever does, or does not, occur to them" (Furlong, 2016, p. 232), neoliberal energy citizenship ignores the shortcomings and injustices of the dominant capitalist economy by seeing energy poverty as a natural outcome of individuals' failure to be more energy efficient (Simcock et al., 2021). Therefore, this rules out the potential for energy citizenship to also mean engaging in meaningful decision-making processes and even overtly and directly contesting energy-related social injustices (Sadowski & Levenda, 2020).

In turn, the critical social psychology approach to citizenship is necessary to help us identify and promote counter-conducts to current neoliberal governmentality (Andreouli, 2019; Andreouli & Brice, 2022; Andreouli & Howarth, 2013). It does not only see citizenship as conforming to or complaining about conventional, well-established political rules and scripts, but also as making rights claims that disrupt prescribed, pre-existent rules and advocate for transformative actions (Andreouli, 2019; Pradillo-Caimari et al., 2023). From the dialectic relationship between stable hegemonic representations and their potential alternatives, a neoliberal form of energy citizenship such as prosumerism could potentially be contested and renegotiated to demand that PED related initiatives are only implemented within a degrowth ethos[6] and that they do not lead to green gentrification (M. Lennon, 2021). These actions could also prefigure other practices that are more communitarian, inclusive, and mindful of the well-being of all (Nguyen & Batel, 2021).

To that end, the critical social psychology approach to citizenship proposes that it is as important to examine how citizenship is reified in macro-social, institutional processes – following a governmentality approach – as it is to examine how it is appropriated and negotiated in micro-social interactions and spaces, such as in everyday practices and in local communities. According to social representation theory (Moscovici, 2001) , it is through this interaction between macro and micro processes that social change and new forms of citizenship can be negotiated and created (Batel & Castro, 2018). The following subsection, thus, introduces social representation theory and explains why it is needed in complementing the governmentality approach in critical social psychology of citizenship.

4.2. Social representation theory and an interdisciplinary framework to energy citizenship

Social representation theory is rooted in the European social psychology tradition, which "concerns with intergroup and societal phenomena", in distinction with the American social psychology tradition which is dominated by "behaviorism,...cognitivism,... and individualism" (Deaux & Philogène, 2001, p. 3). It was first developed by Serge Moscovici in 1961 when he observed how scientific knowledge of psychoanalysis had become public's common sense in

[6] By definition of (Kallis et al., 2018), degrowth signals a radical political and economic reorganisation leading to reduced resource and energy use. It is rooted in scholars and activists' critiques of the dogma of economic growth that contributes to the negative material, social, and ecological effects.

everyday communication (Moscovici, 1961). From this seminal work, the definition of social representation has been developed as:

> […] systems of values, ideas and practices with a twofold function: first to establish an order which will enable individuals to orientate themselves in their material and social world and to master it; and secondly to enable communication to take place among the members of a community by providing them with a code for social exchange and a code for naming and classifying unambiguously the various aspects of their world and their individual and group history. (Moscovici, 1973, p. xiii) (see Höijer, 2011)

The first function of social representation is achieved through the mechanism of *anchoring*, or classifying the unfamiliar object and phenomena into pre-existing categories and identities (Moscovici, 1984). Meanwhile, the second function is achieved through *objectification*, the mechanism of turning abstract ideas into concrete objects and shared realities that enable groups to communicate among each other and navigate the world around them. Setting itself apart from the tradition of social representation as product of weak social-constructivism that focuses on "cognitive factors and the processing of information" (Castro, 2015, p. 298), the strong social-constructionism approach to SRT sees social representation as a process by which we construct and transform reality (Batel & Adams, 2016; Batel & Devine-Wright, 2015). Thus, it conceives representing or meaning-making of new events or objects as a process that involves both self and other (Marková, 2003; Moscovici, 1972). Within this dialogical triangle of self-other-object, *reflexivity* is a key social representation mechanism when the subject re-examines the meaning of the event or object through the relation with the other – individual, group, institution (Marková, 2003).

This latter representational mechanism is especially important to understand social change by identifying or creating new, alternative, prefigurative forms of knowledge and practices of energy citizenship. These allow diverse, conflicting kinds of knowledge to exist, coined by Moscovici (1961) as *cognitive* (or *discursive* (Batel, 2012)) *polyphasia* (Marková, 2003). Reflecting on the power of different social representations in the "battle of ideas", Castro (2015, p. 299) commented that "representations are not all equal and undoubtedly do not voice equally well all the groups that a society harbours at given moment" (Castro, 2012; Jovchelovitch, 2007; Moscovici, 1988). This is also emphasised in Batel & Devine-Wright's 2015 paper, which considers that

"representations differ not only in their content, but also in their type – they can be more or less pervasive or hegemonic (Moscovici, 1988), they can be more or less legitimised in societies (Howarth, 2006)" (p. 319). This makes it relevant then to consider the distinction between hegemonic, emancipated, and polemic representations (Howarth et al., 2014)

Hegemonic representations are shared knowledge and meanings that are comparatively stable across time, and are hence mostly controlled by a core of concepts (Moscovici, 2001). For example, as discussed above, under neoliberal governmentality, the representation of individuals as self-interested is a long-held set of ideas, affects, and practices about human nature that has been produced by psychology as a discipline and that current energy policies often draw upon (Räthzel & Uzzell, 2019). Emancipated representations are "the outgrowth of the circulation of knowledge and ideas belonging to subgroups" (Howarth et al., 2014, p. 28). Very often, emancipated representations emerge from minority groups who struggle for their rights or their group's recognition, but also make use at least to some extent of hegemonic meanings in order to negotiate and stabilise recognition throughout time (Batel & Castro, 2015; Schick, 2022). Polemic representations are conflicting values that society as a whole does not share and are often expressed through protests and other forms of more radical and disruptive collective action (Sovacool & Dunlap, 2022). They often express incompatible or even incommensurable ontologies (Schelly et al., 2021) and therefore, have the power to uproot the normalisation of dominant discourses and challenge the status quo.

While some other theories in social psychology such as social practice theory and social identity theory might be more suitable to understand the stability of meanings and identities that make some citizenship actions become habitual, SRT might be better equipped to understand how those meanings change, or how individuals and groups negotiate and legitimate new actions vis-à-vis old ones (Bertoldo et al., 2015; Guerreiro et al., 2015). As the aim of research within a social representations perspective is to question scientific knowledge – "is it to support or to criticize the social order? Is it to consolidate it or transform it?" (Moscovici, 1972, p. 23), the theoretical framework of this thesis takes the power and socio-psychological impacts of certain representations to heart and approaches energy citizenship from a constructionist perspective (Andreouli, 2019). The quote from Howarth and colleagues (2014) below summarises the need of SRT in critical social psychology of citizenship.

> It is precisely this focus on the oppositions or dialectics of everyday life that makes SRT a particularly useful approach for a political psychology of participation, citizenship and social change (Elcheroth et al, 2011). SRT highlights the potentially transformative, on-going, unsettled or incomplete nature of social relations; it depicts a social world that is always a social and political construction. Central to SRT is the ability of social actors to debate their ideas. (p. 17)

In so being, social representation theory complements governmentality in examining the psychologisation of neoliberal subject making (Teo, 2018). Theoretical research in this field explains that by addressing or implying the role of citizens as energy consumers, this social representation, or shared belief, is internalised and shapes citizen's homo economicus subjective norms, rendering less agency for them to challenge and change the existing social and economic structure (Batel et al., 2016). Past research also shows how the hegemonic representation of neoliberal energy citizens can stabilise conventional scripts of citizenship such as accepting renewable energy projects (Batel & Devine-Wright, 2020) or adopting individual behaviour changes for climate mitigation – "Plant a Tree, Buy a Bike, Save the World?" (Islar & Busch, 2016; Maniates, 2001).

By focusing on "what social representation does rather than what it is" (see Howarth, 2006), the power of SRT is to analyse the consequences of the reproduction of neoliberal subjectivity on civic obligation (Adams et al., 2019). By nudging citizens into being neoliberal subjects as smart consumers or prosumers, the neoliberal representation of energy citizenship reinforces individuals' responsibility to adjust their behaviour while neglecting their limited agency and capabilities. As a result, energy users not only experience pressures from financial, technological risk, and marginalisation from structural energy decisions but also cannot come together collectively to demand systemic change or negotiate the rearrangement of social practices amongst themselves, which is an alternative collective position for energy citizenship (B. Lennon et al., 2020). Therefore, SRT addresses crucial questions of inequality and exclusion in citizenship formation by focusing on also the common sense of everyday distributive, recognition, and procedural (in)justice and lived experiences of risk, uncertainty, routines, and people-place relations that citizens socially share (see previous chapter and below). This interdisciplinary framework of critical social psychology of energy citizenship is summarised in figure 4.1.

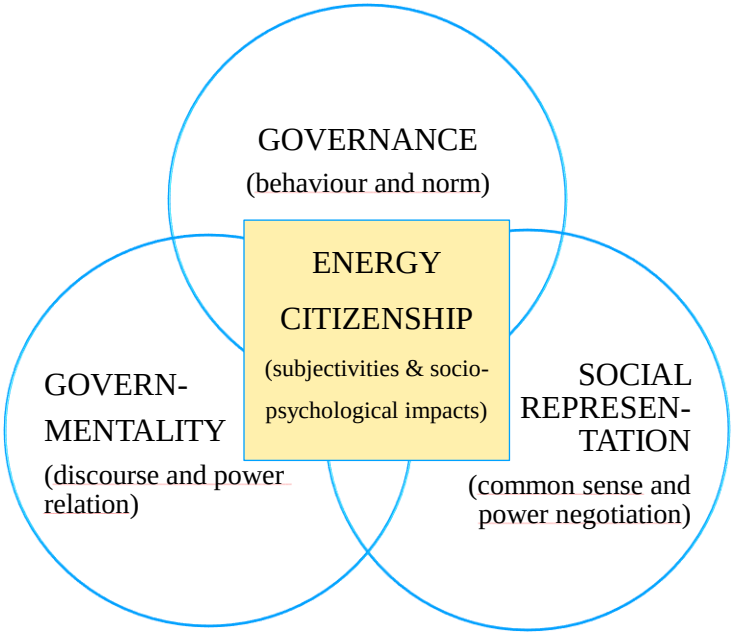

Figure 4.4 *Critical social psychology framework of energy citizenship*

A critical social psychology approach to energy citizenship with energy citizenship as subjectivities and socio-psychological impacts (e.g. risk, uncertainty, and trust; distributive, recognition, and procedural justice; routines and capabilities) can challenge the stable, fixed view and legitimisation mechanisms of conventional scripts to citizenship. This helps to reconstruct alternatives that transform the meaning of energy citizenship to be more relevant to the context where they are enacted. In dialogue with the mainstream approach to energy citizenship and complementing the governmentality approach, a critical social psychology approach to energy citizenship can be relevant to examine just and inclusive PEDs in several ways.

A critical approach to energy citizenship does not focus on the artificial and stereotypical distinction between supposedly subjective lay perceptions and objective expert knowledge about risks and uncertainties. Rather, it overcomes the deficit model of the public or the idea that the public only needs to be provided with technically relevant information in a sufficient and easy to understand way (Rodhouse et al., 2021). A critical turn to the social and political construction of risk emphasises instead the "politics of uncertainty" that shape contemporary societies (Beck, 1992; Giddens, 1999). This perspective critically challenges the singular and homogenous definition of risk and uncertainty prevailingly put forward by techno-scientific and political experts (Scoones et al., 2020). It thus allows open discussion about who wins and who loses when uncertainties and risks are proposed, negotiated, and tamed by different stakeholders (Groves,

2015; Scoones & Stirling, 2020). In other words, it clearly reveals and examines how certain risks and harms are construed in certain ways by specific groups, such as "harmless smart meters" as presented by energy companies in order to pre-empt potential resistance to their deployment by the public (Guerreiro et al., 2015). We can also consider presenting to the public the Dutch heat transition as a "technical, complex, urgent, sensitive, and high-risk", which can lead vulnerable households to feel like they have less agency and active role to play in this collective decision-making process (Rodhouse et al., 2021, p. 10). The internalisation of risk as individual responsibility, instead, legitimates the energy efficiency imperative at an individual level. As an alternative practice to this neoliberal representation of energy citizenship, Itten and colleagues' study (2021) has shown that co-creation is a potential solution for sustainable heat transitions, as it allows citizens and homeowners' to share what heating means to them. In turn, this has helped stakeholders to include those meanings in their energy programme design.

In summary, the critical social psychology framework of energy citizenship that this thesis develops not only allows us to examine how discourse and power relations (from the governmentality approach) shape citizens' experiences of certain energy behaviours and norms as good or bad (from the governance approach), but also how citizens and stakeholders used common sense of what is good or bad to renegotiate their power (from the social representation approach).

4.3. Research questions

The intersections between these disciplines and framework help address the following research questions:

1. How is energy citizenship represented and experienced through participatory governance in PEDs?
2. Is participatory governance in PEDs reproducing or challenging neoliberal governmentality?
3. What consequences/implications do different representations of energy citizenship have on just and inclusive PEDs?
4. What are possible prefigurations or alternatives that could foster transformative energy citizenship for sustainable PEDs at all levels (environmental, social, cultural, economic)?

By using the integrated theoretical framework of governmentality and social representation to answer these research questions, we focus on the analysis of discourse and communication based on a socio-constructionist approach (Burr, 1995). This is drawn on the concept of *discourse* from Michel Foucault's Archaeology of Knowledge (Arribas-Ayllon & Walkerdine, 2017), which proposes that people's conversations and language use do not objectively reflect their understanding and world view and also construct social reality and power dynamics. Wetherell (1998) highlighted how Foucauldian critical discourse analysis differs from other forms of discourse analysis by focusing on broader social and historical contexts that shape and are shaped by discourses. Specifically, it emphasises the role of power in the production and maintenance of knowledge, discursive formations as organised patterns that regulate what can be said in a certain domain, as well as subject positions or the range of actions and identities that individuals could take up within a discourse (see also Kurz et al., 2005). This critical discourse approach fits also with the critical strand of social representation theory, where it meets discursive and rhetorical psychology (Batel & Castro, 2018; Howarth, 2006). In other words, SRT and governmentality framework see energy citizenship subjectivities as a "communicative achievement" because "through communicating our understanding, we convert these systems of values, ideas and practices into a social reality, for others and for ourselves." (Howarth, 2011, p. 160)

An integrated framework of SRT and governmentality bridges the methodological gap in citizenship research by studying the discursive process of its stability and change at both macro, meso, and micro-social levels, which is to say, the institutional, mediating, and consensual universes (Batel & Castro, 2009). The following empirical chapters, therefore, will address the research questions first by introducing more details for the empirical context of the Torres Vedras case study in Portugal. Then, the results of three studies with more detailed methods and analytical procedure help examine how energy citizenship content, process, and power are institutionalised (Chapter 6), mediated (Chapter 7), and consensualised (Chapter 8).

CHAPTER 5

TORRES VEDRAS CASE STUDY

A potential Positive Energy District in Portugal [7]

Torres Vedras is the largest municipality in the district of Lisbon (Figure 5.1), located approximately 50 km north of the capital and in the *Oeste* (West) subregion of Central Portugal. The municipality covers an area of 407.20 km2 and has 20 km of coastal area with more than 22 beaches (Câmara Municipal de Torres Vedras - CMTV, 2020). It is renowned for its agricultural variety and its vineyards, which makes the municipality the largest producer of wine in the country. Retail trade, metallurgy, and tourism are other important sectors of the local economy. The whole municipality is home to 78,530 people and is divided into several smaller urban areas, of which most have less than 2,000 inhabitants (CMTV, 2020o; Pordata, 2019). Torres Vedras town represents 22% of the population residing in the municipality, amounting to almost 18,000 people. Administratively, the municipality is divided into 13 civil parishes (*freguesias*) (Assembleia Da República, 2013). Culturally, Torres Vedras is famous for its carnival, a popular art event that represents the associative culture of the town.

[7] This chapter is based on technical reports of Smart-BeejS deliverable 4.2 and deliverable 6.4 that the author of this thesis contributed to:

Akhatova, A., Bruck, A., & Casamassima, L. (2019). *Techno-economic Aspects and Pathways towards Positive Energy Districts Status quo and framework conditions as a basis for developing techno-economic pathways in selected case studies.*

Derkenbaeva, E., Galanakis, K., Heinz, H., & Stathopoulou, E. (2022). *Business Models and Consumers' Value Proposition for PEDs -Value Generation Systems for PEDs: Archetypes for a Networked Europe, 2040: Foresight Report.*

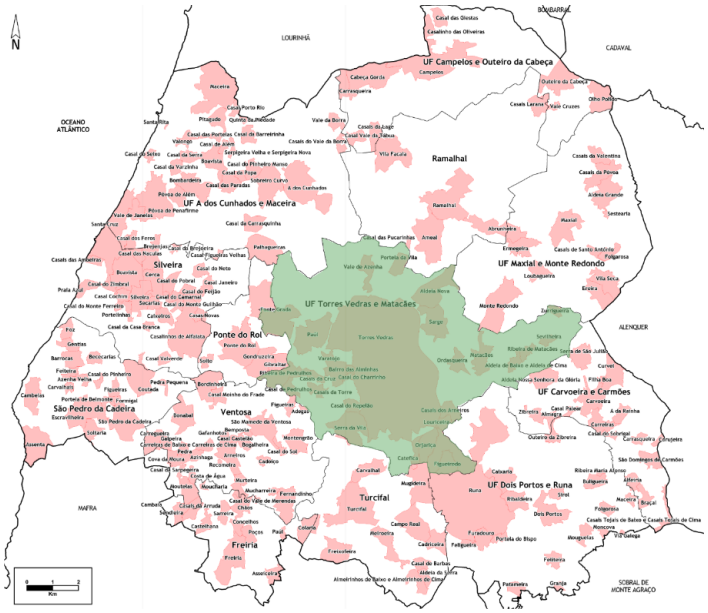

Figure 5.5 *Municipality of Torres Vedras (Torres Vedras parish in green)*

Torres Vedras is interested in a city-wide PED. With their key priorities in transforming the transport system and social inclusion of citizens, the city received the European Green Leaf Award for sustainability initiatives in 2015. This includes the introduction of bike sharing, installation of EV charging stations, bus stops in key spots, purchase of electric buses, construction of bike lanes, and traffic control infrastructure. Particularly, citizen participation in planning is highly encouraged. However, there are key challenges for PED status such as a high share of private transportation due to a large number of commuters, disadvantages in using intraregional public transport, and cultural/habitual reasons. In addition, the geographically dispersed population of Torres Vedras impacts transportation choices. Therefore, the current emission reduction plan has been focusing on heavy vehicles such as trucks and waste collection for agricultural products, but few direct energy efficiency plans have been set for end users.

Apart from transportation, electricity is used for the majority of energy services in Torres Vedras. Renewable energy production is on the rise with solar panels in public places and wind turbines around Torres Vedras that are connected to the main grid. Beside hydroelectric and wind power as two main renewable energy sources, wave power and hydrogen are other emerging energy innovations in the region.

To give an overall context of Torres Vedras as a potential PED case study, this chapter will go through the policy framework conditions in Portugal and Torres Vedras relating to energy,

sustainability, and urban planning, building conditions and their thermal comfort, the energy system and its relevant stakeholders, as well as urban infrastructure for sustainable mobility. The chapter will conclude with some remarks to justify the selection of Torres Vedras as the case study, setting the basis for the subsequent empirical chapters.

5.1. Policy framework

In Portugal, local and renewable production has both strategic and environmental importance. The government has announced its aim to transition to a completely carbon-neutral economy by 2050, producing 80% renewable electricity by 2030. The third National Energy Efficiency Action Plan (NEEAP 2017-2020) has set even more ambitious targets despite economic difficulties. With this plan, Portugal aims at reducing the primary energy in all state-owned facilities by 25-30% by 2020 (International Energy Agency, 2016b). Torres Vedras municipality endorses and implements national plans for decarbonisation of the economy such as the National Strategy for Sustainable Development, the National Strategy for Biodiversity and Nature Conservation, and the National Strategy for Climate Change Adaptation (CMTV, 2020d). These national directives represent the starting point for local action implemented by the municipality through *Estratégias Municipais de Adaptação às Alterações Climáticas* (EMAAC – Municipal Climate Change Adaptation Strategies). This is also the basis for the commitment to the Covenant of Mayors, of which the municipality of Torres Vedras is part since 2010. All these commitments cumulate in the decision to reduce carbon emission by 29% and electricity consumption by 21%, compared to 2009 levels, before 2020 (Convenant of Mayors, 2020; European Commission, 2020).

Torres Vedras is also a signatory of the Aalborg Charter initiative to set the notions for sustainable economic and social development in cities since 1994 (Sustainable Cities Platform, 2010, 2020). In 2007, the municipality initialised the implementation of the Aalborg Charter, starting the first phase of Local Agenda 21, a plan to reach a just, inclusive, and sustainable community. One year later, Local Agenda 21 started its second phase, which introduced the intervention strategy and action plan through a collaborative and participatory process (CMTV, 2020q). Finally, in 2015 the Torres Vedras Agenda 2030 made its appearance as a successor of Local Agenda 21. This new plan implements the UN's Sustainable Development Goals and represents a solid continuity with all previous efforts (CMTV, 2020q). These pledges demonstrate

a long-term commitment in principles towards improving the environment, expanding renewable energy generation, and citizen participation.

Over the years, the municipality has invested in developing active mobility, renewing and renovating public transport, expanding renewable energy production within the energy sources of the municipality, and extending the network of public spaces to improve quality of life and increase citizens' connection with nature (CMTV, 2020n). To further strengthen continuous citizen participation in the green transition, the Municipal Chamber, in cooperation with NASA, built the new Environmental Education Centre, where children learn about recycling, mobility, climate change, sustainability, and nature conservation, creating environmental awareness (CMTV, 2014). For these and other environmental achievements, Torres Vedras was awarded the European Green Leaf Award in 2015 (Figure 5.2) (European Commission, 2015).

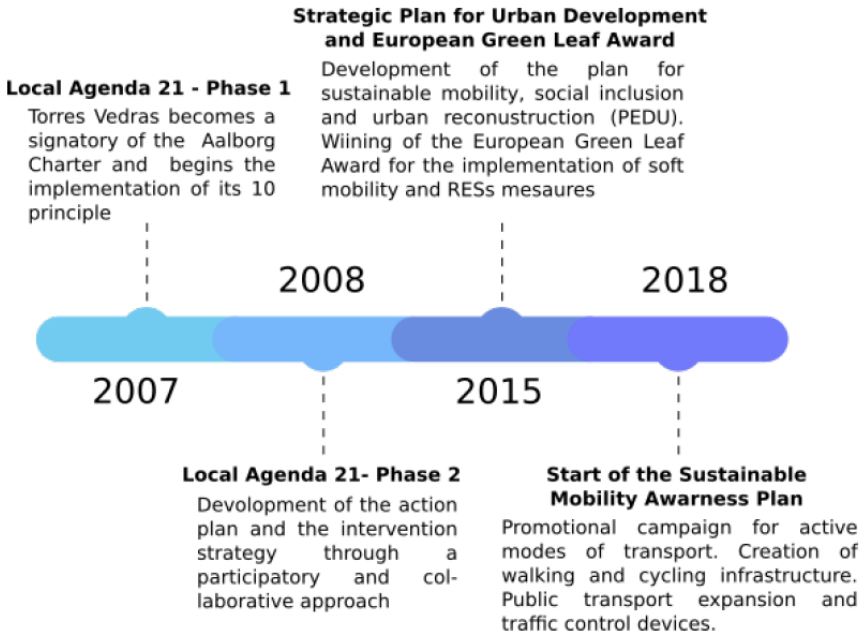

Figure 5.6 *The climate and energy policy pathway of Torres Vedras*

Recently, much of the municipality's efforts have been directed towards active mobility and utilisation of the mobility system, in parallel with an effort of modernising the built environment and reducing inequality. As part of the program Portugal 2020, the national initiative to meet Europe's 2020 goals, the municipality of Torres Vedras has developed a comprehensive program

called Strategic Urban Development Plan (*Plano Estratégico de Desenvolvimento Urbano* – PEDU) (CMTV, 2020n). PEDU included three instruments, with a budget of 12.5 million euros:

- Action plan for sustainable urban mobility (*Plano de Ação de Mobilidade Urbana Sustentável* – PAMUS) – implementing soft mobility measures such as bike sharing and EV car sharing. It created pedestrian only areas, constructed bike lanes, and strengthened public transportation (CMTV, 2020a, 2020k, 2020n)
- Action plan for urban reconstruction (*Plano de Ação de Regeneração Urbana* – PARU) – regeneration and requalification of public spaces, renovation of buildings to decrease energy consumption (CMTV, 2020h, 2020s).
- Action plan for integrating disadvantaged communities (*Plano de Ação Integrada para as Comunidades Desfavorecidas* – PAICD) (CMTV, 2020i, 2020j, 2020r) – improving social inclusion of vulnerable areas.

Following the European Union's strategic framework for the coming decades, Portugal has developed a new plan for the 2020s to decrease greenhouse gases emissions further and increase the share of renewable energies. The vision includes the legal recognition of Energy Communities from the start of 2020, which are of vital importance in fostering renewable energy self-consumption and self-production without putting too much stress on the national electric grid.

Citizen participation is encouraged through the Torres Vedras Participatory Budget (*Orçamento Participativo de Torres Vedras*). The local population has the opportunity to propose their own ideas and projects to the city council. The range of topics that can be proposed varies significantly, ranging from education and youth to transportation, housing, and public spaces. The city council redirects a total of 300,000€ to finance the winning ideas, which are chosen by the same citizens through an online portal (CMTV, 2020g, 2020f).

5.2. Building stock and thermal comfort conditions

The region of Torres Vedras has a temperate climate with almost no extreme weather, but thermal comfort is considered as significant issue because the energy efficiency of buildings is one of the worst across Europe and the GDP per capita is the lowest in Western Europe. Currently, there are more than 33,000 buildings (estimated values for 2019) dedicated to residential use in various forms (apartments, villa, multi-storey, etc.) for a total of almost 46,000 dwellings (Pordata, 2020c, 2020b). In 2011, there were only 169 non-residential buildings in the area of Torres Vedras

(Pordata, 2020d). Since 2009, there has been a steep decrease of heat demand in Portuguese apartments (ODYSSEE-MUREE, 2020).

5.3. Energy system and relevant stakeholders

The Portuguese electricity and gas markets are regulated by the Energy Services Regulatory Entity (*Entidade Reguladora dos Serviços Energéticos* – ERSE) (ERSE, 2020a). The only state-licensed Transmission System Operator (TSO) in Portugal is National Energy Networks (*Redes Energéticas Nacionais* – REN), who, along with electricity distribution, manages natural gas (REN, 2020). The main distribution system operator (DSO) in Portugal for high, medium, and low voltage grids is *EDP Distribução* (or E-Redes). While the high and medium voltage distribution grids are operated by EDP completely, the low voltage gird is controlled under concession agreements. In total, EDP Distribução manages around 99% of Portugal's mainland distribution grid. The small exceptions are electricity cooperatives and prosumers (International Energy Agency, 2016a; Portugal Energia, 2020). Since 2013, customers in Portugal can choose among a variety of suppliers, such as, Endesa, Galp Power, Iberdrola Generación, though EDP still has a dominant position (ERSE, 2020b).

Portugal evolved from a fossil-based electricity generation with a share of hydro to a system that generates approximately 51% of its yearly supply by renewables in 2019 (APREN, 2020). In certain months, such as December, renewables deliver up to 77% of overall generation (APREN, 2020). This occurs especially due to the growth of wind power generators (23.8% in May, 2020). Contributing almost 3% to the generation mix (May 2020), solar PV is also on the rise (APREN, 2020). Another interesting fact visible in Figure 5.3 is the excess production between 2016 and 2018, which was exported to the economic benefit of the country (Rödl & Partner, 2020).

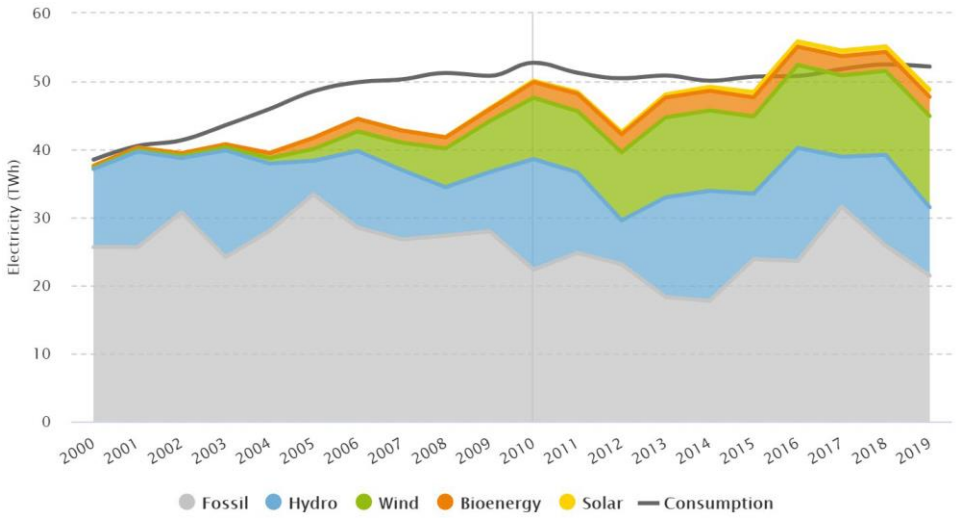

Figure 5.7 *Mainland Portugal electricity generation mix over time* (APREN, 2020)

From a more local perspective, wind power plays an important role in the Torres Vedras municipality as well. Within the municipality, there are 12 wind farms with a total of 57 turbines and an aggregated capacity of 112 MW. This corresponds to approximately 260 GWh of electricity generation annually and 600,000€ in municipal income. Additionally, an aggregated potential of 650 kWp solar PV is installed in the area, 5 micro wind turbines, and two CHP plants (CMTV, 2020c).

The shares of different final energy use, such as electricity, heat, or transport, have not been identified for Torres Vedras at this stage of research. Only the electricity demand per capita provided in Pordata can give an insight on energy demand (see Figure 5.4). An 11% decrease in total consumption between 2010 and 2017 is observed (Pordata, 2020a). However, since 2013 the demand had an increasing pattern. This occurred despite Torres Vedras experiencing a slight decline in population over the last years (Pordata, 2020a). Non-domestic consumption, which refers mainly to offices and services, did not change much over the 9 years. Industrial electricity consumption declined until 2015 and then rose again. Thus, it can be assumed that the initial decline is not due to efficiency improvements, but rather due to fluctuations in industrial activity.

Notable is the decrease of consumption by public buildings by around 70% (Pordata, 2020a). This indicates a need for further research investigating whether this change is related to efficiency improvement measures to meet the pledges on reducing CO2 emissions or other issues. For example, in 2010, under the Covenant of Mayors network, Torres Vedras committed to reducing its CO2 emissions by 20% by 2020 in relation to 2009. Already in 2014, the municipality reached

a CO2 emission reduction of 17% by emitting 326.9 kt of CO2 (CMTV, 2020b). Although total electricity consumption per capita increased slightly after 2014 (Figure 5.4), this does not necessarily need to go hand in hand with a CO2 emission increase. In fact, this could mean the opposite if electricity generation has a high renewable share and the increase is associated with the electrification of previously emission-intensive activities, such as transport.

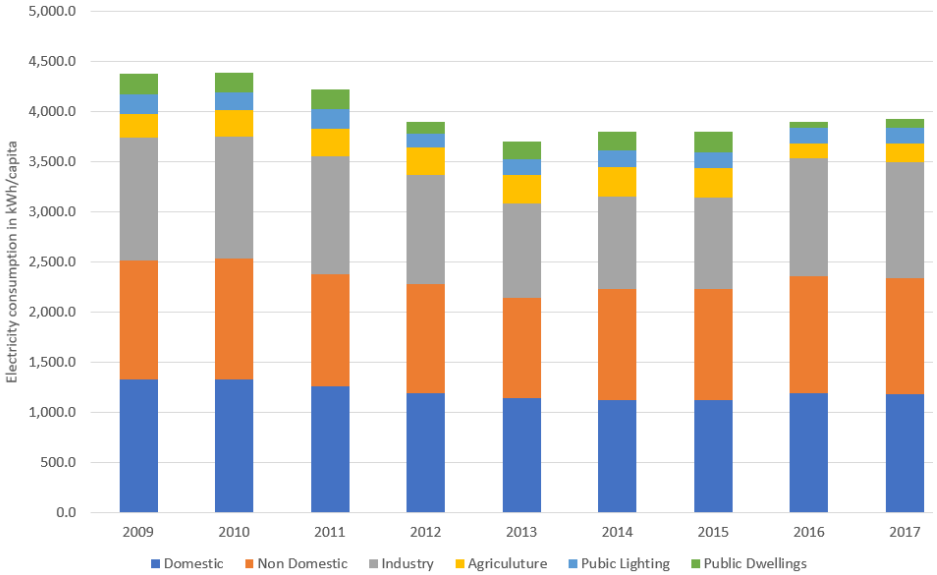

Figure 5.8 *Electricity consumption per capita in Torres Vedras municipality*

(Pordata, 2020a)

5.4. Mobility and the transition to sustainable mobility in Torres Vedras

The modal split in Torres Vedras experienced a drastic change between 1991 and 2001. Active modes, such as walking, declined from 49% to 30%, while the share of private cars grew from 33% to 55% (CIVITAS, 2020). The transportation sector had the highest energy consumption (34% in 2009) (Hyer, 2020). However, recently the municipality has started to change the situation and is actively transforming its infrastructure and encouraging people to shift towards sustainable options.

5.4.1. Active modes of mobility

The modal share of walking trips in the municipality is on average 28% (CMTV, 2020e). However, in some parts of the municipality, like the parishes of Ponte do Rol and Ramalhal, it is over 40% (CMTV, 2020e). In fact, intra-parish trips there represent around 63% of overall resident trips

(CMTV, 2020e). However, there's a significant share of short-to-medium distance journeys made by car (42% of trips lasting up to 5 min and 54% of trips lasting up to 10 min) (CMTV, 2020e). This demonstrates that there is still a potential for transferring those trips from motorised to active modes. Thus, the Municipality of Torres Vedras has been promoting actions that contribute to boosting modal switch, which are described below (CMTV, 2020e).

The Sustainable Mobility Awareness Plan includes some concrete steps to promote walking. For example, the Metro/Minute Map of the City of Torres Vedras was created (CMTV, 2020m). It includes distances and average walking times between the main landmarks of the city using pedestrian streets, crossings, and staircases, which can shorten the path between city services. Furthermore, a set of awareness-raising campaigns have been realised: for road safety, for disciplined parking, and safe driving, cycling, and walking for seniors (CMTV, 2020n). In addition, other measures include a promotional film that addresses several projects within the Strategic Urban Development Plan (CMTV, 2020n), such as the installation of arrival and confluence stops, real-time road information systems, and intelligent traffic control systems, the extension of the city's bike sharing scheme, and the construction of the Torres Vedras urban cycling lane network (CMTV, 2020p).

The latter two actions to encourage cycling encompass specifically:

- implementing an urban bike sharing system – Agostinhas – with 19 stations and around 844 users;
- constructing and renovating a structured cycling network in the city –12 km in total;
- creating bike lanes around territories of environmental and urban interest (e.g. Barro, nearby beaches, Rio Sizandro);
- the amendments to the National Highway Code from 2013 that give some priorities to bike users (BTTCLUB, 2020; CMTV, 2020e, 2020o).

5.4.2. Public transport

Public transport within the city consists of a bus fleet operated by Barraqueiro Oeste – called TUT25 (CMTV, 2020e). It currently has 4 lines. In one of those lines – the Blue Line – electric buses have been tested since Autumn 2019 (CMTV, 2020m).

A step to encourage people to use public transport was the building of 12 new bus stops in strategic locations of the city, where significant volumes of passenger transfer occur (CMTV,

2020p). These stops are built by considering accessibility conditions for users with reduced mobility and are equipped with private bicycle parking to aid intermodality, device chargers, and Wi-Fi (CMTV, 2020p). Furthermore, the Barraqueiro Group will test the operation of an *opportunity charging solution* (CMTV, 2020m). This type of fast charging between circulations extends the operational autonomy of the vehicle, reducing the penalty of efficiency, weight, and investment associated with "traditional" electric vehicles with equivalent autonomy (CMTV, 2020m; Siemens, 2020).

Intercity transportation consists of buses run by various operators and a train run by the state-run company Comboios de Portugal. About 1,800 people commute daily from Torres Vedras to Lisbon on public transport and around 3,400 in private vehicles (CMTV, 2020t). Torres Vedras has been making efforts to reduce the price of public transport passes to guarantee equal treatment for citizens who commute daily between NUT III do Oeste and the Metropolitan Area of Lisbon (Western Line). Thanks to the Tariff Reduction Support Program 2020 (PART), the price of an interregional pass between Torres Vedras and the Lisbon Metropolitan Area has declined (CMTV, 2020r). The Association of Municipalities of the West (OesteCIM) continues to negotiate with Comboios de Portugal and the other intermunicipal communities in order to achieve more advantageous solutions for its users (CMTV, 2020r).

5.4.3. Motorised private transport

The number of private cars travelling each day to Lisbon is almost twice the number of people who go by public transport. Moreover, the share of short-to-medium trips by car leaves room for improvement. The measures that aim at restricting and regulating the use of private motorised transport in Torres Vedras include the new traffic circulation rules, parking rules, and speed control devices. Firstly, the municipality created a map showing traffic directions and conditions (e.g. streets restricted to a specified vehicle type), as well as 30km/h zones (CMTV, 2020u). Secondly, the Municipality of Torres Vedras regulated parking, loading and unloading, and removal of abandoned vehicles after discussing it with the public (CMTV, 2020s). Parking zones in Torres Vedras are planned considering the categories of users, such as disabled, residents, merchants, or visitors. These are communicated on the municipality's mobility website (CMTV, 2020y, 2020x).

The last measure is the installation of speed cameras, bicycle and pedestrian detectors, and origin-destination sensors at strategic points in the city (CMTV, 2020p). They show speeds to

drivers in real-time, thus making them aware of responsible driving. Additionally, they provide information to the municipality that will allow better planning of traffic networks in and around Torres Vedras. Furthermore, the municipal government decided to replace its own fleet of cars with EVs. Seventeen EVs (12 light passenger vehicles and 5 vans) are planned to be leased over 4 years (CMTV, 2020l). To support the use of EVs, 7 charging stations are available in Torres Vedras with a total of 14 connectors (CMTV, 2020aa). All of them are built within the nationally funded program MOBI.E (Electromaps, 2020).

5.5. Concluding remarks

The city council of Torres Vedras has demonstrated a continuous and remarkable commitment to decarbonising its economy and transportation. Aiming at reducing its carbon emission by 29% and electricity consumption by 21% by 2020 compared to 2009, Torres Vedras is pursuing a large variety of actions. By active involvement in European networks, such as CIVITAS, Covenant of Mayors, and Hyer, the municipality gained recognition for its sustainable mobility plan, won the European Green Leaf Award for its sustainability efforts, and secured necessary funding. The Strategic Urban Development Plan of Torres Vedras, ratified in 2015, serves as the main guideline to achieve the set goals. The focus thereby is on three areas – urban mobility, built environment, and disadvantaged communities.

Urban mobility is undoubtedly the sector with the most achievements. The local administration is actively changing the previously established car dependency of the local citizens by facilitating the use of active modes and creating a cycling and walking culture in the community. It starts with teaching kids how to use a bicycle and expands to introducing a bike sharing system, creating new bike lanes, and providing easy-to-read information on walking distances between the important locations in the city. Furthermore, the local public transport company is currently testing electric buses and strengthening the bus network with the addition of new bus stops.

The actions in the area of urban reconstruction and renovations are mainly focused on adapting public spaces to the social needs of citizens and changing the functions of old buildings to match the interests of the local community. At the same time, a large portion of the activities are directed towards improving quality of life and connecting citizens with nature. To realise this, the municipality invites citizens to participate in the decision-making and planning processes.

CHAPTER 6

STUDY 1

Institutionalisation of Energy Citizenship[8]

This chapter will answer the first set of questions that focus on the content of energy citizenship in the institutional sphere of representation. It studies PED-related policy documents of the European Commission, Portugal, and Torres Vedras to explore if and how meanings around energy citizenship could differ from the EU level down to national and local levels, closer to citizens and communities. For that, an integrated framework of governmentality and social representation theory coupled with pragmatic discourse analysis at the methodological level will be used. Before diving into the findings, the next section will present the method and analytical procedure.

6.1. Method and procedure

The analysis was performed in October, 2021, and involved examining four living documents, published between 2013 and 2019, which are the key documents guiding the implementation of PEDs and of related regulations at EU, national, and municipal levels (Derkenbaeva et al., 2022; Koutra et al., 2023; Stojilovska et al., 2022). These are:

- EU level: Clean energy for all Europeans package (European Commission, 2019), based on the EU Commission's new 2016 rules for a consumer-centred clean energy transition and previous directives on Energy Performance in Buildings (EU 2018/844, Directive 2010/31/EU), on Renewable Energy (2018/2001/EU), and on Energy Efficiency ((EU) 2018/2002);
- EU level: European Strategic Energy Technology – SET Plan Action 3.2 – implementation plan for Europe to become a global role model in integrated, innovative solutions for the planning, deployment, and replication of Positive Energy

[8] This chapter is based on the empirical part of published paper:
Nguyen, M. T., & Batel, S. (2024). Which energy citizenship in positive energy districts? A governmentality social psychological analysis of participatory governance. *Journal of Environmental Policy & Planning*. https://doi.org/10.1080/1523908X.2023.2291386

Districts (SET-Plan Working Group, 2018). SET Plan was established in 2007, and Action 3.2 has been developed since 2015 in alignment with the EU Energy Efficiency in Buildings Directive and the CEP;

- National level: Portugal National Energy and Climate Plan 2021-2030 (Portuguese Republic, 2019b);
- Local level: Action plan for Energy Sustainability of Torres Vedras, 20-20-20 (CMTV, 2013a). Designed alongside Torres Vedras' participation in the Covenant of Mayors from 2010.

The analysed documents informed each other over time, with national and municipal level policies referring to documents and policies at higher levels, and EU level documents being shaped throughout time by consultation with the Covenant of Mayors that involves local municipalities. However, given the extension of the relevant documents – 430 pages in total – and also that not all sections were directly relevant for the main goals of this study (e.g., technical information), we used the following keywords to focus our analyses only on relevant sections: *citizen*, *consumer*, *prosumer*, *agent*, *stakeholder*, *self-consumption*, *the public*, *population*, *market*, *competition*, *commodity*, *self-regulation*, *security*, *local action*, *community*, *public utility*, *political consensus*, *democratic*. This resulted in a total of 77 pages to be analysed. As a result, the analysis was narrowed down to:

- CEP: Foreword and Section 5. Consumer at the heart of energy transition
- SET: Executive summary and Section 4. Pathway towards PEDs
- NECP: Section 1.1 "Summary", Section 1.3 "Consultations and involvement of national and EU entities and their outcome", Sections 2.4.3 and 2.4.4. on "National objectives and targets" in "Market integration" and "Energy poverty", Sections 3.4.3 and 3.4.4. on "Policies and measures planned" for "Market integration" and "Energy poverty"
- PASETV: Executive summary, Section 2. "Framework and approach", Section 4. "Action plan"

Instead of seeing policies as lifeless, coherent, documents, this study adopts a critical policy analysis approach to these documents, to analyse how they are producing various, sometimes contrasting ideas and discourses (McIlvenny et al., 2016). Following that perspective, a pragmatic discourse analysis of the data was conducted (Batel & Castro, 2018). That consisted of, first,

conducting a thematic analysis through an iterative process of identifying, organising, and validating themes between authors. The second step of the analysis was then to illustrate the key themes by also revealing how certain discursive and rhetorical strategies were used in the policy documents, and to what socio-psychological effects. These are conveyed via underline and bold in the presented extracts in the analysis. The pragmatic discourse analysis was also attentive to the absences in the documents – what was silenced, not present (Batel & Castro, 2018) – as will be further discussed in the next section.

6.2. Analysis and discussion

6.2.1. "The right to request smart meters": neoliberal prosumerism as hegemonic representation of energy citizenship

The analysis shows that the most prevalent and dominant representation of energy citizenship in the analysed EU, national, and local policies is that of promoting smart prosumers. This is exemplified in the extracts below:

> Extract #1:
>
> Indeed, through improved market efficiency and reinforced consumer rights, citizens will have **real** influence over their energy footprint – whether through smart meters, taking control of household bills, or actually investing to produce their own renewable energy, which is then fed into the grid. [CEP, p.1]

This representation aligns with neoliberal citizenship, which requires citizen-prosumers to regulate and improve their individual energy behaviours to actively participate in the liberal energy market. The emphasis on how this entails a "real influence", or responsibility, over their "energy footprint" and "taking control" of their lives (Han, 2017) through household bills and investing to produce their own renewable energy is very illustrative of that. These conventional consumer and prosumer roles are reified in the EU directives – Extract 1.1, as well as in NECP and PASETV policies, as *consumer rights*. In turn, the background knowledge for the smart prosumer subjectivity assumes that the citizen-prosumer is economically or ecologically self-interested in saving resources. The following Extract 2.1 highlights the naturalisation of this narrative:

> Extract #2:

1. The success of the **perceived** evolution process of PEDs is subject to attracting citizens (also the consumer) and ponder their interest by creating **noticeable** incentives which are **concretely** related to significant savings (or acceptable additional cost for those more motivated to address global causes). [SET, p.50]
2. **It is important to note that** the energy sector and climate questions are complex and often communicated in a language that is not understood by everyone, and as a result, citizens are not aware of the options available to them. [NECP, p.50]

These extracts emphasise that energy consumption is an individual responsibility, and that even the motivation to "address global causes" through energy consumption must be self-interested, seen in Extract 2.1. By subscribing to this self-interest assumption about smart prosumers, policies across different levels assume that any failure in decision-making as a consumer is a citizen's failure to understand complex information, as mentioned in Extract 2.2, rather than a divergence in political ideologies. This depoliticisation of the energy and climate crisis (A. Carvalho et al., 2017) from the capitalist economy is typical of neoliberal rationality, which legitimises the role of the state to govern the free exchange of energy as a commodity and encourage market competition. This is also reflected in the green growth discourses in the extract below and is transversal to the analysed policies at all levels:

Extract #3:

Portugal **has strong arguments** to continue to build a strategy for carbon neutrality and a carbon-neutral economy based on sources of renewable energy with a focus on energy efficiency and the energy consumer…The path to the decarbonisation of the economy is an opportunity for economic growth. [NECP, p.12]

This coupling of economic growth and sustainability through renewable energy and energy efficiency measures is a rationality of environmental modernisation that believes in economic interventions and technological fixes for social and environmental problems (Blühdorn, 2012). Meanwhile, evidence has shown that it is impossible to decouple resource use and emissions from economic growth, hence, this green growth narrative is actually confirming business-as-usual rather than changing it (Hickel & Kallis, 2020). This rationality necessitates, in turn, certain technologies of government to facilitate economic savings at the individual level but also economic growth for national and regional levels, as underlined in the extracts below:

Extract #4:

1. For example, dynamic pricing in electricity offers the best value (i.e. lowest prices over time) to consumers. Certified price comparison tools will help them in **their choice of supplier**, and switching supplier will be easier and faster. [CEP, p.12]
2. They [consumers] will have the right to request a smart meter, thus being informed about their energy consumption and costs in real time […] [CEP, p.13]

Smart meters, dynamic pricing, and certified price comparison tools are market-driven technologies of government to materialise green growth and environmental modernisation within PEDs. However, for them to be effective they must be accompanied by subjectivities and technologies of the self that use and maximise them. "The right to request smart meter", to choose suppliers and appliances to improve one's energy consumption and cost, therefore, is the internalisation and conformity to market authority. The behaviour changes that they require, specified below in national and local level policies as well, are technologies of the self that fashion energy users to meet the standard of the smart and sustainable prosumer.

Extract #5:

1. This is why **it is crucial** to promote energy literacy for consumers through more transparent information and to ensure greater knowledge on energy and climate, […] [NECP, p.50].
2. Education and environmental awareness **are privileged means** to promote the efficient use of energy and the use of renewable energy. **It is necessary** […] to change consumption habits and induce environmentally sustainable behaviors**.** [PASETV, p.42].

Psychological tactics to produce calculative humans who could enhance their rational decision for energy savings are based on transparent information and energy literacy (Extract 5.1). Embedded in this technology of the self is also a deficit perspective of the energy citizens (Wynne, 2006) which assumes that if citizens do not save energy, it is because they are ignorant, and not because of their lived experiences of energy within the contradictions of neoliberal capitalism (Batel & Devine-Wright, 2020). At the most, this calculative citizen is sometimes allowed to also be ethical and concerned with environmental impacts through the tactics of raising "environmental awareness" to "change consumption habits" (Extract 5.2). However, this neoliberal environmentalism (Fletcher, 2010) shapes a neoliberal subjectivity that allows governments and corporations to continue to pollute and extract as usual (Türken et al., 2016). In this sense, energy

citizenship should not be restricted to consumer/prosumer participation in a market-driven way in the energy system and the question of the presence of alternative representations of energy citizenship must be addressed. This is to what we will turn next.

6.2.2. "Energy access for all": an emancipated representation of activist energy consumerism vs. resilient energy consumerism

Despite not being as present, there were alternative representations in the analysed discourses. One of those emerged in discourses as an emancipated representation, portraying citizens as consumers/prosumers who not only focus on self-interested energy behaviours or participating in the market, but also actively use their consumer/prosumer power to enter the institutional spheres of energy decision-making. This elevated consumer/prosumer agency is depicted in the extract below, also present in local policy level:

> Extract #6:
>
> 1. A consumer at the centre of decision-making is a more active consumer in the energy transition, and one which is available to participate in the structural changes required to meet the challenge leading to carbon neutrality by 2050. [NECP, p. 50]
> 2. Citizens and companies, if on the one hand, are more open to new forms of sustainable practices, are also more knowledgeable and more demanding in the service provided to them… [PASETV, p.45]

By entering this institutional sphere, research has shown that political consumers can become an active agent in influencing other stakeholders such as businesses, policymakers, and large corporations to resolve structural problems that may affect them or other less powerful groups (Extract 6.1) (Campos & Marín-González, 2020). Important in Extract 6 is that, contrary to the hegemonic representation presented before, they do acknowledge that structural changes, not only individual consumption changes, are needed to tackle the energy and climate crises. Also, increasing energy literacy is not seen here as the solution to fill in an information deficit and to increase consumer responsibility for energy and the planet even more, but instead as empowering citizens through knowledge to demand more responsibility from energy companies. However, this *activist consumerism* that emerges from the analysed policies is also still anchored in the market and economic domain (Extract 6.2). It still ignores the social and political participation of people outside of the market. In fact, in the instances in which energy vulnerable citizens are discussed,

they are often represented as passive and in need to be protected from energy poverty as illustrated in extract 7:

> Extract #7:
> With the consumer as an informed and active agent in the market, and with instruments to protect the more vulnerable consumers, a further strategic priority for 2030 will be addressed; that of fighting energy poverty and consumer vulnerability [NECP, p.108]

Unlike active consumers who have more agency in negotiating with market actors, vulnerable consumers are expected to adopt pre-existing solutions and instruments such as energy efficiency measures to solve their energy poverty (DellaValle & Czako, 2022). However, aligned hegemonic neoliberal citizenship, this still tends to naturalise the causes of social inequalities and blame vulnerable consumers (Simcock et al., 2021). The underlying discourse for either an activist or resilient (i.e., energy poor or vulnerable) consumer subjectivity is a claim for energy as a public utility (Extract 8.1) and a cornerstone of contemporary societies' supposed quality of life (Walker & Cass, 2007) – or imperial mode of living (Dorn, 2021). This is illustrated in the extract below:

> Extract #8:
> 1. Energy is central to modern life and social inclusion: **it is necessary for** education, health, security and wellbeing… [CEP, p.12]
> 2. Reducing emissions and transforming the energy system **does not imply that** the livelihoods of Europeans need to suffer. **It is possible** to reduce emissions while creating prosperity, high-quality local jobs, and improving quality of life. [CEP, p.17]

This discourse, also present in policies at national and local levels, assumes that the high standard and hedonistic quality of life (Edwards et al., 2016) of modern societies is what everyone should aspire to – including those Europeans who do not have access to this quality of life that is considered normal. Any threat to this standardisation of the human condition should, as suggested in the analysed policies, be overcome by economic and technological development. Hence, promoting fairness for all citizens in a consumerist capitalist growth model risks silencing the energy vulnerable through the rhetorical device of denial in "does not imply that" in Extract 8.2.

The naturalisation of energy poverty in these policy measures e.g. subsidies for retrofitting house, actively silences vulnerable consumers and only focuses on energy poverty adaptation as a

technology of the self, i.e. calling for citizens to be resilient by adopting prescribed technocratic interventions that are deemed to be democratic, as illustrated below:

> Extract #9:
>
> 1. And this democratisation of energy will alleviate energy poverty and protect vulnerable citizens. [CEP, p.12]
> 2. ...reinforcing the role of the citizen as an active agent in decarbonisation and in energy transition will create equitable conditions for all, fighting energy poverty and providing instruments to protect vulnerable citizens while promoting their active involvement and territorial enhancement. [NECP, p.50]

To use the words of Kaika (2017, p. 89), equating democratisation with active involvement of vulnerable citizens at EU policy level (Extract 9.1) without recognising their unequal footing can be viewed as an act of *immunology* – "it vaccinates citizens and environments so that they can take larger doses of inequality and degradation in the future". Meanwhile, the national level policy NECP promotes the active participation of vulnerable citizens from the beginning (Extract 9.2). This technology of the self could avoid the suppression of vulnerable citizens' voices as well as of their critical perspectives on how the energy system should be designed, following a truly democratic process. In sum, this emancipated representation unveils that vulnerable citizens are still excluded from the types of energy citizenship that emancipate other activist-consumers, even if it already acknowledges, at least to some extent, that there are inequalities and that these and the environmental crisis can only be solved through changes at more structural levels.

6.2.3. "Involving the entire community": local energy citizenship as emancipated representation

Another emancipated representation of energy citizenship that was identified in the analysed policies' discourses presents citizens as emplaced, this is, as part of a local community (Devine-Wright, 2019; Di Masso, 2012). This prefigures an emancipated place-based energy citizenship as suggested in the extract below:

> Extract #10:
>
> In the future, the strategy of the Municipality of Torres Vedras is based on the concept of *Smart City* where the integration of sustainability, technology and innovation creates territories **endowed with** areas and infrastructures that facilitate and create the best living conditions for

those who inhabit them and encourage and promote the exercise of active citizenship. [PASETV, p.33].

Extract 10 seems to suggest, though ambiguously, what a change from more conventional to transformative forms of energy citizenship can look like, and how this implies place embeddedness – areas and infrastructures – and related attachments to place – those who inhabit them. The promotion of "participation of citizens in active and public life" in PASETV is substantially different from the submission to "sustainability" by changing consumption habits in the hegemonic representation. It invites citizens to have a new, enhanced vision for a zero emissions territory (CMTV, 2013b, p. 33) and, thus, to engage more with place politics (Devine-Wright et al., 2019). According to national and local policies, the justification for such active local citizenship is to build a sustainable local identity:

Extract #11:

The mission of the Municipality of Torres Vedras is to create a *Sustainable Territory* with more jobs, competition, equitabiliy, and innovation, ensuring a better quality of life. [PASETV, p.43].

Despite the relevant focus on a sustainable territory and community to tackle the global climate crisis, the conception of energy citizenship present in Extract 11 is still entangled with an economic growth focus, but in quite a distinct way from how that was taken in the neoliberal prosumerist hegemonic representation (Levenda, 2019). Indeed, it not only focuses on more jobs and competition, but also equitability and innovation, which could hint at an aspect of transformative social innovation (Avelino et al., 2020). However, it is also unclear which meanings are associated with a "better quality of life". The adoption of an emancipated local-based energy citizenship is further illustrated in how citizens and other stakeholders' participation is conceived in these discourses:

Extract #12:

1. […] stakeholder participation and co-design processes in the planning and implementation of PEDs could help in ensuring public acceptance and send a positive message for the whole deployment process of PEDs. [SET, p.50].
2. The implementation of the A21 L [Local Agenda 21] in Torres Vedras demonstrates […] **the importance of** the active participation of the population in the initiatives and their role

> **preponderant** in guaranteeing the success of the actions […], thus involving the entire community to achieve objectives that are assumed to be global, but whose performance takes place at a more restricted and local [level]. [PASETV, p.47]

Co-design processes with stakeholders as a way of "ensuring public acceptance and [sending] a positive message" (Extract 12.1), might be seen as an instrumental way of fostering participation just to guarantee acceptance of a given project (Aitken, 2010). In fact, research has warned that civil society not only pioneers new social relations and practices as a *hidden innovator*, but also can be disempowered in order to serve political agendas by being over-exposed in urban sustainability transitions (Frantzeskaki et al., 2016). On the other hand, the implementation of Local Agenda 21 in PASETV emphasises a more substantive uptake of participation (Wesselink et al., 2011), in which the local population's role is "preponderant in guaranteeing the success of the actions" (Extract 12.2), with the interconnection between global and local objectives being stressed. These different approaches to technologies of government, i.e. co-design at EU level and Local Agenda 21 at municipal level, lead then to divergent technologies of the self as the following extracts also demonstrate:

> Extract #13:
>
> 1. Constant engagement and co-creation of the vision and roadmap will enable community leaders to emerge and ensure that citizens and businesses in the PEDs as well as the wider community know, understand and participate in the development of the PEDs. [SET, p.53]
> 2. In the future, in addition to the continuation of the Energy Lab, the involvement and communication with the actors considered in PASE may also include a set of initiatives that will enable everyone to follow the process and, **if desired**, provide suggestions and contributions. [PASETV, p.49].

At the EU level (Extract 13.1), leadership is used as an emancipating technology of the self to orchestrate local energy initiatives rather than challenge the status quo (Hasanov & Zuidema, 2022). This risks delegitimising voices of project protestors and excluding other "non-leadership" citizens, which could exacerbate social injustice (Tarhan, 2022). At the local level, pedagogical approaches to energy citizenship, such as the Energy Lab enacted in Torres Vedras, create space for citizens to actively get involved in a more meaningful way (Extract 13.2). Nevertheless, even if participation is incentivised at a more collective and inclusive level – "all of the inhabitants of

Torres Vedras" (Extract 13.2) – it supports a type of participation mainly based on suggestions and consultations, and not on actual co-creation (Elkjær, Horst, & Nyborg, 2021).

A summary of the main findings is displayed in Table below.

Table 6.2 *Summary of the findings – energy citizenship representations in policy documents*

Representations (and their presence in the documents)	Promoted subjectivities	Rationalities	Technologies of government (policies and interventions)	Technologies of the self (psychological tactics)
Hegemonic neoliberalism (CEP, SET, NECP, PASETV)	The smart and ethical prosumer	Sustainability Economic growth, Cost effectiveness	Suppliers compete via comparison tools, Dynamic pricing, Smart meters and energy labels	Consumer choice education, Nudges for behaviour change
Emancipated activism (CEP, NECP, PASETV)	The activist consumer vs. the resilient, vulnerable consumer	Social equality "European" / modern quality of life, Tackling energy poverty	Subsidies for retrofitting homes and efficiency measures, Democratisation of decision-making processes	Energy poverty adaptation and resilience, Early participation of activist citizens in democratic decision-making processes
Emancipated localism (PASETV, SET)	The local-global citizen	Sustainable territory, Local identity, Think global, act local	Public acceptance via co-design, Political consensus via Local Agenda 21	Leadership to influence community, Local citizens' participation via consultations (e.g., Energy Lab)

6.3. Concluding remarks

By using governmentality and the critical social psychology of citizenship as an integrated framework, this chapter analyses PED-related policies at EU, national, and local levels. It confirms the hegemony of a neoliberal representation of energy citizenship across policy levels. The smart and ethical prosumer image proposed and reified in this neoliberal hegemonic representation has been argued to exclude people who do not have the means to obtain the new skills and resources

that would enable them to become prosumers (Ryghaug et al., 2018). Importantly, this representation of energy citizenship supports an energy system that reproduces the fossil capitalist and colonial culture (Malm, 2016), even if replacing the sources of energy by renewables.

However, the analysis also shows two emancipated representations of energy citizenship based on human rights and local rights claims: the activist vs. resilient vulnerable consumer and the local-global citizen. While the activist vs. vulnerable consumer representation is more present at the national policy level to tackle existing and future energy poverty, the local-global citizen is grounded in local policy to tackle global climate issues by local energy actions. However, in the analysed policies, these promoted subjectivities are often instrumentalised by the government towards a green growth objective by advocating for the maintenance of a hedonistic quality of life and sustainable territory identity to be more competitive. In turn, the technologies of government used, such as economic subsidies and political consensus through co-design processes, legitimise experts and states' power to intervene at the expense of vulnerable consumers' voices.

This analysis has revealed that no polemic representations were identified in these policies' discourses, this is, more radically transformative ways of representing energy citizenship. This could be expected because of the absence of direct, bottom-up, community voices in these policies, but also because this analysis is concerned with only specific sections of the selected policies. Therefore, future research should involve community and other voices beyond policy to explore if there are other alternative representations of energy citizenship being discussed (e.g. Thomas et al., 2020), implemented, or experienced. Still, the governmentality and critical social psychology framework used in this paper has helped to make visible the dominant neoliberal assumptions that PED-related policy discourses are based on, as well as their power in shaping neoliberal subjectivities. In sum, we can say that the ambiguities that co-exist in emancipated representations might hinder the growth of more transformative meanings of energy citizenship within PEDs, but we can also expect that they might foster debate and discussion between those different co-existing meanings.

CHAPTER 7

STUDY 2

Mediation of Energy Citizenship

While the first empirical chapter examines the content of energy citizenship from hegemonic, emancipated, and the absence of polemic representations that are stabilised in policy documents, this empirical chapter explores how those representations diffuse into or are taken up in the consensual sphere through mediating systems. These are discourses and practices of different stakeholders that reify, negotiate, or contest what is represented in the institutional sphere of policy. The mediation process of energy citizenship reflects how multi-voices from policy are interpreted and translated into practice by the intermediary stakeholders, and also how their everyday relations with energy citizens from different levels of privilege and ability inspire and encode prefigurative politics. This goes beyond the conventional understanding of energy citizenship and includes other transformative forms of citizen engagement with energy that could be more inclusive and just for the making of PEDs (Howarth, 2011). Specifically, by analysing different communicative modes and objectives – reification (linked to hegemonic representations), negotiation (linked to emancipated representations), and contestation (linked with polemic representations), this chapter explores how energy citizens' subjectivities in political participation are mediated i.e. reproduced, deconstructed, and reconstructed, by stakeholders in the case study.

The chapter will first give a brief context of the mediating systems in Torres Vedras and present its research questions. Then, it will elaborate on the sampling and analytical procedure before discussing the findings in three subsections of the mediating processes of energy citizenship, namely reification, negotiation, and contestation. The chapter will conclude with some remarks on the implications that this mediation of energy citizenship could have on just and inclusive PEDs.

7.1. Context, objectives, and research questions

Not only being characterised by the wind turbine on the hills surrounding the city, Torres Vedras is interesting as a case study for PEDs and energy citizenship thanks to a lot of green initiatives in different fields, from mobility, such as shared bike and electric cars chargers, to retrofitting social

housing for energy efficiency, to energy community. While most of the technological interventions are led by example by the municipal council through public-private partnerships such as installing solar panels in schools and electric vehicle chargers in public parking spaces, a few citizen groups in the area organise themselves specifically on energy, transport, or retrofitting, as these services involve high investment cost, and are therefore mostly outsourced to professional companies or national NGOs.

Traditionally led by the Socialist Party in the autarchy, the city prides itself to have a strong culture of associations which are groups of citizens gathering officially based on common hobbies, like sports or crafts, social missions, like the inclusion of socially excluded people, or identity representations, like carnival. These groups are also the main participants in participatory budgeting each year since 2017, suggesting and voting for small ideas to improve their local areas, such as public spaces, transport, social centres, and so on. Another channel for citizen participation in energy and environmental issues is pedagogical activities provided by educational public services. In this context, local government, businesses, and technical experts to civil societies create a tapestry of mediating systems for energy and sustainability policies to steer citizens' conduct and for citizens to participate in implementation and decision-making.

This study aims to map this network of different stakeholders and examine how they represent energy citizenship under the local context of energy and urban transition towards a more just and inclusive PED. The study was conducted to answer research questions about how the responsibilities and engagements of citizens in energy matters are represented – reproduced, negotiated, challenged – by key stakeholders in PEDs and smart cities, and what implications those representations have on social (in)equalities and environmental (in)justices.

7.2. Sample and analytical procedure

After being mapped and contacted by the snowball technique, stakeholders were interviewed (N=19) in Portuguese and English, online and in-person by the author of this dissertation from February 2021 until December 2022. All interviews were recorded and transcribed with the participants' consent (Annex A. informed consent and interview guide). Interviews covered the institutional sphere (local government, N=4), the mediating sphere (technical experts, N=5, businesses, N=2), and the consensual/public sphere (civil societies, N=8), distributed between

energy, urban environment, mobility, and public participation sectors. The table below summarises the matrix of the participants' coding.

Table 7.3 *Number of interviews (and participant code) of each sector and stakeholder group*

Sectors/ Actors	Local government	Technical experts	Businesses	Civil society
Energy	1 (LGE)	1 (TEE)	1 (BE)	1 (CSE)
Urban environment	2 (LGU&M)	2 (TEU&M)	0	2 (CSU 1, 2)
Mobility	Same as above	Same as above	1 (BM)	1 (CSM)
Public participation	1 (LGP)	2 (TEP 1, TEP 2)	0	4 (CSP 1, 2, 3, 4)

In the energy sector, one local government staffer in the energy and sustainability department was interviewed (LGE_CMTV energy & sustainability), followed by one technical expert in the city council (TEE_CMTV energy), one business stakeholder taking care of an energy cooperative model of energy community (BE_CMTV energy community), and one national consumer defence organisation for energy citizens (CSE_DECO). In the urban environment sector, one local government staffer who is also in charge of mobility was interviewed twice (LGU&M_CMTV urban & mobility), followed by one technical expert in same area in city council (TEU&M_CMTV urban & mobility) and two civil society representatives of an education centre for the environment (CSU 1_CEA) and a national NGO/volunteer group in retrofitting/rehabilitation (CSU 2_Just a Change). In addition to the local government and technical expert in mobility, one business stakeholder of a local bus company (BM_Barraqueiro Oeste) and one national NGO for people with mobility difficulty (CSM_Salvador) were interviewed. In the public participation sector, one local government staffer was interviewed (LGP_CMTV public participation), followed by two technical experts in public relations (TEP 1_CMTV public relations) and in participatory budgeting (TEP 2_CMTV participatory budgeting). Four participants from two citizen-led groups working on the inclusion of elderly women (CSP 1, CSP 2_Incluir+) and social cohesion for urban regeneration areas (CSP 3, CSP 4_Somos Comunidade) are representative of the consensual sphere in this sector.

First, a critical discourse analysis based on governmentality framework was used to examine the subject-making of energy citizenship through participatory governance. These are technologies of government and technologies of the self that are practiced everyday by stakeholders based on a set of worldviews or underlying rationalities that they hold. A pragmatic discourse analysis was then helpful to find the rhetorical pattern used in valuing one rationality and worldview over others, thus legitimising certain interventions or opening opportunity for renegotiation and contestation. Themes are both deductive from previous study on policy analysis of hegemonic, emancipated, and polemic representations as well as inductive from the interviews.

7.3. Analysis and discussion

The analysis and discussion are organised based on three main mediation patterns from different stakeholders in the interviews – reification, negotiation, and contestation of energy citizenship. Each mediation process focuses on how citizen's political participation is represented (subjectivities), to what ends (rationalities), by what means (technologies of government, of the self, and their alternatives), and with what consequences (implications for social equality and energy justice).

7.3.1. Reification of the hegemonic representation by "either-or" grammar

Neoliberal subjectivities: energy citizens as either a conformed consumer and incentivised prosumer or a noncitizen

S1: Setting boundaries of neoliberal energy citizenship through "either-or" grammar

The hegemonic representation of energy citizenship found in businesses and technical experts' discourses during the interviews limits energy citizens to conform to the role of energy consumers who choose which source of energy they use and also if they use it efficiently, or of prosumers who choose to use their resources to produce renewable energy for self-consumption and to sell the surplus, or both. The extract below demonstrates this reification of that hegemonic representation:

> Extract 1:
>
> 1. The information they need to know is this: do you want to participate in tackling climate change or not? If you want to participate in everything that is needed to transform and to tackle

climate change, to have a role, you can, for example, be a participant, be a prosumer, **or** be a producer **or** be only a consumer. As in, what role do you want? (BE_CMTV Energy Community, Pos. 11)

2. In this energy community model that we have been creating, vulnerable citizens can participate as beneficiaries. **Or**, providing a land where these energy plants can be installed, photovoltaic panels, so to speak. (LGE_CMTV energy and sustainability, Pos. 72-73)

3. In terms of model, I think we're going to have three situations here essentially: we're going to have energy producers, who are pure and simple producers; we will have consumers, and simple consumers; **and** we're going to have consumer producers. What I honestly expected is that we had as many consumer producers as possible. (LGU&M_CMTV mobility, Pos. 26)

These promoted subjectivities are represented in stakeholders' discourse by an *either-or* grammar of reification that restricts participating in the energy system and particularly a more sustainable one, to being active and knowledgeable about one's energy consumption and production practices – anyone outside of this then is not a participant and does not have a role (Extract 1.1). Additionally, there is an implied ranking of good energy citizens in these discourses, with prosumers considered as first-order energy citizens and those that are "only" energy consumers as second-order (Andreouli & Howarth, 2013). In turn, this has consequences for citizens' associated subjectivities and energy practices, including for those that, by not being either a conscious consumer or an empowered prosumer, are left out and not considered as energy citizens at all because they are not capable of having an active relationship with energy (Willand et al., 2021). According to this moral standard, a good energy citizen is defined as a neoliberal subject who self-regulates their energy behaviour by being a consumer, prosumer, or both, but nothing else, and people who do not have access to energy or who are energy poor or vulnerable are not considered as citizens.

S2: Instrumentalising energy citizenship by triggering self-interest

The scripts of action for energy consumer or prosumer in this reification process are clearly defined through some suggestions, hinted at by the formulation "if they really want to" (Extract 2.1). Underlying this formulation is the assumption that the human nature of the energy consumer or prosumer is that of homo-economicus, those who are mobilised by their self-interest and by an

economic cost-benefit rationality (Batel et al., 2016), which can be instrumentalised to benefit local economy and tackle the climate crisis. This is exemplified in the extracts below:

> Extract 2:
>
> 1. **If you want to** be a consumer, we can give you energy that is produced and in the friendly way, the environmentally friendly way, with green energy, on the rooftops or in the parking lots, or in other, for instance, in other terrains that the municipality has, […] The prosumers are those that have the roofs, or have the areas available for themselves, and **if they want to** sell to this community that would give the energy to the others around the neighbourhood. The neighbourhood companies, the neighbourhood communities, the neighbourhood stores" (BE_CMTV Energy Community, Pos. 11)
>
> 2. Citizens will perhaps be more involved when they realise the importance of working on these [energy] issues. Not only **for the sake of** economic or financial advantage, but also **for the sake of** environmental awareness. Because of the urgency of working on the climate issue. (LGE_CMTV energy and sustainability, Pos. 113)

As illustrated in the extracts above, the responsibility of full energy citizenship is put entirely on citizens themselves as consumers and prosumers – if they really want to, they can become either sustainable consumers, or prosumers, or both. As such, the experts own the responsibility for facilitating those processes and, more importantly, the structural and infrastructural inequalities that disproportionately affect different groups of citizens, who are then not equally able to fulfil those roles, are in these discourses not acknowledged at all, let alone discussed. Additionally, Extract 2.1 shows that prosumers specifically are seen as having to contribute to the local economy by providing energy to "neighbourhood companies, the neighbourhood communities, the neighbourhood stores". This shows that prosumership is partly instrumentalised to serve the economic growth of the local economy (Extract 2.2) and to even tackle climate change (Extract 2.3). This neoliberal representation holds citizens fully responsible for the way they use energy, with it removing any responsibility from local and other level authorities and experts and associated power relations and structural inequalities (Rodhouse et al., 2021; Rolfe, 2018).

Green growth rationalities: Sustainability = green energy efficiency + economic interest

R1: Commodifying renewable energy and green infrastructures through a technocratic rationality

Based on the hegemonic discourse prevalent in the interviewees' discourses, as exemplified in Extract 1, the main knowledge and information that the citizen-consumer/prosumer "needs" to know is based on the rationality of renewable energy as being naturally better for the environment; thus, switching to RE is the only possible way to tackle the urgency of the climate crisis. This shows a technocratic rationality in which the simple replacement of energy sources and associated technologies is enough to tackle the climate crisis (Batel & Rudolph, 2021). Thus, this technocratic rationality, presented in local government and business stakeholder discourse as shown below, conceives of energy as a commodity and legitimises large economic, technological investments.

Extract 3:

1. I suppose that most of them, the most interested in an energy community would be specifically commerce. That works from nine o'clock to eight o'clock in the night. So those would be eager to have free, cheap energy. And have the seal of quality that they would have, that products are made with and what they sell is with green energy. (BE_CMTV Energy Community, Pos. 11)

2. There is a really interesting idea. I know someone who did research on the idea of creating these kinds of energy communities, connecting in terms of business. It was in economics and how it would work for them to sell the energy that they would create to, for example EDP here in Portugal or another energy provider. (LGE_CMTV energy and sustainability, Pos. 93)

3. In the beginning there was this resistance against the bike lanes, and sometimes during this resistance, I think one of the things that improved the perception of the bike lanes, was the companies like Uber Eats and Glovo. Because they use bikes to deliver food. And because they use the bike lanes, they may have been the ones paving the way to show that there's a use to bike lanes. And mostly the perception that these urban bike lanes are not for leisure only. They are means of transportation. They are means of getting to work or fulfilling your work, as in the case of Uber Eats and Glovo. So, they may have indirectly helped this, improving the positive image of these bike lanes. (LGP1_CMTV public relation, Pos. 16)

These extracts show that municipalities recognise and work mostly with businesses and entities that already have – or can have – interest in renewable energy and green infrastructures such as "commerce", "EDP" or "Uber Eats and Glovo". These discourses emphasise how

renewable energy and green infrastructures are seen mostly as fashionable – "positive image of these bike lanes" – and thus instrumentally used as another way of making more money as in to make product and sell with green energy or to deliver food in a faster, cheaper, and more precarious manner (Extract 3.3). Such a greenwashing marketing strategy (Szabo & Webster, 2021) is prevalent in other participant's interviews as well.

R2: Depoliticising renewable energy and other forms of energy citizenship through market rationality

This green growth rationality also depoliticises renewable energy, thus excluding other forms of thinking and doing renewable energy and associated energy citizenships. The rationality present in Extract 4 is that people are self-interested and the choice between different mobility or renewable energy options does not have to do with subject positions and related power relations, such as social class, but instead with the choices of rational individuals that serve their own identities and interests in saving money or preserving their properties – unless they are ideological radicals.

Extract 4:

1. In my opinion, people are very nice, as much as they want to be environmentally sustainable, it has to be imposed. It has to be an obligation. At this moment, as long as I have the same two options and diesel costs me fifty and electric costs me a hundred, I always opt for diesel. There are always the, let's say the radicals who are committed and make an investment effort, but that's a very small amount of people, it has no weight in the system.
(BM_Barraqueiro Oeste, Pos. 47)

2. I think there are two strands here that can motivate consumers and all parties involved. One component is the very need for us to lower our CO2 emissions and other emissions that pollute the planet. I think it's over, many people are already aware that the planet's capacities are limited and that it is necessary to bet on renewable energies without emissions. And that I think is the main motivation, I think, for people to get involved and choose to turn to renewable energy sources and invest in these technologies. Another aspect ought to be the economic part, because from the point of view of the consumer, it can be, and it's already starting to be that, the technology is already properly developed so that it is cheaper to resort to a renewable energy community, or to resort to a decentralised energy production with photovoltaic panels because in the medium or long term, it can be economically advantageous for those who invest.

> And investors can be private, as in companies, as it is already becoming a viable investment. (TEE_CMTV energy, Pos. 25)

> 3. But for people, if they pay the same amount or less, if they pay less, better. If they pay the same and getting solar energy, I think they can – well, I don't know, some people don't like to have the [solar] panel on the roof and so on. For visual reasons. But, at the same time, when people see the problems that are there for the environment and climate change, I think people will get more receptive to making changes. (CSP4_Somos Comunidade, Pos. 152)

By giving example of choosing diesel cars over electric ones as a rational choice in Extract 4.1, the representation of normal citizen from business actor is that "People are very nice [but] as much as they want to be environmentally sustainable, it has to be imposed". The "small amount of [radical] people" serves as an extreme case of a non-normal citizen for the stakeholder to distinguish oneself from and generalise his own perspective about what normal citizens would think and do. In much the same way, Extract 4.2 and 4.3 reinforce the stakeholder's belief that people only care "when they place a bike lane at your door" or "people don't like to have the solar panel in the roof…for visual reasons". These extracts show that the rationality behind this hegemonic representation of energy citizens as consumers or prosumers is that they are homo economicus, selfish, and cannot, inherently, be concerned about the environment – hence the need to couple this economic and self-interested rationale with green energy and infrastructures, the only way for citizens to become good energy citizens ("if they pay less, better" – Extract 4.3, "it can be economically advantageous for those who invest"- Extract 4.2). In general, the structural political economy that makes it very difficult for people to think and act otherwise is not acknowledged or challenged in the hegemonic representation.

Within this rationality, people are not only self-interested, but, as also hinted at above, the basis of the political economy in which renewable energy is being produced and fostered – green neoliberal capitalism – is not questioned, even if it is increasingly clearer that the green transition as it is will not tackle climate change, given that it perpetuates the growth model of the fossil fuel system with all the inequalities, injustices, and extractivism for humans and non-humans alike, that it entails (Siamanta, 2021; Temper, 2019). This, and the conceptions of energy citizenship it involves, becomes even clearer when discussing the energy community economic model, EVs, and energy storage. This brings lithium extraction into the discussion and, as illustrated in the extract below, also reveals how the rationalities underlying the hegemonic representation of energy

citizenship present in these stakeholders' discourses, also explicitly include the depoliticisation of the green energy transition.

Extract 5:

1. [The energy community business model] has to be viable financially. We can work on taxes, we can work on the leases, we can work on those issues to decrease them and to make them more viable. But even though it's not viable, you cannot mount a business that is not viable only because it's environmental sustainable, but it's not the sustainability that we want. The sustainability that we are looking for, it's financial, it's environmental, it's climate change using those environmental increments, improvements. But the financial sustainability is always there. As we say in Portugal, if you don't have money, you don't have clowns. No money, no clown. (BE_CMTV Energy community, Pos. 35)

2. Now it's not because there's half a dozen, thirteen or fourteen, 5% or 10% of the population that it's against lithium that this [EV investment] changes. It doesn't change. I think economic interests always outweigh the environmental ones…It is not so much [lithium extraction] now because they are obliged to follow specific laws for the protection of the environment that have to be complied with. […] I don't think it's important, since Elon Musk decided to make the electric car, and there are the staunchest advocates of lithium. Okay, the brands have made this decision to opt for this technology, there's no… nothing can stop it anymore. (BM_Barraqueiro Oeste, Pos. 67)

3. It's true, yes. We have also discussed [lithium for EV and energy storage] internally here. The point is that we urgently need to fight a climate crisis. Now, at what cost are we going to do it, if it is at the expense of destroying natural resources on other scales, elsewhere in the territory of planet Earth, where there are probably already more serious effects even than on a European scale, it is an issue that is very important, but which I think has mainly to do with a technological issue, and with progress. There will probably be medium-term alternatives that allow us to have, to produce energy that is not at the expense of the extraction of so many ores and so much, and that sacrifices a little less natural resources. (LGE_CMTV energy and sustainability, Pos. 109)

The idea that the population that is protesting against lithium, a minority, are also energy citizens that should have a voice in energy decisions is not entertained or discussed in this discourse exemplified by both Extracts 5.2 and 5.3. Instead, the immovable force of capitalism and of the

market, materialised here through Elon Musk and EV brands, is unstoppable, independently of its environmental and social impacts. In the same vein, there is a prevalent eco-modernism discourse that "technological progress" applied to lithium extraction in Europe, especially in Portugal, would fix the problem of exploitation in the Global South by providing "medium-term alternatives…that sacrifices a little less natural resources" (Extract 5.2). With such a belief, people's resistance to ecological destruction and exploitative human relationships that are replicated in European projects is seen as not important, which reinforces the power of corporations and of their alliances with governments and public policy (Batel & Küpers, 2022; Franquesa, 2018) to dictate what the green energy transition and energy citizenship should look like.

The rationality above legitimises the technocratic interventions from PED related innovations. Through the development of new social institutions such as renewable energy communities and social norms of producing and using renewable energy efficiently, the technologies of government for PEDs serve the hegemonic representation of energy citizenship. These are not only materialised in the practices of financial and legal incentives but also by nudges, gradual change in the infrastructure (Roberts, 2018). This is served to convince citizens to accept and adopt these technologies of government and their associated technologies of the self. The following pairs of technology of government and of the self illustrate how incentivising individual change could commodify energy citizens to become a machine of self-measurement and calculation in relation to energy use and production, while nudging for behaviour change could result in further isolation of citizens from the political and public sphere.

"Incentivising individual change" as technology of government (TOG1 & 2) together with "commodifying self-responsible energy citizens" as technology of the self (TOS1)

<u>TOG1: Legal and financial support for prosumers</u>

Assuming that energy citizens are homo economicus, those who are mainly interested in economic gains for themselves, the municipality offers the attractive pricing of renewable energy investments as technologies of government to "encourage self-consumption". For example, the energy community council for renewable energy production as well as its associated legal and financial support, in this case, are constituted to offer optimum conditions for citizens to operationalise their consumer/prosumer roles.

Extract 6:

1. It will be important because people will realise that they can acquire energy at advantageous prices, economically more advantageous, right, and there's an initial investment, but it's recovered in twenty years, ten to twenty years. And they can manage their consumption differently. We know that the future is very much related to the electrification of consumption and therefore we have to be able to find ways to make sense of energy and obtain it in a more sustainable way. And the constitution of the renewable energy community council is one of the possible paths and that is already a reality. (LGE_CMTV Energy and Sustainability, Pos. 75)

2. Here is the opportunity to say, "We have a shareholder. We have a number of participations. That, and we want the community, the cooperative to help these communities by selling to them at one price." Even the municipality can say that you sell to them at this price, but we, the municipality, outside, we give the cooperative the money needed to support the difference. As a subsidy. We can give the subsidy directly to the people or directly to the cooperative. It's something that we get to analyse legally, it's a legal problem. (BE_CMTV Energy community, Pos. 71)

With affirmative language such as "people will realize", "they can" coupled with the confirmation that these technologies of government such as energy community and subsidies are "already a reality" (Extract 6.1), it makes it easier for citizens to adopt renewable energy, electric vehicles, and retrofitting investments by themselves rather than involving in other collective actions. Extract 6.2 operationalises it by advocating for legal changes to subsidise keeping energy generated by energy community "at one price" so citizens could choose to participate because of the financial security rather than because of a real sense of community generated by energy community. Thus, there is a danger for these individual uptakes of renewable energy to be co-opted by the capitalist energy system run by large corporations (Bauwens et al., 2016). This means the legal and financial support for prosumers are designed to attract those who wants to make stable money out of renewable energy investments by selling it to large energy companies (through energy community for example) with a better price than sharing it with their neighbours (see also Extract 3.2).

<u>TOG2: Energy storage and professional service providers as technical support for prosumers</u>

By adhering to incentives as technologies of government, the individual change in energy prosumerism is not deliberate but has to depend on the expertise of the energy community and

technical professionals. The extracts below demonstrate how knowledge and power are still very much entrenched in the hands of experts and big company investors, which renders prosumer participation passive through the broker role of the city council and its energy community entity.

Extract 7:

1. We have planned to create an energy store as part of the project, here in the municipality of Torres Vedras, with the aim of offering the necessary tools to the population that is not so professionally qualified, right, to make these small investments in housing. And bridge the gap between installers and the people who can help do these jobs. And even encourage self-consumption. (LGE_CMTV Energy and Sustainability, Pos. 25)

2. To give a service, to provide a service so that individuals and condominiums and people can come to us, the municipality, and be informed about what they can do, what the costs are, and we provide the full service through the community and the cooperative we are trying to establish. In this cooperative we will have, we expect to have money from our supporters, that's why we are starting with the companies that can mobilise more euros and more investment, and tell them that we can help the condominiums, the buildings, to mount solar panels on their roofs, and we can set them up, we can provide them, we can maintain them every month. (BE_CMTV Energy community, Pos. 9)

3. But we also have another department where we work that's called GAE that's a cabinet to inform consumers about energy. And we also, in the course of this campaign, have reached a partnership, so to speak, with some counties to create in their counties, in their city hall, these kinds of cabinets. And what we do? In the counties here at DECO in this department? We inform the consumer of what they can do to have a more sustainable house and how to sign up to participate in some of the programs that the government has that are financed by the E.U., to have a better house with better equipment, that is more efficient and better for the environment. So, we help with information and we also help people apply to those programs. (CSE_DECO, Pos. 40)

Despite the promise to "offer the necessary tools" for citizens, the population are seen as "not so qualified by professional means". This legitimises the main objective of the "energy store", which is to connect the prosumer with service providers such as "installers and people who can help do these jobs" (Extract 7.1). This extends the gap of knowledge and power between *we*, the professional, and *they*, the population, thus justifying another service that citizens need to consume

in order to become prosumers. This limits the possibility for citizens to create their own initiatives or choose how to mobilise their resources and share their surplus creatively and democratically. Instead, enterprise investors are mobilised by energy community to fund for renewable energy mounting in buildings (Extract 7.2). In this case, the majority of prosumers are seen as technological hosts who already owns certain properties such as roofs or have the financial means to delegate the building and maintenance process of renewable energy devices to the energy community and technical experts. This reflects a level of technocratisation, digitalisation, and bureaucratisation, especially in a country like Portugal (Tavares, 2022), that a potential prosumer has to endure if they are to effectively embrace prosumerism in our burn-out society (Han, 2015).

Moreover, these technologies of government highlight that energy intermediaries or mediating systems (Castro, 2015) for PED and renewable energy community policy at European and national levels (Batel & Devine-Wright, 2015) can also be instrumentalised and become gatekeepers for the relevant skills, knowledge, and tools needed for citizens to become an effective energy prosumer. This stresses the contradiction of the discourses presented above, which put the full responsibility for being prosumers or active consumers on individual citizens themselves.

<u>TOS1: Self-responsibility/commodification of the self through smart meters and transparent information</u>

The process of incentivising individual change through expert technologies of governments necessitates the process of commodification of energy citizens, so that they can measure up the energy they generate and self-consume. This turns citizens into investors, calculating entrepreneurs of the self, to maximise their benefits from the labour and financial cost that they invest. The technologies for self-responsibility such as smart meters/smart grids, transparent information, and price signals are presented in the discourse of the municipal officer and representatives of the energy community below:

> Extract 8:
>
> 1. What I see is the situation of us realising that: I have to have smart meters, and that gives me information of the house every thousandth of a second. Whether it's the situation where I have an energy-consuming meter or it's a meter that is feeding my energy [that is generated] into the grid. And these meters can communicate with each other. We will often be able to have a situation that allows us to do, through an aggregator, perhaps, I will say this way: a direct

exchange of energy with the building next to me. (LGU&M_CMTV Urban and Mobility, Pos. 24)

2. I suppose it's all about two things. One, the transparency of the process. And that's why the municipality is one of the participants. We want to assure everyone that energy community does not have [inherent] market and speculation problems. No, no, no. It's more transparency, it's the money you put in there. This is the expense; this is the kilowatt/hour product we are selling. The other aspect is the value of the kilowatt/hour that we are going to pay and the income for investors will be fixed. I put money into the project and I have a return that is fixed. If I am a prosumer, I have both, I invest and I consume and I have the return on that investment. (BE_CMTV Energy community, Pos. 59)

3. And we also have a department here that we collaborate with, that is education and consumer information, not only in schools but everywhere, what they can do. And one of the things that they can do, it's as simple as every month communicating to the company the result that is on the display of the energy meter. Because by this procedure, the bill next month, it's going to be the correct amount. (CSE_DECO, Pos. 88)

As neoliberal technologies of government demand that "we have to be able to find a way to make sense of energy" (Extract 6.1), the smart meter and smart grid become indispensable technologies of the self. They not only inform citizens about their energy consumption and generation but also make it visible and manageable for the *aggregator*[9] to exploit by allowing energy exchange with another building (Extract 8.1). Likewise, the transparent process and price signal in the energy community are assumed by the expert to facilitate citizens' decision to consume or produce energy by showing how much citizen-investors could gain individually (Extract 8.2). Energy citizenship is then reduced to the use of given technologies and the choice of investment of citizens' resources and concern for only oneself rather than others. This not only commodifies energy citizenship but also abstracts citizens from the social and environmental impacts that energy investment could have on community and society levels (Adams et al., 2019; Ong, 2007). This is further discussed in TOG4 and TOS2.

[9] An aggregator is a grouping of agents in a power system, which acts as a single entity when engaging in the electricity market. In other words, the aggregator combines the small consumers into a single purchasing unit to negotiate with the retailers. The aggregator also negotiates demand response with the retailer, and electric power suppliers.
(source: https://www.sciencedirect.com/topics/engineering/aggregator)

"Nudging for energy efficiency consumption" as technologies of government (TOG3 & 4) together with "Naturalising inequalities and normalising changes" as technologies of the self (TOS3 & 4)

TOG3: Managing acceptance for infrastructure change to condition energy/transport behaviours

In energy efficiency, nudging is used more often as a technology of government to change consumption habits. These are changes in environmental/material context to induce desirable behaviours. For example, condition parking is promoted by an interviewee from a public bus company to reduce cars in the city, as exemplified below:

Extract 9:

1. It's the only possible solution I see. You're not going to try to convince people, because people don't get convinced. Because, man, it's the comfort of coming by car […] And one of the ways I see it is to condition parking. […] If the City Council decides regularly, instead of having 10,000 parking spaces in the city, to reduce that to five thousand, people don't even realise that parking is disappearing and accept it easily. Easier than being a very imposed thing. Practically in a sensitive and gradual political management for people to get used to new conditions. (BM_Barraqueiro Oeste, Pos. 25)

2. People also complained online about the paid parking scheme. Because they don't see it as a means of enforcing rotation of the parking spots. They see it as a means of collecting taxes. Which it is not, because it's actually very cheap to pay for parking. (TEP_CMTV public relation, Pos. 16).

3. So, I think this is just a small example of how involving communication since the beginning of the process, may improve people's perception and acceptation of the changes as well. Because some aspects are not completely technical. I remember my colleague from the botanical gardens department, they, she told me, "But moving a tree from one place to another doesn't guarantee that it will survive, maybe it will die either way." And I told her, "This is not a botanical decision, this is also a matter of perception, at least we tried, we showed that we care." And this is very important for the people's perception of our cause. So, I think communication really should be involved from the beginning. At least as an observer. (TEP_CMTV public relation, Pos. 30)

According to the extracts above, information and awareness about the climate crisis is not enough to ensure a shift in transport habits because of car dependency. The solution presented by most participants is not to impose things on energy and transport users but to change conditions, such as building more bike lanes and reducing the parking space in the city so sensitively and gradually that citizens "don't even realize" and "accept it easily" as their own free choice (Extract 9.1). This is the typical example of a neoliberal "political management" or governmentality in transport and PED interventions (Hamann, 2009; Phelan, 2020). As nudges are presented to be less imposing than law and order, such manipulation of energy and transport behaviours through material conditions without consulting citizens, however, also does not leave space for citizens to have agency and real power in discussing its pros and cons and deciding on the solution for themselves. This nudging technology of government, therefore, resulted in the misinterpretation of citizens' complaints about the paid parking scheme (Extract 9.2) as irrational – "which is not [a means of collecting tax] because it's actually very cheap to pay for parking". While instead, the injustice dimensions and consequences of these interventions actually obstruct more democratic uptakes of energy citizenship in the public sphere. Even when public relation/communication is involved (Extract 9.3), it is more to improve citizens' perception towards the top-down green infrastructure change decision such as bike lanes, rather than recognising the social and ecological impacts of removing trees from the street and addressing procedural injustice issue by involving them from the beginning to map and design the bike lanes in the city.

TOG4: Making energy abstract in everyday life to alienate citizens from energy topics

Nudging energy behaviours without leaving room for citizens' reflections inactivates their participation in the public sphere. This is also reified by how, despite policies on PEDs and increasing public discussions about smart metering and prosumerism, energy is still largely made invisible in contemporary societies by energy developers, corporations, and governments, both infrastructurally and communicatively (Ambrose, 2020; see also Batel & Küpers, 2022). For example, many participants from Torres Vedras city council commented that consumers only think about plugging in electronic devices and do not seem to care about energy sources. The extracts below discuss the alienation of citizen from energy topics as political matters.

Extract 10:

1. I think it's an awareness problem because what it did is for the last decades, maybe two centuries, we are trying to hide the energy sources. […] so you don't see the factory, you don't see the engine, you don't see the mechanisms and the way they are consuming energy. […] And if you ask around, if they think that coal is being used to produce the energy of their lamps, most of the people will say this is a past thing. That we are not using coal anymore. And in the end coal is the most used means of producing electricity in Portugal. So, when you hide from people's eyes the way that energy is produced and consumed, I think it's more challenging to give this awareness. Because it's just a light, it's just a switch that you turn off or on, and you don't have the perception of the consumption of energy. (TEP_CMTV public relation, Pos. 70-72)

2. Energy does not have colour. I don't know if the electrons that come in my grid are green or grey, I don't know that. What I know is, can I do something to change what is happening in terms of the environment? Can I free my conscience and do what I can do to save water, to apply the water that I use in my house more efficiently? (BE_CMTV Energy community, Pos. 13)

3. I think we go about our daily life, and routine sets in, and we let things be decided by the big shots, let's say it like that. And sometimes, I'm not sure energy is the first topic that you would think about in your daily life. Maybe you think about it when you go, "Oh, let's turn off the lights." (CSP2_Incluir+, Pos. 12)

These extracts represent the active effort of energy management to hide energy and safe from questions from citizens "so you don't see the factory, you don't see the engine, you don't see the mechanisms and the way they are consuming energy" (Extract 10.1). These are symbolic ways to say that citizens are ignorant, do not have the cognitive capacity or need to care about the politics of how energy is produced in their everyday life – "most people say coal is a thing in the past in Portugal" (Extract 10.1) and "I don't know if the electrons that come in my grid are green or grey" (Extract 10.2). This active technology of government makes energy abstract in everyday life, and hence, precludes citizens from questioning it – "I'm not sure energy is the first topic that you would think about in your daily life" (Extract 10.3). Such an automatic mode of living, typical of neoliberal capitalism and that also applies to what we eat, wear, and consume in general (Brand & Wissen, 2013; Durkin, 2019; Fromm, 1968), limits citizens to engaging only in their private sphere of consumption because "we go about our daily life, and routine sets in" and we only think about

it “when you go ‘Oh, let’s turn off the lights.’” (Extracts 10.1,10.3). They prefer to give up their power to big energy companies and the government as “we let things be decided by the big shots” (Extract 10.3). This renders citizens passive political subjects who simply conform to the energy efficiency measures that experts recommend and let energy companies continue to exploit natural resources, such as coal, as usual.

TOS2: Naturalising social inequalities by seeing the public as homogenous, excluding low-income and marginalised people

By incentivising prosumership as an individual responsibility (TOG1&2, TOS1) and nudging for behaviours change by accepting changes in infrastructure (TOG3&4), these neoliberal technologies of government assume that everyone has enough resources and capabilities to conform to this new social norm. While in fact, some civil society participants highlighted the polarisation between new, wealthy citizens investing in retrofitting their house and old people who do not have investment capacity but still need to be responsible for their own energy consumption (Levenda, 2019). Extract 11.1 below demonstrates how social inequalities are often naturalised in the discourses of individual responsibility by seeing the public as homogenous, while Extract 11.2 discusses the different groups affected by the change in energy and retrofitting plan of the municipality.

> Extract 11:
>
> 1. The importance of citizens is fundamental, isn’t it? We’re trying to set the tone here, aren’t we? But the citizens are going to make the difference in how or not we are going to be able to make progress on these issues, right? What we have to do is give them the skills in this initial phase, so that later they can make the investments that are necessary to be able to live better, to comply with the reduction of emissions that are required. We are fighting climate change, but it is up to each one of us to change behaviour and improve the energy condition of our buildings. The way we move. And even our daily commitment, right, the products we acquire. (LGE_CMTV Energy and Sustainability, Pos. 38)
>
> 2. I think, as I told you before, this is a sedimentation process. I think people will, maybe not in conscious way, but with time, with exposure to the process, they will reduce energy consumption. Of course, it’s more likely that this happens in the middle classes, because some of the people have such a low income, as I told you, that they can’t reduce anymore. And the

other ones, they have such a high income that they don't feel they are part of the problem. So, I think it's the middle here that we need to affect the most. (TEP_CMTV public relation, Pos. 80)

3. In that zone [Encosta] those people, as I have told you, they are old, they have old houses, very rudimentary construction, and so they aren't able to have energy and sustainability improvements, and they don't have good habits either. On mobility, Encosta is a very difficult place [to access] because they are on the slope of the hill. […] We have renovated houses for the new people. The old people died. They do remodelling on the house and they're going to rebuild it. And then the new habitants put some solar panels, they put no gas, only electricity, whatever. The old people have a bad impact because they have no money to pay for heating… They just do the basics, only what they need. They need food, they cook food with gas and they take baths maybe, one or two baths per week, no more, because they need to spend energy on that too. (CSP3_Somos Comunidade, Pos. 36)

Extract 11.1 shows that incentives have to couple with communication of energy literacy to convince citizens to make the investment that the local government wants. These are individual investments and behaviour changes that citizens are expected to comply with as a self-responsibility. However, the generalisation of the "the citizens" as a homogenous public naturalises hidden inequalities in access to resources and capabilities among different groups in the local area (Edwards et al., 2016; Groves et al., 2021). Indeed, different from the middle class who can comply to the new norms of using energy efficiently and the high income class who are interested in investing in renewable energy, the working class, or "low-income" class, is excluded from both the definition of energy citizen as sustainable consumer and incentivised prosumer (Extract 11.2), thus, making them a non-citizen (B. Anderson & Bauder, 2014). By mentioning that these working-class citizens are living in an "old house" with "rudimentary construction", as well as located in the area of the city that is "difficult to access", Extract 11.3 highlights that socio-economic, material, and structural conditions also limit citizen participation in making initial investments and adapting to the new behaviour paradigm. These structural inequalities, in turn, make those old people vulnerable to the process of environmental gentrification (Rice et al., 2020; Ropert & Di Masso, 2021). This process of misrecognition renders their voice and their old way of life obsolete, because in this discourse, the old people die, the house is going to be rebuilt to make way for new people, new habitants who will put solar panels, not gas, in their neighbourhood (Extract 11.3).

TOS4: Building energy efficiency literacy for vulnerable consumers

Although changing energy efficiency habits and routines depends partly on different capabilities and partly on different living and material conditions that different groups of citizens have, in the neoliberal approach of technology of the self, stakeholders focus mainly on building capabilities for the energy efficiency of individual consumers without addressing structural issues. Legitimated by the TOS3 "naturalisation of inequalities", the extracts below demonstrate how capability building activities for vulnerable groups who suffer the most from the bourgeoning of new energy efficiency technologies and programs have become the widespread view of participants working on energy poverty and energy community.

Extract 12:

1. It's cheap [solar energy during the day], and I say, "No, I'm not going to use my washing machine at night." As I have been doing for the last twenty years. I'm going to use it in the morning or during the day. That is my role, that is my participation. My quality of life is the same as it was. […] but we have to tell them, "Ok, we have to spend less. And you will spend even less if you adapt your way of life […] by changing your routines. If you have changed your routines, you can save money and be more user friendly in terms of your environment and be a liquid contributor to climate change [issues]." (BE_CMTV Energy community, Pos. 13-23)

2. In terms of energy, they have no recycling habits. They have no habits of – they are not used to energy sustainability. And work with them is also about this. When we do activities with them, we always say "Be careful, let's go recycle, let's turn off the light. If it's not needed, we will try to get some natural light." (CSP 3_Somos Comunidade, Pos. 34)

3. Ideally, and we want to do that in the next year, we would like to, to give like a formation, mentoring, or training to our beneficiaries, in how they can reduce consumption, energy consumption. So, watch out, don't leave this light on during the night, you need to do this or that in order to be more efficient. You need to open the windows from *this time to* that time. In this time of the year, etc. (CSU1_Just a change, Pos. 10)

The shift to new routines such as using the washing machine during the day when there is solar energy generated or not leaving lights on during the night are communicated as desirable for citizens to be more energy efficient (Extract 12.3). While most stakeholders assure that the quality

of life of citizens is the same as it was or even better than before because they spend less – Extract 12.1 – it is not the case for all citizens. In fact, research on energy efficiency measures such as smart meters or retrofitting homes has already shown the struggles of the elderly, people with special needs, and those who do not own a house in committing to this neoliberal technology of the self (Ivanova & Middlemiss, 2021; Waitt et al., 2016). By naturalising structural inequalities (see TOS3), these technologies of the self presuppose a passive role of vulnerable citizens as beneficiaries – Extract 13.3 – who are not used to energy sustainability – Extract 12.2. The awareness building of energy efficiency literacy is highly consensual even among CSO group and still based on the cognitive deficit model of citizens (Wynne, 2006). Thus, this TOS3 victimises them and subjects them to the expert's power based on knowledge to address their energy poverty issue in a neoliberal way without questioning why they do not have recycling habits nor what energy sustainability means for them.

Summary and discussion

Table 7.2 below summarises the results of the analysis by showing why the neoliberal representation of energy citizenship is hegemonic. First, there is a consistent presence of neoliberal governmentality dimensions in stakeholder groups such as local government, technical experts, and business. This tendency happens more in the stakeholders who focus on energy and mobility fields and less present in the stakeholders who focus on urban planning and public participation in general. Specifically, the reification of neoliberal energy citizens as only consumer, prosumer and nothing else in these dominant groups is instrumentalised and backed by the green growth objectives of the government through technocratic or market rationalities or both. Each rationality legitimises related technologies of government and technologies of the self. While commodifying renewable energy legitimises incentives and metering devices to make energy citizens take responsibility for their energy efficiency, depoliticising renewable energy infrastructure is used to manage acceptance for nudges and changes in infrastructure, thus making change in energy routines and behaviours a social norm for citizens to conform to. This reification of neoliberal representation of energy citizenship, together with its associated governmental devices and practices, however, leaves out the question of justice and inclusivity by depoliticising energy in everyday life. This means less reflection is present on whom these incentives and nudges are designed for and what social inequalities they generate or perpetuated. By shifting the focus from

the energy citizen as a consumer and prosumer to other forms of participations and exclusions, we explore other representations of energy citizenship in the following sub sections.

Table 7.4 *Presence and absence of hegemonic representations reified by stakeholders in the interviews*

Reification	Neoliberal subjectivities		Green growth rationalities		Technologies of government		Technologies of the self	
Participant codes	Setting boundaries of neoliberal energy citizenship	Instrumentalising energy citizenship	Commodifying renewable energy and green infrastructure by technocratic rationality	Depoliticising renewable energy and other forms of energy citizenship by market rationality	Incentivising individual behaviour change by legal, financial, and technical support	Nudging for energy efficient consumption by managing acceptance and making energy abstract	Self-responsibility by smart meters and transparent information	Naturalising inequalities by normalising energy routine change through energy efficiency literacy
LGE	Absent	Present	Present	Present	Present	Present	Present	Present
LGU&M	Present	Present	Present	Present	Present	Absent	Present	Present
LGP	Absent	Absent	Absent	Present	Present	Absent	Absent	Present
TEE	Present	Present	Present	Present	Present	Present	Present	Present
TEU&M	Absent	Present	Present	Present	Present	Present	Present	Present
TEP 1	Present	Absent	Absent	Present	Absent	Present	Absent	Present
TEP 2	-	-	-	-	-	-	-	-
BE	Present	Present	Present	Present	Present	Absent	Present	Present
BM	Present	Present	Present	Present	Present	Present	Present	Present
CSE	Present	Present	Absent	Absent	Present	Absent	Present	Absent
CSU 1	Present	Absent	Absent	Absent	Present	Present	Present	Present
CSU 2	Absent	Absent	Absent	Absent	Present	Absent	Present	Absent
CSM	Absent	Absent	Absent	Absent	Absent	Present	Absent	Absent
CSP 1	Absent	Absent	Present	Absent	Absent	Present	Absent	Present
CSP 2	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
CSP 3	Absent	Absent	Absent	Absent	Absent	Absent	Present	Present
CSP 4	Present	Present	Absent	Present	Present	Present	Absent	Present

7.3.2. Negotiation of hegemonic representations by emancipated representations and alternatives to technologies of government

Marginalised subjectivities: vulnerable citizens and engaged, confident, empathetic citizens

Instead of having a fixed view of citizens as passive, conformed consumers and very active prosumers, like the hegemonic representation, some stakeholders recognise and try to address the exclusion of marginalised and vulnerable citizens by calling upon the emergence of their agency.

S1: Recognising the different conditions of marginalised citizens and different needs of vulnerable citizens from neoliberal energy citizens

There is marginalised citizen subjectivity presented by some civil society stakeholders. They highlight the extremely socially excluded condition that some groups of citizens are facing in the capitalist system, not only between Global North and Global South but also within the same country. These groups are identified as the poor, the elderly, and people with special needs as the extracts below demonstrate:

> Extract 13:
>
> 1. So, people that we help, like I said, they don't have a cell phone, they don't have internet, they don't know to read, some of them, and we are in Portugal, you think that this happens in Africa or somewhere else, but no, this happens here. So, there are people with no electricity, no bathroom and the programs that are developed by our governments, they don't get to this kind of situation. So, they need a lot of bureaucracy, they need a lot of documents, they need a lot of stuff, and it's very hard for them to participate and be part and benefit from it. So, a lot of times we are the ones who do this work, for them. (CSU2_Just a change, Pos. 10).
>
> 2. Yeah, because in Portugal we have a problem. We are going to be, in twenty years from now, the country with the oldest people in Europe. Because our rate of birth is too low. So how will the municipalities, the government, the state, how will they manage that crisis? … Of course. They need to be engaged with all that concerns the city, the places where they live. They have something to say. They are not disposable. Because in our culture, Portuguese culture, I think in the south of Europe, Portugal, Spain, Italy, we have this sense that the other people, "Okay, done. Your time is running out." They don't have anything important to say. They don't have anything important to do. (CSP1_Incluir+, Pos. 14)

3. Of course, mobility and public transport is very important to people with disabilities. And this is related with the offer that we have in Portugal. We don't have so much to offer people with disabilities when we are talking about transportation. And for example, if you create a new strategy related to bicycles or another transport that they can share in the city, for example, we should think about one transport like a bicycle or similar, that people with disabilities can use it. And we don't have in Portugal, for example. There are in other countries, but we don't have it. (CSM_Salvador, Pos. 11)

According to these stakeholder's representations, vulnerable and marginalised energy citizens are constructed as those who are excluded from the neoliberal representation of PEDs or smart cities. Extract 13.1 reveals that even "the [neoliberal] government programs don't get to this kind of situation", the extreme poverty that one might assume "happens in Africa or somewhere else". By demystifying that social inequality problem and showing it does not only pertain to the Global North vs. Global South, but also exists between the different class, age, and ability groups in a Global North country like Portugal, the extract reveals that such beliefs estrange these cases of poverty, of the older population, and of people with disabilities. This means regarding them as disposable citizens, who supposedly don't have anything to do or to say about the city and the places where they live (Extract 13.2). Since the government has limited to no responsibility for these citizens, particularly in energy and transport issues, it ends up further excluding them from social and political participation, because "we don't have so much offer to the people with disabilities when we are talking about transportation" (Extract 13.3). The recognition of these almost forgotten subjectivities of energy citizens is the first step in constructing other narratives and possibilities for their further engagement and agency.

S2: Building different narratives and agency of engaged, confident, and empathetic citizens from the conformed consumers and incentivised prosumers

The emergence of more agentic subjectivities for vulnerable and marginalised citizens are negotiated in different forms, be it a more engaged beneficiary in housing retrofit projects, a more confident energy consumer in dealing with energy companies, or a more empathetic citizen towards people with disabilities. These extracts below demonstrate how their agency is at odds with the traditional ways of seeing and treating energy and transport poverty.

Extract 14:

1. Yes, the Portuguese consumer has changed over the last year. They are better now, they complain more directly and make a point of making their rights heard. But there's also still the opinion that if they complain to their county or the water company that serves their house or the electricity company, that they are going to by some means do some mischief to the consumer. But that's more in the interior than coast of the country. But that's still that thought on the minds of the consumer, that if I do this, I will get, … some negative feedback from the company that is going to do something bad to the consumer. But things are changing. The consumer in Portugal, they're more, day by day, more confident and not only do they know a little about the law, but they also complain and know how to complain. And if the thing does not get resolved, then they ask us for help. So, it's not like some few years ago when they didn't do anything, they come to us. "I don't know what to do." But the process is slow, unfortunately but that's it. (CSE_DECO, Pos. 38)

2. So, if it's a company, ideally, I move the person out of the house, and do all the reconstruction, and then I put the person back. In the house. With Just a Change it's not like that. So, we want the person involved, we want the person putting themselves in the situation of helping themselves, so they, if they can cook for the volunteers, they cook, if they can work, they work, if they can help, they help. So, they need to be part of the renovation and they need to feel that they are part of the solution for themselves. (CSU2_Just a Change, Pos. 4)

3. Yes, I think not only the people with disabilities, but everyone in society, if you are thinking about this problem, you can have a role in society. You can do things differently. For example, if you go to a restaurant tonight, you can talk with the guy from the restaurant and ask about accessibility and create some awareness in this regard. So, you don't have a disability, but what you can have is a role in society changing mentalities. If you are aware of the problem, you can make your friends and the places that you visit aware too. And people with disabilities, also, because if I go to place that is not accessible, if I'm in a manual wheelchair I can enter, with some help. But if I'm in an electrical wheelchair I cannot, because it's very heavy and we cannot enter the place, for example. So, we want to have autonomy to go everywhere alone if I can. (CSM_Salvador, Pos. 13)

In the negotiation process, the stakeholders normally use the historical narrative ("the Portuguese consumer has changed over the last year", "they're more, day by day, more confident…") and temporal dynamic ("but there's also still the opinion…", "but things are changing") to describe a not very straightforward and slow process of gaining agency in energy

citizenship. This adds nuance to the hidden barriers that vulnerable and marginalised citizens have to suffer to recognise and have their energy and transport rights protected (Mattioli et al., 2017). This is demonstrated in Extract 14.3, when people with disabilities do not seem to realise their right to autonomy and everyone does not seem to realise their role in changing mentalities towards accessibility in energy, building, and transport. One main barrier to having this agency to change, in the case of individual complaints for example, is the mistrust from citizen-consumers towards the company, which might "do some mischief to the consumer" if they complain (Extract 14.1), which reflects the power imbalance that individual citizen-consumers have had through the history of energy monopoly and especially the fear of public complaints during the dictatorship in Portugal (see Batel & Küpers, 2022; Santos Pereira et al., 2018). Therefore, it legitimises the interventions of mediating actors such as DECO or Just a Change, which not only give citizens more confidence to complain about their energy or transport issue (Extract 14.1, 14.3) but also to "feel that they are part of the solution for themselves" (Extract 14.2). This emancipated representation of energy citizenship, however, does not necessarily acknowledge that vulnerable citizens know what interventions and solutions are best for themselves but still need to rely on the interventions of mediating actors to elevate themselves to a standardised quality of life and democracy that other "normal" energy citizens inherently have (Droubi et al., 2022).

Social equality rationalities: energy as a necessity for quality of life and energy as a universal right

The rationalities behind these negotiated subjectivities are the pressures from social inequalities and energy injustice to meet a certain standard quality of life. By paying attention to the political liberal discourse of individual rights, we explored the tension between energy as a commodity in a private market and energy as a public service as two opposite truth claims unfolded in the negotiation of responsibility between consumers and energy companies as well as the government.

<u>R1: Energy as a necessity for quality of life by negotiating consumer vs. company responsibility in energy/transport poverty</u>

According to the hegemonic representation of energy citizenship that is mainly based on the rationality of energy as a commodity, citizens need to buy or sell renewable energy in the market in order to be good energy citizens. Meanwhile, there are also emancipated representations that do not recognise energy as a commodity but rather a basic necessity for citizens to use and function

in modern daily life. Impacts on the well-being and quality of life of those who suffer from the neoliberal imagination of PEDs are identified as the main problem for energy citizenship to act on. The energy threats that they live with due to their basic energy condition are expressed through complaints about high energy prices, which cause energy poverty, and disapproval of for-profit extraction by energy companies in the extracts below.

Extract 15

1. I think that, for starters, in Portugal, we are going to start being Portuguese and complain, it's what we do. No, but we pay a lot for electricity, the prices, for Portugal, are the highest in Europe. And we have the fourth lowest salary in Europe, I think. So, our salaries are now around 700, but with all the taxes it falls to 600 and something, so it is hard. Water in Portugal is not the most expensive, I would say, but electricity is. (CSP2_Incluir+, Pos. 2)

2. So, the main theme that you spoke of, it's a theme that is dear to us, so to speak, energy poverty, because there are a lot of layers. There is one that you speak of, the people that suffer from that are also, we are talking about the classic problems of classes. So, the consumer that doesn't have the means, so to speak, to reach out for information, that's the consumer who most needs that information. So that's a big problem. And we receive a lot of complaints about consumers with that problem. But the thing is, like you said, that consumer doesn't have that information, so when they reach DECO, most of the times, of course something can be done, but most of the times they reach DECO at the time that the energy has been already cut off, either gas or water, or they have already received a notice from the company that they are going to shut off service in the meantime. (CSE_DECO, Pos. 88)

3. It is clear that EDPs and GALPs will always have a say in these things, we shouldn't try to run away from the situation. I think we cannot, as intercity communities, be held hostage by EDPs and GALPs. Because we are here to protect citizens […]. I think companies should make a profit. [But] we have to have the ability to understand the extent to which this benefits businesses and citizen, or is only benefitting businesses. And if it's only benefitting the companies, there's something wrong. Because the principle is that all citizens can benefit from the situation. […] So that we can have, here in other words, have public energy policies that can catch this more social part. (LGU&M_CMTV urban and mobility, Pos. 38)

With a high energy price in proportion to factors of cost of living, such as water and a low minimum wage, energy poverty becomes an emerging and important issue among consumers from

lower classes in society. Their struggles for meeting their energy needs are represented through everyday complaints – "no, but we pay a lot for electricity, the prices, for Portugal, are the highest in Europe" (Extract 15.1) and because the consumers who don't know how to reach out for more information about their rights needs this the most and are affected when they have their energy cut off by the company (Extract 15.2). Directly relating to the PED model, the worry that energy generated by the energy community will be sold to energy companies rather than benefitting local citizens underlines an assumption that vulnerable citizens are entitled to free or affordable local energy rather than having to pay a high price for it from national and international energy companies. The negotiation of energy as a necessity that all citizens, especially vulnerable ones, need to have access to in order to maintain their quality of life, thus, justifies the government's protection of citizen-consumers from company extraction by addressing "public energy policies" to "catch this more social part" (Extract 15.3).

R2: Energy as a universal right by negotiating citizen vs. government responsibility

While in the hegemonic representation, technocratic and market rationalities are what underlines the responsibility of active citizen participation in energy efficiency, not only financially but also environmentally, an emancipated representation negotiates the supremacy of such rationalities. These extracts below, for example, debate that reducing negative impacts of energy on climate change is not only the responsibility of individual citizens, but it is the responsibility of the company and government as well to save the environment and secure the positive impact of energy on citizens' lives at the same time, as a universal right to energy and right to environment.

Extract 16

1. It was in sequence of the COP 26 and our experience in the last years that we see that there's nothing being done here [about energy and climate] in Portugal. It's always that the consumer has to do this or to do that. And it was like almost a moral thing. And for some years now, we, at DECO, are trying to, that the environment is a right of the consumer, the right to a clean environment and everything, but we haven't at this moment achieved that. But the law of the climate that I have said before, it was a good advance. So now the counties have really to take some action. (CSE_DECO, Pos. 32)

2. And we believe that when we are talking about energy, we have to think that it is a right of the citizens, and that we can create communitarian solutions in order to narrow the

inequalities that exist towards that specific point. Because in Portugal we have a problem concerning energy poverty, the level of energy poverty is high in Portugal compared with other countries in Europe. And so, we believe that we have to pay attention to this specific issue and to provide for people who have less skills, who have less resources to also be at these transitional paths. (LGP_CMTV citizen participation, Pos. 6)

3. I don't think a city of this size, has the influence, the power to influence the sources of energy. But what I think personally, is that this public speech of each citizen being responsible for climate change, but sometimes it feels a bit bogus for me. Of course, because when the European Union decided to switch every light bulb to LED lights, they did it with a law. They didn't try to convince people or energy shame people, right, about their consumption. They just passed a law and prohibited the production of other types of light bulbs. So, I don't think it's up to individual citizens. […] And this may be the change that people try for big corporations and states, and try to give back a responsibility. It's not my problem, it's your problem. Because in the end, each citizen doesn't have the power to change the laws. And I think there are many people who would stop consuming meat or spare energy if there were laws or processes for switching these behaviours. (TEP1_CMTV public relation, Pos. 84)

Although pointing towards different directions of interventions, these discourses from government and NGOs experts working with social issues in energy and citizen participation have common critiques on the failure of the neoliberal program in addressing both environmental and social problems. On the one hand, it expresses a total mistrust in the government as "there's nothing being done here [about energy and climate] in Portugal" despite the government's commitment to COP26. Instead, it shows the hypocritical face of the government in shifting their responsibilities to the citizens by complaining that "it's always like the consumer has to do this or to do that. And it was like almost a moral thing" – Extract 16.1 or "I don't think it's up to individual citizens" – Extract 16.3. On the other hand, the recognition that energy, as a part of the environment, is a right for citizens (Extract 16.1, 16.2) pushes the responsibility back to big corporations and states (Extract 16.3). This rationality not only overcomes the abstraction of energy in relation to the environment like the climate catastrophism (see Beck, 2014) discourse in the hegemonic representation, but also implies that more agency is needed for those "who have less skills, who have less resources to also be at these transitional paths" (Extract 16.2). However, this focus on individual agency in claiming their right to energy and right to environment is

overshadowing the potential for collective agency as it assumes that "each citizen does not have the power to change the law" (Extract 16.3).

"Consumer-citizen protection" as technologies of mediation (TOM1) together with "consumer-citizen complaints" as technologies of participation (TOP1)

By framing energy citizenship as individual rights claims for a universal basic need for energy, some stakeholders negotiated with neoliberal technology of government such as incentives by advocating for consumer-citizen legal protection and social welfare while encouraging citizens to be active in asking for these benefits. This legitimises a third-party position for customer service and complaints as technologies of mediation in order to mediate the imbalance of power between consumer-citizens and the company or the government.

TOM1: Legal protection and social welfare

Both national and local institutions are called to take responsibility for vulnerable citizens' energy needs by providing both the legal framework and material conditions to protect vulnerable consumer from the exploitation of the market. This highlights the role of legal consultation and municipality council responsibilities as the extracts below demonstrate.

Extract 17

1. So, if you have some kind of problem and you have a document that proves that you have, let's say, 60% or more of some kind of problem, disability […] but the right to that discount, and that right applies either to you as a landlord or as a person that is in the house with that lease contract. […] It's a big problem but our law gives special protection to this case. It's not – these cases and all because, with the deadlines that the companies have to comply with and also the consumer that has that problem and doesn't have the means to pay this or that, we can talk again of that thing, the social tariff that the consumers can reach because it's a big help toward the bill at the end of the month. (CSE_DECO, Pos. 66-88)

2. I remembered that a little while ago I did not mention that the issue of the creation of energy communities, especially in which the municipality is involved, can also be a way for this community to be able to sell energy, for example to more disadvantaged people, to social neighbourhoods, to people who have more economic difficulties, at a lower price. As long as it is proven that these people really do not have financial capacity, or have difficulties in

assuming the costs of electricity, there may be here a subsidised tariff for these people that will be shared directly by the municipality. (TEE_CMTV energy, Pos. 39)

3. I think [the municipal council] are paying attention to it, not just because we have a lot of older people in our association, but maybe because I'm more active in that subject now, they listen a lot to the needs of the elderly. Not just by creating the cheaper bus pass. But we have that on a nationwide scale, so it's not a local Torres Vedras problem. But, even, they renovated the building for the university for the elderly, for seniors. So, a few years already ago, it was then that the university started, I think, I don't know, maybe like ten years ago that the university started. And it was it was a good opportunity to see that OK, there's people wanting to go to school. Let's improve this. I don't feel that they listen a lot to, not just the older population. (CSP2_Incluir+, Pos. 8)

Although sharing the same objective of protecting vulnerable consumer-citizens by meeting their energy needs with quality, affordable energy, the funding approach is different on the national and local level and has different implications for citizen participation in the process. While at the national level, the government provides a safety net by giving subsidies to people having trouble paying the electric bill (Extract 17.1), at the local level, the government negotiates with businesses directly to have a cheaper bus pass, better public infrastructure conditions for the elderly (Extract 17.3), and direct distribution of energy generated locally for disadvantaged people (Extract 17.2). On the one hand, the former approach by the national government and its consumer defence agency still benefits corporate interest by having the same energy price for different households, and it requires consumer-citizens to actively claim their benefits from the government, potentially overlooking other vulnerable citizens that are not categorised as such formally, such as immigrants and those who do not own a house (de Graauw, 2021; Hiemstra, 2010). On the other hand, the approach of the local government is more attentive to the needs of the local citizens because "they listen a lot to not just the older population" and have the social responsibility and resources to address them – "it was a good chance to see that OK, there's people wanting to go to school. Let's improve this" (Extract 17.3). Interestingly, the energy community model that Torres Vedras is planning merges these two approaches. As Extract 17.2 shows, the energy community wants to provide local energy to vulnerable citizens, but by relying on a social tariff from the government and its verification requirements of vulnerable citizen status rather than trying to understand who is in need and who can support them by providing energy directly at a lower price. This lack of

solidarity in the local community is a result of the rationality based on individual agency rather than collective agency in solving these social inequalities in the local area.

TOP1: Citizen-consumer complaints through customer services

As the default options for energy and transport are designed for neoliberal and able-bodied citizens, most of the legal framework and subsidies for vulnerable citizens are not effective unless citizens know and claim them. Therefore, the technologies of mediation above are coupled with different channels for consumer rights consultation, consumer complaints through customer services, and supporting digital applications. These technologies of participation for citizens to become more engaged and confident are exemplified in the extracts below.

Extract 18

1. I think nowadays we have very intuitive ways and ways that are easy and that take little time for the consumer to do things like that, to approach the companies and say or complain about something. But like I said, it's not just about information in this case, because nowadays the consumer in general knows that what he has to do is write in the red book. In the stores. The complaint book. Or on the internet and that complaint or that idea, not only the company but also the entity that regulates that sector automatically and by law, they have to answer in 15 legal days to that. (CSE_DECO, Pos. 80)

2. So, we have, the people here are still very dependent and need a lot, they spent a little bit at the ticket office in Torres Vedras. […]. And when they feel that they need something, a new stop, easily this information arrives at the terminal and Torres Vedras, you can see the movement or the ticket office. Something comes by email, or requests are made to the parish councils, a very large contact with the parish councils in which we [inaudible]. Ease of communication, information gets here easily. We are aware of the situations that may require progress. And solutions, we make here after an evaluation and see if you can, as a rule we can always meet the requests. There's a more complicated thing or another, we don't have, sometimes we can't answer. There won't be, we don't think there's enough demand that, and no, try to serve. (BM_Barraqueiro Oeste, Pos. 81)

3. And also, in Portugal we have an application created by *Associação Salvador* that is called *Mais Acesso para Todos*, and everyone can specify all the places that they visit. And you can also make a complaint in this application that goes directly to the entities responsible for the inspection. So, we can create a database, a big database that you can search for which

places can you go and so it's another part that you can do in your daily life. (CSM_Salvador, Pos. 13)

The means and forms of complaints could be diverse, from in-person with the "red book" in stores (Extract 18.1) or at the ticket office of the bus terminal (Extract 18.2), to digitally by applications such as *Mais Acesso para Todos* (More Access for All) (Extract 18.3). However, the main technologies of participation that these stakeholders are referring to is the knowledge about citizens' right and the way to approach the company or the entity to file a complaint. Even though, one can question the effectiveness of the complaint when most cases reach the company or legal entity when the damage has already been caused to consumer, such as an electricity cut, the bus company refusing to keep or add a stop, or being excluded from a place due to lack of accessibility. Also, the fact that this bureaucratic process of complaints remains the responsibility of vulnerable citizens could cause them more stress and compensation, normally by economic means, does not necessarily generate sustainable solutions for their problems and exclusion.

"Public aid in infrastructure improvement" as technologies of mediation (TOM2) together with "citizen consultation" as technologies of participation (TOP2)

TOM2: Public aid to improve energy, housing, and transport conditions

To mediate the exclusionary impacts towards vulnerable citizens created by the umbrella approach of nudges for individual behaviour changes in the hegemonic representation, there are technologies of mediation that not only seek to improve environmental conditions for private use of energy and means of transport in general, but also tailor the public services of energy, housing, and transport to people's different needs, as presented in the extracts below.

Extract 19

1. The municipality has a lot of responsibility in these areas. Not directly, direct responsibility is in social housing, isn't it? We are responsible for allocating housing to the most vulnerable population, so we also have a lot of direct responsibility for the energy efficiency of the building, and after that, the set of other buildings it manages, municipal equipment, schools and, therefore, we have to be able to implement measures and actions that go in this direction, in our building. (LGE_CMTV energy and sustainability, Pos. 16)

2. The population. Look, they're essentially support for vulnerable groups. That is, our county is very rich in local associations that provide aid, or that complement what the state should do by itself. That is, patient transport, social support, meals, home cleaning, geriatric help. So older people. Or people with mobility difficulties, etc. And these neighbourhood associations always have a difficulty: transportation. Many of them, so much so that our participatory budget in the 2016 edition, it was said jokingly that it was for vehicles. Because they're looking at this kind of item a lot. A car adapted for disabled people, and this is within the Vulnerable Groups Support group, which is elderly, children, disabled people, etc. (TEP2_CMTV public budgeting, Pos. 12)

3. We have financial parts to have some new buildings and infrastructure inside the buildings, of the houses of the people with physical disabilities. To create accessibility. (CSM_Salvador, Pos. 1)

Taking responsibility for not only social housing but also public buildings like schools and hospitals, or public services like transportation for the elderly and people with mobility difficulties, the government assumes its role in providing efficient energy to the public through their infrastructures (Extract 19.1). This reveals a continued paternalistic approach of a social welfare state in cooperation with local associations to serve the objectives of the state (Davies, 2013; Yang et al., 2020). For example, the participatory budgeting process provides aid for local associations to "complement what the state should do by itself" (Extract 19.2) while more independently funded organisations like Salvador could have an independent agenda of building infrastructure to create accessibility (Extract 19.3). These technologies of mediation not only reproduce but also negotiate with the hegemonic view of vulnerable citizens as beneficiaries by advocating for their active participation in public consultation as discussed in the following.

TOP2: Citizen consultation in participatory budgeting

Another level of participation that citizens could take that is more sustainable than complaints and compensations is joining the consultation process to build public policies and services. The technology of participation for citizens to adopt, in this case, is not only complaining about their own problems but also contributing their feedback and solutions for the government and agencies to consider in designing measures and allocating resources. From citizen consultation and participatory budgeting to rating municipalities on digital platforms, the extracts below capture the variety of technologies of participation in this particular representation of energy citizenship.

Extract 20

1. And in that matter, this campaign, I don't know if you are seeing correctly, because this is the map of Portugal, and we have evaluated every county, and we give the opportunity also to the consumer to classify their county on that matter and to give us some advice or tell us some things that they want to change or that they think that could help the county to develop. (CSE_DECO, Pos. 16)

2. Because we have a platform, from the participatory budgeting, which is this one, but it only works when – this year it has continued to work, because we have not, as I say, we have not had face-to-face sessions, because of COVID. […] But this is the case, this platform, starts when people register and submit a proposal, and ends when the winners are announced. From there on, the platform is no longer operational for people to write or express their opinion. They can always send an email to the participatory budget and say "I don't agree. The crosswalk was placed poorly." But this is a situation that comes after the participatory budget. (TEP2_CMTV public budgeting, Pos. 26)

3. I would like also to emphasise that we think it is quite important to gather the engagement of the so-called beneficiaries of public policies, and that implies creating opportunities for vulnerable or underrepresented groups to also take part in these processes, because at the beginning when we started to do these kinds of consultation and participation processes more often, we identified some difficulties for some citizens to participate because their voices were not so loud that they could be heard. (LGP_CMTV citizen participation, Pos. 4)

Complementing the trickle-down effect of the neo-communitarian model in the TOM2 above, the technologies of participation let engaged, confident, and empathetic energy citizens negotiate for more participation from beneficiaries. The proposal found here letting these citizens evaluate counties in energy and sustainability efforts on an online platform (Extract 20.1, 20.2). However, the involvement of the beneficiary at the implementation stage is considered performative in democratic processes rather than a real democracy where beneficiaries participate from the beginning in the design phase of the intervention (Arnstein, 1969). Even when attention is paid to the vulnerable groups whose voices might not be heard, it is still to "create opportunities for vulnerable or underrepresented groups to also take in these processes" (Extract 20.3). However,

this normalisation of public participation does not question the exclusion of vulnerable groups by structural conditions from the beginning (Fraune, 2015; Levenda et al., 2020).

Summary and discussion

Unlike the hegemonic representation, there is less consistency in the presence of emancipated representations across dimensions of governmentality, except in the discourse of the CSE stakeholder, as shown in the summary Table 7.3 below. Instead of having a clear consensus of what is or is not a good citizen, as is reified in the hegemonic representation, some participants negotiated with neoliberal energy citizenship by recognising its consequences for marginalised groups and their power imbalances in regard to energy and transport companies and the state. The way they see how much agency vulnerable citizens have in addressing the impacts of neoliberal policies on their lives decides different strategies of intervention, from reformative to transformative. On the one hand, reformative strategy advocates for the integration of vulnerable citizens in the public agenda of modern quality of life by using a part of the institutionalised technologies of government (or as called here, technologies of mediation) that still rely on a bureaucratic process of legal and social welfare systems and focus on individualistic technologies of the self (or technologies of participation) such as citizens and consumer complaints. On the other hand, they also show potentially transformative aspects of more agentic moves by creating opportunities for vulnerable citizens to voice their concern in the democratic process, such as participatory budgeting and citizen assemblies. To what extent this would either challenge their marginalised status through more collective and productive agency or collapse to individualistic, consumerist, sceptical mentalities is the analysis presented in the next subchapter about the contestation of energy citizenship.

Table 7.5 *Presence and absence of emancipated representations negotiated by stakeholders in the interviews*

Negotiation	Marginalised subjectivities		Social equality rationalities		Technologies of mediation		Technologies of participation	
Participant codes	Vulnerable, protected citizens / beneficiaries	Confident, engaged, empathetic citizens	Energy as social necessity, negotiating consumer vs. company responsibility	Energy right as a part of environmental right, negotiating citizen vs. government responsibility	Consumer-citizens protection by legal framework and social welfare	Public aid for energy, housing, and transport improvements	Consumer complaints through customer service	Citizen consultation in participatory budgeting
LGE	Present	Absent	Present	Present	Absent	Absent	Absent	Present
LGU&M	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
LGP	Present	Absent	Present	Present	Absent	Absent	Absent	Present
TEE	Absent	Absent	Absent	Present	Present	Absent	Absent	Absent
TEU&M	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
TEP 1	Absent	Absent	Present	Present	Absent	Absent	Absent	Present
TEP 2	Absent	Absent	Present	Present	Absent	Absent	Absent	Present
BE	Absent	Absent	Present	Present	Absent	Present	Absent	Absent
BM	Absent	Absent	Absent	Absent	Absent	Present	Present	Present
CSE	Present	Present	Present	Present	Present	Absent	Present	Present
CSU 1	Absent	Absent	Absent	Present	Absent	Absent	Absent	Present
CSU 2	Present	Absent	Present	Absent	Absent	Absent	Absent	Absent
CSM	Absent	Present	Present	Present	Absent	Present	Present	Absent
CSP 1	Present	Absent	Present	Present	Absent	Absent	Present	Present
CSP 2	Absent	Present	Present	Present	Present	Absent	Absent	Present
CSP 3	Absent	Absent	Present	Absent	Absent	Absent	Absent	Absent
CSP 4	Absent	Absent	Present	Absent	Absent	Present	Present	Absent

7.3.3. Contestation of hegemonic representations by polemic representations and prefigurative politics

Deconstructed and reconstructed subjectivities: from disengaged and sceptical to involved and collaborative citizens

Understanding the social, historical, political context of disengaged and sceptical citizens

Although not very explicit nor highly present in the interviews, there are polemic representations that contest the assumption that citizens are ignorant homo economicus whose participation in energy issues could be easily activated by incentives or by different institutional or structural conditions (Batel et al., 2016). These representations highlight that the citizens in this case are not simply depoliticised by neoliberal governmentality, but have become disengaged and sceptical due to the socio-political context of busy working society, mistrust in industries and government, and the historical oppression from the government as the extracts below show:

> Extract 21:
>
> 1. I think it is the thing that I was saying, that the consumers, for them, there are many things going on people's lives nowadays, more ways to entertain themselves. And in Portugal, people seem to work more and more every day, every year that passes. So, they work so much that when they stop working, they want to rest and to live their lives. […] Okay, but it's like that, it's that the consumer just doesn't care enough to give [attention] unless it's a [personal] thing – so, if it affects the consumer directly, they make moves and they do something about it. But if we're talking about some ideas that can be a good idea to implement and things like that, the Portuguese consumer just doesn't care, or just, "On vacations when I have time to do that, I'll send an email or a letter or something like that." But unfortunately, that's the case here. (CSE_DECO, Pos. 86)
>
> 2. I think that this is because these last two decades, or three decades, we, as a state mostly, have tried to convince people that each citizen is responsible for their own recycling, for their own energy consumption or water consumption, and this put a lot of responsibility and stress on the individual citizen. But in the end, what the citizens may have got to a point that they felt that, "It doesn't matter if I recycle, if I save water, if I save energy, because in the end global consumption is not reducing, climate change is not changing. So, my actions don't matter." And what this is causing, I think, is a complete disbelief in the individual's responsibility. (TEP1_CMTV public relation, Pos. 84)

> 3. You are referring to a point that is very important, participation. Mobilise the people to do something. We are not very participative. We need to – no, because our democracy is only 48, 49 years old. It's very recent. So, there are some people that are trapped in the past. And all that you do that is new, that is disruptive – the people are not used to it. We don't like changes, we like stability, we don't like changes... anything that you say to the people "Okay, you are going to have free electricity." "Oh! Thank you very much." They need to understand why they are going to pay free electricity. Because if they don't understand they are going to be suspicious. (CSP1_Incluir+, Pos. 48-58)

Despite the change in citizen-consumer subjectivity to have more agency, some stakeholders recognise that this representation is still emancipated at an individual level of concern and participation because "the consumer just doesn't care enough to give [attention] unless it's a [personal] thing" (Extract 21.1). Instead of assuming this is human nature, as in the neoliberal representation of citizenship, the stakeholder considers its cause to be the lack of time in the modern work-life balance of consumerist society (Han, 2015). Specifically, this contestation of a normative aspect of energy citizenship to be active and engaged goes far enough to challenge the class privilege of those who have the time and resources to invest in implementing good ideas and those who have so little that they only do something about it if it affects them directly – Extract 21.1. This limited boundary of accountability for consumer-citizens is also justified in their sense of injustice in terms of government and other stakeholder responsibilities, shown in Extract 21.2 and 21.3. On the one hand, citizens are represented as critical of the responsibility and stress put on individual citizens when it comes to recycling and saving energy and water "because in the end global consumption is not reducing, climate change is not changing" (Extract 21.2). On the other hand, they are at the same time suspicious and cautious of any proposal from the government to achieve basic energy rights because of a historical lack of a democratic process regarding these decisions (Extract 21.3). Therefore, instead of seeing energy citizenship as participative in the market or institutional process only, the contestation of conventional energy citizenship also reveals that their expression of ignorance, disengagement, and scepticism is seen by some actors as participative in a critical and disobedient manner if one looks to the broader social, historical, and political context of this specific case study (Dunlap, 2022).

Reconstructing involved and collaborative citizens

After deconstructing the practices of conventional energy citizenship, the contestation rhetoric also reconstructs a good citizen to be different from neoliberal or emancipated ones. Instead of

being self-interested in one's own energy efficiency or protecting one's own energy rights, a good citizen also means being involved in caring for others. It also means being productive in owning and solving societal problems in collaboration with others rather than taking self-responsibility, as in neoliberal energy citizenship. These extracts below exemplify these reconstructed subjectivities.

Extract 22:

1. I think this has to do with all the issues where the citizen can be participatory. If he is a good citizen who is what is intended, he cares not only about himself, but about the community where he is involved, his city, his country, the whole world. So if you are a good citizen, I think you will want to be part of this solution and go in search of new solutions where it can also be participatory. Often, perhaps, at the local level, it is easier to give this impetus. But then also, there is another group of people who unfortunately do not stop to think about these issues. And that they're not involved and they don't even think about being involved. We have to captivate them maybe, don't we? We have to show the other party that it is also important to participate. And deep down also this my role, my job is to show, to try to raise people's awareness, not only on this issue, but also on other issues. Because I may want to save the planet alone, but I'm not going to. (CSU1_ CEA, Pos. 23)

2. So, if it's a company, ideally, I move the person out of the house, and do all the reconstruction, and then I put the person back in the house. With Just a Change it's not like that. So, we want the person involved, we want the person putting themselves in the situation of helping themselves, so they, if they can cook for the volunteers, they cook, if they can work, they work, if they can help, they help. So, they need to be part of the reconstruction and they need to feel that they are part of the solution for themselves. (CSU2_Just a change, Pos. 4)

3. I think when you get personally involved in whatever, whatsoever, I think you gain more conscience of things. When you get involved personally. Because when you only complain, but you say, "The mayor has to solve that. The government must solve that." But you are not involved in anything or you don't make any change in your personal life, or in just, for instance, trying to understand better the problem or so on, you are not involving yourself in the issue. You are only seeing a service or a problem, but it's not your problem. Someone must solve your problem, but it's not your problem. (CSP4_Somos Comunidade, Pos. 154)

Participants usually reconstruct a more involved and collaborative energy citizenship by putting passive consumers and beneficiaries who normally have unproductive complaints in

opposition. Strong contestation devices are used in their language such as “but”, “but then also”, “it’s not like that” to defend the varied possibilities for citizens to be “a part of the solution”, for example, by “caring about the community where he is involved, his city, his country, the whole world” (Extract 22.1), by cooking for the volunteers, doing work, or helping in any other way (Extract 22.2), or by getting “personally involved in whatever, whatsoever, [to] gain more conscience of things” (Extract 22.3). This is counter to the unproductive, automatic mode of conventional energy citizenship, in which people “do not stop to think about these issues” (Extract 22.1), or thinking that “someone must solve your problem, but it’s not your problem” (Extract 22.3). However, the participants do not see unproductive participation as an inherently personal issue but rather a product of prescriptive interventions such as individual behaviour changes that evokes the illusion that “I may want to save the planet alone” (Extract 22.1) (Maniates, 2001) or the ideal of a house renovation company to “move the person out of the house, and do all the reconstruction, and then put the person back” (Extract 22.2).

Contesting green growth by rethinking human-nature-place relation in greening the city

Contesting green growth as alternative to business-as-usual

Instead of believing in technological evolution and corporate power to provide solutions for the climate and energy crisis, there are alternative rationalities that actually contest the green growth logic that is inscribed in the capitalist system and allow it to gain profit through higher renewable energy prices. To contest business-as-usual in green growth rationalities, some participants politicised the sustainability of all sources of energy as well as green washing practices and proposed a degrowth ethos.

> Extract 23:
>
> 1. We have seen that in the present, with the war in Ukraine, prices are getting higher, I think they will identify the problem. Energy prices, I don’t how we can process that information when getting it in that way – how we can do something different or what we can do about that problem. I think most people are connected to EDP for many years, for instance. I don’t know if they know that there are other companies that are alternatives. I don’t know if there are real alternatives, because of prices then– I think it’s one example that the European Union are showing that in Portugal competition is not working for the prices. For many years we only had the government enterprise EDP, and I think we’ve only had a free market for eight years or so. It’s very recent. And for many years we didn’t have other companies. (CSP4_Somos Comunidade, Pos. 134)

2. Why have we chosen not to ask for 100% renewable energy in tenders? Because on the one hand, the price would be higher. On the other hand, we believe that the fact that the city council buys 100% of its energy from renewable sources does not mean that there is greater production of renewable energy by producers or traders. What does it mean in practice? The marketers would say that they were selling 100% green energy to the city council, but stopped selling this energy to other consumers. In my opinion, the fact that we buy 100% renewable energy does not mean that there is greater production of renewable energy. It means that traders will say that the green energy they produce is being sold to city council, but this same energy is no longer sold to a different consumer. (TEE_CMTV energy, Pos. 27)

3. Yes, deep down I think the way we use energy, if not well thought out, always has a very negative impact. And that's what I, when I go to schools, that's what I try, we talk for example, we talk about non-renewable energy and renewable energy, so they can distinguish that deep down, when they turn on a light, they can't choose which energy they're using. This is up to anyone who can. But it's also a job to increasingly make that transition from other fuel to 100% renewable energy. But what I try to show, to raise awareness about, is that deep down the most important thing too, is to reduce. Because all energies have an impact, don't they? I think deep down, it's trying to figure out that, how are we using our energy, but I also think it's very difficult to control this part. Because everything is connected to energy. Everything. (CSU1_ CEA, Pos. 7)

By reflecting on the political economic context of our energy system that is based on monopoly companies and geopolitics, some participants realised the impacts of such macro-social processes to citizens' everyday life in Portugal. The question "if there are real alternatives" (Extract 23.1) contests the depoliticisation of renewable energy production "because all energies have an impact" (Extract 23.3). Furthermore, the scrutiny is precisely about the operation model of energy companies, whose dishonesty caused some mistrust in the energy provider's green marketing (or green washing) (Szabo & Webster, 2021) because "The marketers would say that they were selling 100% green energy to the city council, but stopped selling this energy to other consumers" (Extract 23.2). These discourses express the uncertainty in the promise of technology appropriated by capitalist companies and its implications for the environment and citizens' cost of living (Maiorano, 2018). Alternatively, some participants proposed counter narratives to the hegemonic green growth or the emancipated energy-for-all rationalities. This does not only mean reducing consumption or choosing the type of energy in one's home when one flips a switch, but also trying to figure out how are we using our energy

to be well thought out and not have negative impacts (Extract 23.3). To achieve this, some participants draw from different relations to place to make sense of current energy and urban problems.

Rethinking human-nature-place relation in greening the city

Place-based and inclusive city design are stressed by participants from CSO groups to accommodate the harmony of different human and non-human beings living together. This need to rethink human-place and human-human relations is pressured by the fast pace of green gentrification in the most remote neighbourhood of Torres Vedras. To address this, participants with concerns about these changes in the city call for conviviality (Hinchliffe & Whatmore, 2017) between human-nature and human-human relations, which is emphasised through the holistic and inclusive approach to smart city design as the extracts below demonstrate.

Extract 24:

1. What we will have naturally, given what we all know today, is an improvement in the relationship that exists on the part of the human species with nature, okay? This I think will potentiate another situation that is the relationship of the ego with nature itself. And I think people are going to be looking for a situation where their ego and nature meet. (LGU&M_CMTV urban and mobility, Pos. 8)

2. Now, now because of all these [urban regenerations], there are people that are buying houses here, young people. […] Because in Lisbon all the things are very expensive, so they consider coming here. It's quieter and cheaper and maybe they work in Lisbon, but they came here, for instance. That's a problem also, because of real estate speculation, prices are getting higher. They are improving the quality and the visual aspect so we know that landlords, the owners of the buildings, for instance, they have old people that are paying old rents, they're low and nowadays they have pressure to kick them out to get another person. (CSP4_Somos Comunidade, Pos.66)

3. I think there is not a conflict between both [sustainability and inclusivity]. I think we can do both together. We cannot only think about the sustainable part, and when we are talking about sustainability, we are talking also about inclusion. It's not only about energy and efficiency, and so on. We are talking about the responsibility part of society, of having to include everyone when we build new cities. So, I think that is not a conflict. And we don't work to the efficient part of the cities, of course, but when we have an event about this kind of subject, we go there and talk about accessibility because we cannot forget this

> problem and we need to think about all the problems in cities, not only with this sustainability part that we focus on nowadays. (CSM_Salvador, Pos. 5)

With the growing demands for a liveable, environmentally friendly quality of life in the city of Torres Vedras, more nature-based solutions are proposed to alter the cityscape to have more green spaces and green infrastructure such as bike lanes. This is seen by local government as a natural process of improving the relationship between humans and nature because people will want their ego or sense of self to be fulfilled through nature (Extract 24.1). However, such romanticisation of naturalising the city (Ali et al., 2020; Anguelovski et al., 2022) is contested by the consequences of gentrification in neighbourhoods such as Encosta de São Vicente (Extract 24.2). As with all urban regeneration interventions, prices are rising because of housing speculation (Extract 24.2), thus making old people who had low rents struggle to stay and compete with new people coming to the area from Lisbon or elsewhere. To resolve the conflict between these sustainable interventions and the exclusion of some parts of the society, civil society participants, as in Extract 24.3 for example, proposed that the PED is not just about energy, efficiency, and so on, but also social inclusion when building new cities. Through this holistic and inclusive view of sustainability, this convivial pathway strives for a more harmonious co-existence in the city of different species and groups of people.

Prefigurative politics: circular economy and social economy against the capitalist model

Material participation in a circular economy and local sourcing to account for life cycle and grey energy

With a holistic view on grey energy[10] embedded in material production and distribution process which can cause more environmental and social impacts even far from one's own place, some participants discussed alternative practices such as reusing, reducing, and recycling in the circular economy (Fratini et al., 2019). This prefigures a more radical shift from a conventional citizen model in consumerist capitalist society towards more critical and creative practices such as finding information about how and where things are made, sourcing locally, and reusing materials at home as a way to save hidden energy that would be otherwise externalised to other places.

[10] Grey energy is the energy hidden in a product, i.e. the amount of energy required to extract that product from nature, or to cultivate, manufacture, package, and transport it. Objects can conceal very different levels of grey energy. (source: https://archive.unescwa.org/grey-energy#:~:text=Definition%20English%3A,different%20levels%20of%20grey%20energy.)

Extract 25:

1. But to answer your question, what makes a good citizen-consumer regarding these topics, right, energy. We appeal always to the circular economy consumer. And for us, a good consumer, in this regard, is a consumer that knows and wants to know and makes up for that. So, they search for information regarding the matter. So, it's a consumer that pays attention when buying equipment for their house that's more efficient and, how do I say this, has a lower carbon footprint. (CSE_DECO, Pos. 48-50)

2. But I think for our group, the mentality of reusing and reusing and reusing materials is more and more present in their lives. When they go home, they have some fabric in the house, they do make something themselves. Instead of going to the shop and buying a second case for their phones, they make them with their own hands, a little object to put the phone in, to put glasses in. (CSP2_Incluir+, Pos. 22)

3. I think, like in the ecological problem when they say "Okay, you can do something locally that has impact." Like, you know chaos theory? It's like, imagine a butterfly in China can create a big event on the other side of the world. If we say, like here in *Incluir Mais*, we do this with these people, we integrate the community. We are doing that education. If you will, educational lessons to the people, to see that okay, it is possible to have an alternative economy, a circular economy for example. So, I think my advice is, you don't have to, like in a macro scenario, you don't have to announce to the people "Ladies and gentlemen, today we are a smart city because we have this and that." No, I think the people need to, in small groups, make that change. (CSP1_Incluir+, Pos. 46)

The idea of a circular economy and local sourcing could be practised both individually and in groups, both in acquiring new materials as well as reusing them by engaging with their politics. On one hand, the citizen-consumers are expected to overcome the economic benefit calculation in a conventional way to find critical information about how the product or materials or energy is made to ensure more efficiency and a smaller footprint (Extract 25.1). Such an attentive attitude towards material participation (Marres, 2012; Ryghaug et al., 2018) is also reflected in the representation of the elderly group that are more and more aware of this reuse mentality (Extract 25.2). Instead of seeing these materials and practices as something given in a macro scenario, these alternative economies are prefigurative politics of a smart city that gives more agency to the local residents to make that change for themselves in small groups of people (Extract 25.3). However, this vigilance in finding information could also put the burden and responsibility on individual citizens and groups to find alternative solutions for themselves

(Davies, 2012). To avoid co-optation by neoliberalism, this requires collaborative skills rather than competitive skills, as well as focusing on a more relational aspect in the place, which emerges in the next themes.

Social economy with a cooperative model against the capitalist economy and corporate model

By defending the aspects of sustainability instead of environmental and economic ones, participants proposed new prefigurative political ideas based on social economy and cooperation. Participants outwardly contest the capitalist model of economy in energy organisation that commands prosumers to feed their energy surplus to the grid to profit big energy companies that monopolise the market. Instead of limiting energy citizenship to the private sphere of consuming renewable energy at home, citizens can also participate in the organisation of a cooperative energy community via different roles and different processes of distributing power and resources than traditional for-profit enterprises. The extracts below illustrate how participants imagine the functionality of such an alternative.

Extract 26:

1. Social economy organisations, as I mentioned before, play a very important role in our perspective on these transition processes, because, first of all, they are in themselves a community-based model of answering citizens' problems. So, they show the ability of the community to self-organise and to create alternatives and answers to certain questions. And we know of a lot of projects that rely on citizen cooperation, on sharing, sharing a lot of goods and services. And we believe that those principles can be applied to energy as well. So, this idea of cooperation, of reciprocity, of putting common interest over corporate interest and capitalist interest is quite relevant for us. (LGP_CMTV citizen participation, Pos. 6)

2. I think in the beginning it's difficult to imagine how we start if we don't have public support for that investment [in energy community]. I think the main investment is the equipment and support for solar panels. The support is for that, if the cooperative, in a cooperative way they can help to manage that, in a participatory way, to manage a system for instance. Like, you can work here for a pallet in experience as a test, for instance. In the future the municipality challenges all the projects that are working here to work in a cooperative that will be created in the future, to get assembled the municipality and the associations and all the stakeholders that are working in these buildings and areas. I don't know, for instance, if our creating that cooperative is a way of getting together energies,

human energies for instance, to make that kind of project. (CSP4_Somos Comunidade, Pos. 138)

3. What is behind the cooperative, this model, is like a communist [or communal] economy. Is more like this.[…] It's people gathering together and managing something. It's more friendly for the participant than a normal company, with stocks, with shareholders, it's more simple. And we can have collaborators that are only investors, we can have collaborators that are only producers, we can have collaborators that are only consumers. But they all have one thing that's the same, a vote. The same ability to vote in the general assembly. […] So it's more friendly. The distribution is done by the general assembly of all the collaborators. If you have an investor, only an investor, you have, there you have less of a vote than a normal collaborator. The capitalist model is separate from this model of working. (BE_CMTV Energy community, Pos. 51)

Reiterated in these representations of social economy is the idea of ownership and distributed power (Brisbois, 2019). By creating a community-based model for responding to citizens' problems (Extract 26.1) and harnessing people power for this kind of project (Extract 26.2), the cooperative energy model requires more agency and collaboration between citizens and stakeholders in the local area to come together and manage things (Extract 26.3). Mindful of the power imbalance between shareholders with different resources in a company – the capitalist model – a cooperative model distributes voting power equally to all shareholders, no matter how big or small their share, giving them "the same ability to vote in the general assembly." (Extract 26.3). This democratic principle is fundamentally important to encourage citizens from different backgrounds to have a say in how the cooperative should work and how the cost and benefit should be distributed, as Extract 26.2 envisions – "in a cooperative way they can help to manage that, in a participatory way, to manage a system". To avoid such a community-based endeavour being co-opted and exploited for capitalist gain, it is more important to build community, place, and relationship-based standing between shareholders than in an economic entity. For that, it necessitates prefigurative politics of place and relation for energy communities and other PED initiatives.

Summary and discussion

Although not as consistent as the reification of the hegemonic representation and not as obvious as the negotiation process of the emancipated ones, the contestation process of the normative, conventional understanding of energy citizenship are present throughout the interviews, even if subtler and more diverse among civil societies and local government groups. They are usually

hidden behind the shared emotion of discontent, misunderstanding, or misrepresentation that the mediating stakeholders feel for citizens. Instead of seeing citizens' disengagement and nonconformity to individual behaviour change interventions as a cognitive deficit, as in the neoliberal representation of energy citizenship, some stakeholders recognise this as a true form of resistance rooted in a sense of justice. Firstly, it is not only the injustice of the distribution of cost and benefit as negotiated by stakeholders in the emancipated representation, but also the injustice of putting the responsibility to change on individual citizens instead of sharing that responsibility between the government and big companies. Secondly, the contestation process also brings out the procedural injustice from the historical authoritarian regime, which is misrecognised in the normative expectation of citizens' political participation in the democratic process of PEDs and smart cities, as represented in the reification and negotiation processes.

Table 7.6 *Summary of the result of the mediation of energy citizenship from interviews*

Hegemonic representation	Emancipated representation	Polemic representation
• **Subjectivities:** Conforming consumer, incentivised prosumer • **Rationalities:** Sustainability = energy efficiency + economic interest • **Technologies of government:** Financial and legal incentives, smart meters, energy efficient devices • **Technologies of the self:** Energy literacy, efficiency calculation skill/mindset	• **Subjectivities:** from disengaged to engaged consumer; from marginalised to inclusive citizens • **Rationalities:** Energy as public service/consumer right, energy poverty is everyone's responsibility • **Technologies of government:** Law protection, retrofitting programs, social tariffs and subsidies • **Technologies of the self:** Company and government evaluation/complaints, donation and volunteer for retrofitting	• **Alternative subjectivities:** Radical, critical, sceptical citizens • **Alternative rationalities:** Contesting green growth, rethinking human-nature-place relations • **Prefigurative politics**: Circular and social economy (reduce, reuse, recycle)

7.4. Concluding remarks

This chapter presents the study of how energy citizenship representations that we analysed in the previous chapter are mediated by PED related stakeholders through a method of semi-

structured interviews. With the diverse backgrounds of participants from different roles and sectors, participants had the opportunity to reflect on citizens' roles and participation in energy related matters, a topic that they are not normally engaged with either from the technical, governmental, expert sphere or from the public participation sphere.

This is partly because energy citizenship has a high consensus of neoliberal representation which is reified through homo economicus rationalities and economic and technocratic interventions (technologies of government) that stabilise the norms of being an incentivised and conforming consumer/prosumer as the only way to contribute to tackling the climate crisis and energy problems. The implications that this rhetoric has on the depoliticisation of renewable energy, the naturalisation of social inequalities, and the passivity of political participation have been in line with the discussion of the previous chapter on policy analysis. As shown in the interviews, reification of conventional energy citizenship instrumentalises citizens' market participation to benefit green growth, which marginalises non-neoliberal citizens who are not only dealing with economic challenges but also social, environmental, and cultural trade-offs for the investment of resources in supposedly sustainable technologies. This gives rise to the negotiation process, which mediates the consequences of social inequality, and the contestation process, which highlights the consequences that environmental injustice has on those who are seen as non-citizens in the hegemonic discourse.

The negotiation of the hegemonic representation does not challenge the status quo of neoliberal energy citizenship from the perspective of hedonistic modern life, but cooperates with it to address energy poverty and environmental problems with the trickle-down effect. The neoliberal technologies of government then shift to legal and social welfare to benefit the most vulnerable citizens while mediating institutions negotiate their paternalistic relation with beneficiaries to enact citizens' agency to claim their energy and environmental rights by themselves. The tools that are given to address their distribution, recognition, and procedural injustices, such as citizen and consumer complaints platforms, however, are levers of the same technologies of participation that individualise and externalise their energy poverty and eco-gentrification to state and business interventions as a form of restorative justice.

Contesting the view of energy citizenship as being limited to the market or institutional spheres, as represented in the hegemonic and emancipated discourse, the mediating process also allows for citizens' collective agency and capacity for collaboration and self-organisation outside in the public sphere. This is enacted by prefigurative politics such as new materialism

to deconstruct Eurocentric, modernist subjectivities or through a place-based approach to decolonising energy and climate interventions from one place to another.

CHAPTER 8

STUDY 3

Consensualisation of Energy Citizenship

In previous studies, we explored the institutionalisation and mediation of energy citizenship, which is how policies and stakeholders construct citizen's potential roles and responsibilities through different rationalities, techniques of government and participation, and technologies of the self. As there are hegemonic, emancipated, and polemic representations of what constitutes a good energy citizen existing in the current institutional and mediated discourse, it is still unclear how citizens make sense of their own experiences and roles in PED based on those discourses, i.e. the subjectivation process. Therefore, in this chapter, we hear citizens speak about different ways of thinking, feeling, and acting in regards to energy and PEDs.

This subjectivation of energy citizenship is important not only to give voice and agency to local knowledge in making sense of the new recognised practice of energy citizenship, but also to integrate their suggestions and participations into the reformulation of smart cities project such as PEDs. This is where social representation theory contributes the most to governmentality and critical social theory. It is remarked in a review of prefigurative politics by Cornish and colleagues that "the relationship between the emotional life of groups and their capacity to develop an analysis of their situation – one that is also responsive to changing circumstances – remains one of the more underdeveloped areas of critical social theory" (2016, p. 117).

In social representation theory (Moscovici, 1984), the consensualisation process gives individuals room to assimilate social representations and simultaneously modify shared meanings and interpretations of certain phenomena, thus avoiding social determination and opening the way for transformation. This consensualisation process involves first anchoring the experienced phenomena, people and objects into the existing system of knowledge/representation in order to compare and explain behaviours, second, objectifying a representation as part of our social settings to communicate with others as a code for naming and exchanging ideas, and third, reflecting on the meaning of the social phenomena and objects in question through interaction with others to "engage in a dialogically based construction of knowledge" (Marková, 2003, p. 14).

Consensualisation is, therefore, better elaborated in a group context, where some views are expressed as highly consensual or conflictual, giving the opportunity to re-examine and remake meaning for conventional or transformative energy citizenship, as Moscovici reflects below*:*

> What strikes as more worthy of notice is that our contemporary common sense is not produced by thinking individuals but by thinking societies in clubs, museums, public libraries […]. Wherever people chat, cannot but chat, they exchange opinions, information, experiences, listen to "those who know", […] and seek agreement. (2001, p. 12)

In summary, this study focuses on the lived experiences of energy citizens in everyday life to understand how citizens make sense of (think, feel, analyse their situations) their relation to energy issues through resisting, coping, and negotiating with changes induced by PED interventions. The research questions for this study are i) How are subjectivities of energy citizens experienced in the context of dominant neoliberal governmentality (accepting or resisting change)? ii) How do hegemonic, emancipated, and polemic representations of energy citizenship give meaning to the analysis of their situations/experiences (negotiating change)? iii) How are alternative acts of energy citizenship in PEDs in response to the status quo collectively discussed (coping with change)? and iv) What are the effects of different consensualisation processes on conventional and transformative energy citizenship (reifying or contesting subject position and power relation)? Understanding the tension between ideals and actual practices of energy citizenship, this study aims to explore prefigurative politics or alternatives to neoliberal governmentality as Cornish and colleagues (2016) remarked that "in attending more carefully to psychological dynamics and the contradictions that arise between ideals and attempts to realize those ideals, we are better equipped to engage in prefigurative politics" (p. 119).

This chapter follows a similar structure to the previous empirical chapters in consistently presenting the sample and analytical procedure before presenting the findings and conclusion.

8.1. Sample and analytical procedure

To answer the research questions for this study, focus groups (N=3) were conducted from January to March 2023 with mixed Portuguese citizens of different genders, ages, professions, area, and number of years lived in Torres Vedras (n=15). Focus groups 1 and 2 were in Portuguese and focus group 3 was partly in Portuguese and English, conducted by the author of this dissertation who is socialised as a Vietnamese woman with conversational Portuguese

language skills. Participants from focus groups 1 and 2 were recruited through two civil society organisations for citizen participation that were involved in the previous study. Meanwhile, the participants from focus group 3 were recruited through a civil society organisation for urban and environmental education from the previous study. They were also recruited through open calls from the city council for a discussion on energy citizenship for the occasion of Earth Hour (25th of March, 2023). The materials for recruitment (public announcements and flyers) are included in Appendix D and the participants' profiles are summarised in the table below.

Table 8.7 *Summary of focus group participation's profiles*

Group discussion place	Date and time	Participant code	Gender	Age group	Profession	Area and years lived in Torres Vedras
Somos Comunidade (Encosta de São Vicente)	17:30 – 19:00, Thursday, 26th January, 2023	P1.1	Male	40-50	Producer of cultural programs	14 Periphery
		P1.2	Female	50-60	Teacher, art therapist	Born in TV Centre
		P1.3	Male	20-30	Graduate in political science and International Relations	22 Periphery
		P1.4	Female	50-60	Self-employed/ entrepreneur	Born in TV Periphery
Salão Incluir+ (City centre)	14:45 – 17:00, Saturday, 11th February, 2023	P2.1	Female	40-50	Professor of sociology	20 Centre
		P2.2	Female	50-60	Public officer	Born in TV Centre
		P2.3	Female	70-80	Retired food packer	Born in TV Periphery
		P2.4	Female	80-90	Retired psychologist in hospital	Born in TV Centre
		P2.5	Male	40-50	Public officer	>8 Centre
		P2.6	Female	60-70	Retired hospitality worker	Born in TV Periphery
		P2.7	Male	50-60	Freelancer Programmer of spectacles	>8 Centre
Centre of Environment Education	18:00-20:00, Saturday,	P3.1	Male	30-40	Children tutor and social centre volunteer	- Periphery

(CEA, Parque Varzea)	25th March, 2023 (Earth hour)	P3.2	Male	30-40	PhD in design, eco-village builder	30 Centre
		P3.3	Female	50-60	Employee of CEA	52 Centre
		P3.4	Female	30-40	Study natural medicine and practice biomagnetism therapy	35 Periphery

The focus group discussion guideline was based on the research questions and is divided into four parts. The first part explores the lived experience of energy citizens through the general question of what comes to their mind when they think about energy and how they see and feel their relation to energy (or the roles and impacts of energy) in their everyday life. The second part explores the different acts of energy citizenship related to the challenges in lived energy experiences by negotiating their rights and responsibilities in regards to other stakeholders and the state. The third part focuses specifically on the potential environmental, social, and psychological impacts of PEDs by asking who loses and who wins, who is included and excluded in this process of change based on different representation of PEDs that citizens envision. The fourth part finally discusses the reconstruction of energy citizenship from the ground up to make PED-like initiatives more just and inclusive. To help with the discussion on PEDs and energy citizenship, which are two unfamiliar concepts to participants, the researcher prepared some slides with photos to help promote discussion when participants struggle with its meaning. These materials and the full discussion guide are included in Appendix C. The data was analysed based on pragmatic discourse analysis (Batel & Castro, 2018).

8.2. Analysis and discussion

Following the analytical procedure, the presentation of the analysis and discussion section is organised in three main subsections. The first subsection presents the main socio-psychological factors from citizens' lived experiences in the hegemonic representation of neoliberal subjectivities, showing how participants resisted or coped with changes induced by neoliberal governmentality. Then, the analysis shows deeper reflection of participants on energy justice as another layer of socio-psychological impacts and how citizen renegotiate their roles from conventional scripts of action. Finally, the third subsection explores alternative ways of thinking and acting that prefigure a more transformative energy citizenship.

8.2.1. Socio-psychological impacts of neoliberal energy citizenship in citizens' lived experiences

Risk and uncertainties from dependency on finite resources and centralised energy model

"When the power goes out, everybody panics": experiencing powerlessness by objectifying electricity dependency in power cut memories

A common experience that fostered reflection about human-energy relation across focus groups is the incidents of power cuts that they had in various situations, either intentionally going off-grid for a few days or accidentally not having electricity in the building. Their different representations on the same experience that could be seen as acute energy poverty are demonstrated as below:

Extract 1:

1. P1.1- […] The truth is that nowadays, in fact, if we suddenly removed this free energy source, it is not completely free, but much of the world would be paralysed. It's cheap energy, but it's finite.
   P1.2- We depend on it. When the power goes out, everybody panics.
   P1.3- There's no TV, there's no cell phone, there's no light.
   P1.1- You can see. One of the great arguments Putin has played in the war is the energy issue.
   P1.1- Yes. Blackmail.
   P1.3- One of the dangers of not having heating.
   P1.1- Gas. This idea of the winter coming and cutting the heating in Germany, Ukraine. (Somos Comunidade: 59-74)

2. P2.2- I already had this experience when I went to live in the house where I live now, that on Christmas, around the beginning of the new year, the electrical panel burned out, it wasn't done, it was undersized and there were a lot of people consuming electricity and it burned out. And it was horrible, because it was twenty days that we had no electricity. We had to leave almost all of us, and **it was just electricity**. But we didn't have electricity, the blinds are electric, the ones that were up, stayed up. The ones that were down. So if I had the blinds closed I wouldn't have light in the house. I couldn't turn on the water heater. I'm not sure why, but it wouldn't turn on, there was no hot water. All the gates of the condominium stopped working. **So just electricity**, which was **just that source of energy**, we had to live away from home for twenty days. It was an almost apocalyptic scenario. We arrived at the building and no one was there. There was a gentleman who had a generator and stayed there.

But that's really where the dependence was really visible. Like, electric blinds, what for? I don't need that. Yeah, it's so much, it's a lot of dependency. (Incluir+: 77)

3. P3.3- I was thinking, the big cities, very big. One day without energy, they don't know how we are going to live. It stops the system. Stops everything.
   P3.4– It's an experience, like COVID was an experience in some ways. (CEA: 97-99)

This glimpse of energy poverty created panic and fear among participants, not from the presence but the absence of electricity because their lives are heavily dependent on centralised energy systems. The anchoring of such an apocalyptic scenario (Extract 1.2) to the COVID-19 pandemic experience in Extract 1.3 described how the lack of energy could paralyse their daily life. The absence of energy not only disrupted their modern, convenient lifestyle when "there's no TV, there's no cell phone, there's no light" (Extract 1.1) but also took away their power over their own houses when the electric blinds stopped working (Extract 1.2). From this personal experience of power cut risks and uncertainties to one's own sovereignty and well-being, participants relate it to the threat that a nation-state could take against another during conflicts such as Russia-Ukraine war (Extract 1.1). The state-owned model of mechanistic energy production and distribution thus renders citizen powerless in dealing with power cuts and vulnerable to the threat of energy poverty during wars and conflicts (Tarasova, 2018).

"We create a barrier there and we can't be in relation, in another relationship other than an artificial relationship with nature… only extractivist, isn't it?": anchoring human-energy relation in the commodification process of natural resources

Energy deprivation experiences makes participants realise that energy has been taken for granted as an infinite resource in the hegemonic representation of neoliberal energy citizenship, where their freedom of choice resulted in endless consumption and production fuelled by modern renewable energy technologies and innovations. The feeling of powerlessness is justified by citizens through the view of humans dominating nature for energy production in modern society, which creates an abusive relation with the land and commodifies resources on Earth as the extracts below demonstrate.

Extract 2:

1. P1.3- I think it makes us move further and further away from our situation, from our status as a natural animal. So we get further and further away from our, from nature. We create a barrier there and we can't be in a relation, in another relationship other than an artificial relationship.

P1.1- Only extractivist, **isn't it?** I only eat resources. Usually it is, we like things, but we don't like having them at our doorstep. So, like the electric car, but we don't want to have the lithium mines on our doorstep. Then, I don't know what else, but we don't want to have the oil refinery here, but we don't stop driving. […]
P1.2- That is, the trees make a mess, the trees make shade, and then they get rid of them. Cut them down. And they use the bike lane as an excuse.
P1.4- But the trees were taken elsewhere.
P1.2- But it would be useful to have some shade there. I'm just saying my thing. My view of the issue. (Somos Comunidade : 92-99)

2. P2.5- The big difference between the human species and other species is that we accumulate, […], with culture, with language, with cooperation, we stopped [taking only what we need] and started accumulating. We began to domesticate animals, we began to domesticate nature itself, and we began to accumulate, even to kill much more than we can consume, because then we were able to keep it dry, or sell it or make money from it, or exchange it for other products that we did not have. […] and this type of goods end up being exchanged as if they were a currency, as if it were salt, as if it were something else. And all this is the accumulation of energy, which is basically the accumulation of wealth and power over others and other species and over the planet. And that more or less results in what's coming now.
   P2.1- The distancing of humanity from the Earth, when technology comes into play. It comes into play in the sense in which it is, in which it drives man away, it is the privileged intermediary now between man and the Earth, **isn't it?** In all that is-. […]
   (Incluir+: 22-23)

3. P2.1- Energy is power just like information, whoever holds the information also holds the power. The information, the energy. So perhaps, if the population, if communities, if societies are educated, and I say educated without any shame in saying educated, in the sense of realising that the power is also in the way we use energy, how we can conserve it, maybe then the person will self-mobilise to do something. (Incluir+: 238-241)

By using monologue and consensus devices such as "isn't it", participants seek for agreement from others to validate their claims of common sense anchored in scientific knowledge about the "human species" vs. "other species" (Extract 2.2). These extracts, therefore, showed a high consensus from citizen's view about how the everyday energy practices are have an end result of externalising and othering human and non-human bodies to the point that "we can't be in a relation, in another relationship other than an artificial relationship" (Extract 2.1). This dominating relationship is anchored by participants in the

similar process of humans commodifying energy as other resources on earth by accumulation and exchange "as if they were a currency" (Extract 2.2). Linking the economic activities that energy provides to the political power that certain territories and people have, participants concluded that "[energy] is the privileged intermediary now between man and the Earth" (Extract 2.2). By comparing energy and information as forms of power just, Extract 2.3 details how energy is instrumentalised to serve political purposes in neoliberal governmentality, i.e. citizens "realising that the power is also in the way we use energy, how we can conserve it" (Extract 2.3).

"I think we take energy for granted. We don't think about where it comes from. We simply consume without paying attention to amounts.": experiencing the depoliticisation of the energy consumer by representing fossil fuel energy as an infinite resource

This hegemonic representation, however, locks citizens into a consumer position whose relation to energy is as a commodity or natural resource that has no intimate relation to one's own body. The extracts below express participants' concerns about their lack of connection to natural sources of energy through the abstraction of energy sources and materials in everyday life.

Extract 3:

1. P1.1- I think what dramatically increased the speed and relationship with machines in society, was this thing of accumulated energy, solar energy accumulated in what is oil, isn't it? At the end of the day, it is energy from the plants and the fossils that are there and that gave us no trouble to create. It was just there at our disposal. And that made for the industrial revolution and all that stuff, and that did, maybe unbalance here a little bit the balance of forces between us and the planet, and resources. (Somos Comunidade: 59)

2. P2.5- There wasn't as much electricity as there is now everywhere.
   P2.3- That's why we get used to taking advantage of it. It's a school. (Incluir+: 52-53)

3. P3.3- I think that unfortunately people, perhaps, most people need to lose something to appreciate it. Yeah, because of the waste they make and all this and unfortunately, they should appreciate it and not need to lose it and see how they react to appreciate it. Most of the time this is what happens.
   P3.1- I was going to say something similar. I think we take energy for granted. We don't think about where it comes from. We simply consume without paying attention to amounts. (CEA: 43-44)

The objectification of energy poverty in power cut experiences served as a wake-up call for consumers to appreciate the energy that they take for granted (Extract 3.3). Especially when the fossil sources of energy are so cheap and abundant everywhere, just there at our disposal, consumer tends to take advantage of it (Extract 3.2) and not pay attention to how much they use (Extract 3.3). Therein, participants reflect on how such a waste of energy and resources created an imbalance of between people and the planet (Extract 3.1). As this discourse of putting the blame on individual consumer makes individual citizens responsible for their energy behaviours, it legitimises the homo-economicus assumption that "most people need to lose something to appreciate it" (Extract 3.3). This means to be more energy efficient, citizen-consumers need to see be proactive about energy waste, as it is not necessary lose it to understand its value (Extract 3.3). However, this leads to another shared experience of being overburdened neoliberal energy citizens that we discuss next.

Mental stress from routines and capability changes in energy efficiency

"This is the part that hurts, such a big bill": objectifying sustainable energy consumption in high electricity bills

Another common experience when thinking about energy practices in everyday life that participants in different focus groups brought up is the electricity bills that they have to pay every month, which not only shows how much they used but also the combination of energy sources used. The extracts below capture the conversation about the question "What comes to your mind when you think about energy?".

Extract 4:

1. P1.1- When we think of energy what comes to mind? What do we think of?
   P1.2- Dams. The electricity bill.
   P1.3- The invoice.
   P1.1- The electricity bill.
   P1.3- Wind mills.
   P1.2- Solar panels. (Somos Comunidade: 18-24)

2. P2.2- That's what they say on the invoice, it's detailed. But it seems to me that they are already aiming for 60% renewable energy, I think. It should around there.
   P2.5- It's expensive, of course it's expensive. But the truth is that thirty years ago, or fifty years ago, electricity is just that bill, we didn't know where the energy came from. Coal-

based, or whatever. Now it is broken down how much is coal, how much is wind, solar. And the dams, that's interesting.

P2.7- Five percent is nuclear.

P2.5- In Portugal it is not. […]

P2.1- **What we are told**, the information that is passed on, is that Portugal is producing more and more renewable energies. Within the framework of the European Union. And this comes, at least that's the information that's detailed in the invoices. (Incluir+ : 43-55)

3. P3.1- More specifically about the energy that we consume, I think about paying the bills.
   P3.3- This is the part that hurts, such a big bill. (CEA: 33-34)

As it showed in all focus group, the electricity bill was objectified as one of the first things that participants think about in everyday life when they think about energy because it is expensive and seen as hurting every time they have to pay it (Extract 4.2, 4.3). By also saying "what we are told" and "at least that is the information that's detailed in the invoice" (Extract 4.2), participants expressed a latent disagreement with how such a basic necessity like energy has been commodified as a thing to exchange and subject to market prices that citizens have no control over. This is objectified in the new feature of electricity bills with the break-down of different sources to give justification for the high electricity price because "60% of it comes from renewable energies" as Portugal is proudly moving forward in the European Union framework (Extract 4.2).

"There's already a lot of worry, a lot of layers of worry": experiencing overburdened by anchoring new norms and rules in energy routines

This, however, comes at a price as participants deepened their reflection on the duty of neoliberal citizens to be vigilant and to make sustainable choice by themselves, which entails more emotional and mental energy. This is expressed in the extracts below:

Extract 5:

1. P3.3- I see my daughter, she comes home, turns on the light, goes to the kitchen, goes here and it has to be me there with my hand turning it off. So, but for what? What a waste, what is it for? Light on during the day, with the blinds closed. I get tired of scolding her. Well, not to mention the bill at the end of the month that I pay. I go around all the time, it's really those energy presence buttons, it uses very little, but it uses some, doesn't it? I'm always there checking things.

P3.4- This also spends your mental and physical energy doing it. Supervising is an expenditure of energy.

P3.3- So, but for me, but thinking that I want to, okay, from this point of view is, thinking that I want to save on the bill as I'm the one who pays and that's a waste, isn't it? **We have to avoid waste**, we don't know if tomorrow we'll have more. Which is such an essential thing. To read, to be able to do activities. Right, both for energy, for electricity, I won't get started on water. (CEA : 43-47)

2. P3.3- Yes, yes, it's all interconnected. I happened to remember something that they are up to with so many campaigns for, the solar panels. They have a lot of discounts on solar panels, which is a renewable thing, I've also heard that there is support and whatever else. But the person will see, okay, I was excited because I wanted to save on bills, and I'm all about savings, trying to manage my accounts. But then when I went to try to find out more about it, they, in the winter, which is when you use more electricity because the clothes dryers, often because it's raining, that thing doesn't have a way of storing the heat. It doesn't have a way of storing electricity. It doesn't have storage.

   […]

   P3.3- No, it was things that got me going, okay, I think it was even phone calls, that [the solar energy company] always have promotions and campaigns for their own benefit. When I went, I was already [at the solar energy shop], the man was always bothering me and when I was about to sign a contract, I asked a friend and he explained to me that some have a storage battery, others don't. The ones with a battery are very expensive, they didn't work for me. That one, I'm glad I gave up because that one doesn't have an accumulator, and in the winter, when we spend more on bills, the later time that I got home, when I was going to use the machines, there was no more sunlight, so I'm glad I gave up on it because it certainly wouldn't be worth it. Now, the ones with storage batteries are, what a pity the State doesn't, maybe even co-pays, but we have to pay first and that's that, it didn't work for me. (CEA : 49-54)

3. P2.2- But now the city council is making a plan, to change the lightbulbs in all the buildings […] to LED. Soon there will be a lot of lower consumption. And that material that is used, the projectors, when those bulbs run out have a life span like all the others, and we can no longer buy new lightbulbs. And what's going to happen, we're going to have to throw all that material away, which is thousands of euros, but that's how it is, to move everything to LED. But it's going to reduce, we're going to waste a lot of material, **but that's it,** it's a part of life. **And it's going to have to be that way**. And we're going to have to invest a lot of money

soon, we're going to have to reduce a lot. Even if we don't want to do anything, the market itself no longer has the material to provide.

P2.5- It's a bit like the issue of plastics, and straws. They are no longer manufactured.

P2.2- Okay, it will cease to exist. […] One of the rules that the state imposes on the Portuguese, which I think has to do with European guidelines, is that this material, which we are already acquiring, has a life plan. This is all new to me. How long it lasts. So there's already a lot of worry, a lot of layers of worry. I don't know if it works. (Incluir+: 244-248)

As participants reflected from their interaction with the institutional and mediated sphere in the extracts above, being a sustainable consumer/prosumer is almost a consensual thing because "we have to avoid waste" (Extract 5.1) and "it's going to have to be that way" (Extract 5.3). It is objectified and concretised in the ubiquitous marketing strategy that companies are promoting as "they're always there with promotions and campaigns for their own benefit" (Extract 5.2) and "the city council is making a plan" (Extract 5.3). However, it has double burden for citizens who have to take care of others and be responsible for the expenses of a household, who are usually women. On the one hand, they get tired of fulfilling their gender role of supervising and educating the children to reduce energy waste. As one participant remarked, "supervising is also an expenditure of energy" because scolding and always being there to check things is a symptom of paranoia (Extract 5.1).

On the other hand, the participant was also bothered by a promotion of solar panels that does not give incentives for options that allow energy storage (Extract 5.2). By considering the local climate during winter and energy needs for basic household chores like washing clothes, participants' clearly see that the incentives do not work for them. This not only created frustration due to lack of information for decision-making, but also made them feel excluded from the marketing strategy that targets people with a greater ability to invest or other opportunities to save. The anchoring of new norms and rules as something "the state imposes on the Portuguese", thus, justify citizens' anxiety because there are "a lot of layers of worry" (Extract 5.3) due to other past experiences of exclusion and contradiction mentioned below.

"I'm even forced to drive, like everyone else, and I have to.": experiencing exclusion by discriminatory infrastructure planning

The worries and overburdening of citizens are not only because of a lack of capabilities from citizens, but also because of struggles over changing routines in PEDs due to infrastructure and wider socio-economic contexts of the city or country. The extracts below accentuate these structural constraints.

Extract 6:

1. P1.1- But there, if it is the issue of energy, and access to technology, it can make a difference, which is, if planning is not central and structural, if it depends on the resources of the community itself, you can have a city that is richer, where people with economic power live, they live with a certain self-sustainability. If you go to another, you don't have this investment capacity. (Somos Comunidade: 229-237)

2. P2.2- A little while ago, Participant 2.1 was saying that the localities didn't have transportation. I was thinking about that. They don't even complain about transportation. (sound overlap)
   P2.3– [Bus] Companies can't stand it. And I say it like this, I'm even forced to drive, like everyone else, and I have to (sound overlap). (Incluir+: 402-404)

Participants living in peripheries captured the citizens' inability to realise their energy efficient consumer/prosumer roles ("I'm even forced to drive" – Extract 6.2) due to lack of access to the public transport system from the places that they live. This exclusion is easily observed in the mobility sector, where more sustainable individual transport investment (such as EV cars) is relatively high in comparison to the average income and required individual skills that are not inclusive for the elderly or people with different needs. Meanwhile, more inclusive public systems such as buses are also privatised and adopt market rationality in planning their infrastructure ("[bus] companies can't stand it" – Extract 6.1). Thus, citizens point out the discriminatory issue of energy and access to technology in PEDs because without central and structural planning, it depends on the resources of the community itself (Extract 6.1). This hegemonic representation of being energy efficient based on smart technologies and personal investment also takes away the agency of the citizen to question the normative European standard of living that heavily relies on modern technologies to save energy individually.

"We end up being here in a duality that's difficult, isn't it?": experiencing contradiction in anchoring new sustainable behaviours into the European standard of living

This incapability to change to energy efficient routines is not only because of infrastructure investment but also the way of life that citizens are used to or the standard of living that they are supposed to yearn for without having the conditions to realise it. The extracts below are demonstrative of this ambivalence and contradiction.

Extract 7:

1. P2.5- To buy Mercedes and to maintain the German standard of living, I mean, it's a lot. Then you're left wondering, morally, who are the PIGS [Portugal, Italy, Greece, Spain] in the middle of all this? They are now paying an ugly bill, but we are all paying this bill. It's just that we're already going into our savings, they still have a lot of money, we don't have anything. We're already going to the bone. All of this is serious. This speech [of buying sustainable/energy efficient products], it is all very nice, but this is still a group of very privileged people becoming aware of global problems. Because people who live day to day like an ant and can't get their heads off the ground, don't want to know about it at all, honestly. They have their children to raise and they have to put bread on the table and they don't want to know about the environment! It doesn't matter to them. (Incluir+: 284-285)

2. P2.1- There is an individual sphere, there is a collective sphere, there is a political sphere, and there is another sphere that has to do with the current economic model. […]
   P2.1- That it encompasses, encompasses a number of factors. I am very convinced that the current economic model is an economic model that is driving us very dizzyingly towards –
   P2.5- Mass extinction.
   P2.1- Yes. And so there has to be a political option there. Where this political option will come from, whether it will come from the people, whether it will come from the summits, I do not know. Because now we are faced with N problems that are complex, phenomena that are complex. We have a war, we have inflation, we have climate migrants, we have migrants who are fleeing death, who are fleeing misery. That is, humanity at this moment is grappling with N complex phenomena. And thinking about the complexity isn't it, isn't it, thinking we think, now, acting on it, it's not easy. It's not easy because people also have to defend their daily lives and want to defend their lifestyle. **We end up being here in a duality that's difficult, isn't it?** […] (Incluir+: 210-218)

By reflecting on the living conditions of low-income family households in their local area in Portugal as people who have children to raise and bread to put on the table (Extract 7.1), and the global context adding problems for marginalised groups, such as war, inflation, and climate migrants (Extract 7.2), participants highlight the difficulties in implementing a green lifestyle and energy efficient habits in everyday life for many groups of citizens in society who are overburdened with precarity and work, both domestic and public (Casanova et al., 2019). As participants remarked, "it's not easy because people also have to defend their daily lives and want to defend their lifestyle" (Extract 7.2) and because "people who live day to day like an ant and can't get their heads off the ground, don't want to know about [environmentally-friendly lifestyles] at all" (Extract 7.1). Thus, participants criticised the moral imperative of the

European green living standard that require citizen-consumers in different conditions and different countries to pay the same "ugly bill" when some are already overworked and financially precarious (extract 7.1). This disheartening betrayal of the capitalist promise of standard of living for those who could not have the conditions and capabilities to achieve the desirable prosumer role in an increasingly unequal society is what Berlant (2011) calls "cruel optimism". By representing this contradiction as the consequence of the current economic model "that is driving us very dizzyingly towards mass extinction", with countless complex problems for the citizen-consumer to act on, citizens are left with no agency and the feeling of being stuck between a rock and a hard place as they try to navigate a duality (Extract 7.2), that of being a good energy consumer/prosumer while also being able to live a good, meaningful life (Fischer, 2014).

Disruption of people-place relations

"Sometimes there are many realities here that intersect…you have to have some flexibility": relativising the impacts to accept and cope with changes

Participants often reflected on their ambivalence to either environment or economics position of the neoliberal narrative of green growth when facing disruption in people-place relations. Instead of outwardly contesting it, citizens proposed pragmatic solutions to cope with place changes as the following extracts demonstrate.

Extract 8:

1. P1.2- This, I think this later, is all very relative, isn't it? Which was like sometimes, here in Portugal we said, "Let's build the dam wherever." And there were big demonstrations saying, "It can't be because this is going to destroy…"
   P1.1- Environmental impact.
   P1.2- Environmental impact and I don't know what else, but the people who were there even thought, "No, wait, the dam here might even come in handy. Because I can go and work there, I can do whatever else. It could be a factor of wealth for me." That's to say there are so many realities here.
   P1.1- Agriculture depends on that water, that whatever else.
   P1.2- Yes, that is, sometimes there are many realities here that intersect and it is not easy to choose the one that is- or rather, because without a doubt, the environmental impact is very important. But the impact on people's lives is also important. Which one is more important? I know how I choose, but that's it. (Somos Comunidade: 397-402)

2. P1.1- For example, in the historic center of Évora, a world heritage site. Someone wants to do something, change anything, a window-.
   P1.2- They can't.
   P1.4- Or in Óbidos.
   P1.1- But those who go there to visit thinks it's beautiful. There has to be a balance here, in fact. And incentives, there it is. You have to have some flexibility. Let them go for aluminium, but of that which imitates wood. It's a compromise.
   P1.2- The aluminium, or the PVCs or whatever else-
   P1.1- They last much longer and you don't have to paint it every year.
   P1.2- And you have much greater sound and thermal insulation. So, that is, you have to find a balance point. I think because we're too radical, it's either one way or another-.
   P1.1- Then people also do not comply, let it go bad.
   P1.2- Or they boycott. (Somos Comunidade: 404-414)

From the "green on green" conflict between environmental impact and building renewable energy infrastructure such as dams, participants cope with ambivalence by relativising that there are "different realities" where the infrastructure also helps secure people's livelihoods (Extract 8.1). Similarly, the conflict between changing a window to improve thermal insulation and regulation to protect historical towns from these changes are also seen as "too radical, it's either one way or another" (Extract 8.2) (Kurz et al., 2020). To avoid people not complying or boycotting, participants adopt a social pacification strategy by suggesting to go for aluminium, or some other option that imitates wood (Extract 8.2). Thus, participant advocated for a prosumer script to be flexible (as technologies of the self) and, therefore, the law needs to give more incentives (as technologies of government) to compromise between people-place relation and energy retrofitting practices (Extract 8.2).

8.2.2. Politicising conventional energy citizenship through energy justice

Recognition and distributive injustice

"It's a cost that not everyone has the capacity to bear": reflecting on social inequalities created by neoliberal energy citizenship

The question of what impacts PEDs may have for different groups of people and who are the ones affected by it brought the discussion to the politicisation of PEDs. The feeling of unfair incentives that privilege the already privileged, which participants mentioned in the "routines and capabilities" theme, triggered the empathy and solidarity of participants with disadvantaged people as the extracts below demonstrate.

Extract 9:

1. P1.3- If we go check out the most sustainable products, as a rule they're more expensive. And more vulnerable people don't have them, can't buy them, don't have access to them. And it mainly affects these people who are still suffering inequality and who cannot reach a higher level in their lives because of it, because it is another obstacle.
   P1.1- Well, it's a question. What P1.3's saying is true, "Hey, electric cars are great." Well they're more expensive than the others. "Organic farming and whatever else is great." But it's more expensive than the others. So then, would it be that if that there were more people consuming the market would it lower prices, or not? But the truth is that it is something that is linked to a lifestyle and a consumption of medium, or medium high level of income. And then it's an exclusionary factor, yes.
   And also retrofitting, renovating the home for heating.
   P1.1- Yes, energy efficiency, heating, insulation. Solar panels. If you start doing the math–
   P1.2- Only those who have a lot of money can do that. These things are all very, very expensive. To build a house, to build a house with energy efficiency, and insulation and everything, the investment is huge.
   P1.4- But much is already mandatory.
   P1.2- And I'm not saying it's not, but it's a very significant investment, isn't it? And it's not easy for a person with a medium income to be able to do that. I know there are things that are mandatory, but there are also things that are mandatory on paper and then in practice they are not done. Or people just pretend to do it. […]
   P1.1- It's like electric cars, isn't it? You have that tax exemption for those who have this investment power. Now, for those who don't have it.
   P1.3- I mean, that's a big problem, then maintenance costs, then if a battery breaks, it's a cost that not everyone has the ability to bear. (Somos Comunidade: 261-275)

2. P2.7- The words of Chico Mendes, the rubber tapper from the Amazon, Chico Mendes, who was murdered by illegal miners, or I'm not sure, and he said, "Ecology without class struggle is gardening."
   P2.5- Yes, but there is always this question. Power and class struggle. (Incluir+: 351-352)

3. P3.1 - If the investment is not from their pockets, sure. [But] If we're putting the costs on the individuals, then yes, the most vulnerable people will still be the ones who suffer more. And it's, if it's just something that is going to be implemented based on individual investment and people who are better off and already do not experience many difficulties will go on having that privilege. I'm not sure that's the right way to approach it. (CEA: 231)

According to the participants, people with low-income are more vulnerable because they do not have the investment power to adopt and bear the risk of renewable and energy efficiency measures and technologies (Extract 9.1). The participants from the first group discussed such an outcome as inevitable as it has been mandatory to retrofit housing, and more sustainable products are more expensive "as a rule", so disadvantaged citizens do not have other options but to pretend to be sustainable consumers as individuals (Extract 9.1). This is also objectified through Chico Mendes's quote "Ecology without class struggle is gardening" (Extract 9.2). By recognising the exclusionary nature of neoliberal energy citizenship (Extract 9.1), participants criticise the potential configuration of PEDs "that is going to be implemented based on individual investment" (Extract 9.3). Besides recognising the social inequality consequences that put risk and burden on vulnerable people, participants also link it with distributive injustice when tax exemptions (Extract 9.1) will have the effect of only benefitting people who are already privileged and will continue being privileged (Extract 9.3).

"This is what the state should also support, isn't it?": negotiating individual vs. state responsibility

The sense of recognition injustice for vulnerable citizens motivated participants to be more vocal in protecting basic energy and transport rights for the local people by demanding government and companies be responsible for infrastructure that allows for more energy efficient practices as the following extracts present.

Extract 10:

1. P2.7- That is, if it is not inclusive, if there is no inclusion of all the people in the solution, we will have (sound overlap) the problem.
   P2.1- We could have more people here in this group. We could have more people in this focus group, from *Incluir* +, if there was a bus from Barraqueiro, on weekends, that would bring them here. And so, this is the thing, and maybe we could go and get people who have more difficulties and who would like to talk about these things. But they are not here, there is no transport. They don't come on foot, because it's too far. So there are things that are, it's not just the economy that is circular. Society also has this movement. […] (Incluir+: 353-354)
2. P2.5- A good thing was also for people to get together, as this lady was saying that she has difficulty finding transportation to come here, and write letters and petitions to the mayor, to him, everybody, every day. It's that thing. Activism! **(sound overlap: activism!)**
   P2.4- This only made sense when there was an open city council meeting and a group of people went there and spoke.

P2.5- It could also happen. They can do both.

P2.5- They are obliged to answer. (Incluir+: 428-432)

3. P3.3- I was also remembering a little bit of this when we were sitting there. That windows, just like solar panels, windows, this is what the state should also support, isn't it? Windows, solar panels, insulation, yes. (CEA: 172)

In general, the rationality that participants are promoting is government and public responsibility for the green transition that needs to happen in PEDs rather than individual responsibility. This is reflected more with respect to transport and retrofitting practices because they need larger investments. As the participant in Extract 10.3 demands it, "That windows, just like solar panels, windows, this is what the state should also support, isn't it?" because it is a basic need for this energy transition and they are obliged to respond to the difficulties that disadvantaged citizens have in participating in the PED (Extract 10.2). By recognising that structural inequalities could hinder the participation in the democratic process of marginalised groups such as those who live far away from the city centre and depend on the bus schedule, which is not very frequent on the weekend, the focus group represents energy citizenship anew as changing unequal situations through every day complaints, either by group in person or through letters and petitions to improve public services for the vulnerable groups (Extract 10.2).

Global/Cosmopolitan injustice

"This is a path, which is very difficult": experiencing unfairness in the past energy transition at global scale

Besides the frustration towards inequalities in society that participants refer to in recognition and distributive injustice themes, another common discontent that citizens mention in their discussion is the unequal privileges and unjust impacts that citizens in different countries have as a consequence of material production for new energy technologies under the green growth rationality. This cosmopolitan injustice or *global externalities* (Sovacool et al., 2019) is exhibited in the extraction and the externalisation pattern from the Global North to the Global South throughout time, from fossil fuel pollution and climate crisis (Extract 11) to the green energy transition (Extract 12).

Extract 11:

1. P2.7- We consume a lot of stuffs and we also import a lot of stuffs from Vietnam, so there are a lot of factories in Vietnam producing stuff for Europe. Because it's cheaper, because-.

P2.5- They don't respect environmental rules.
P2.7- Or the trade unions don't exist. At the same time, however, this has enabled Vietnam to reach a level of development and perhaps to lift many people out of poverty, not to say misery. Am I correct? […]
P2.5- This is what happened in Portugal in the sixties and seventies. Portugal was a bit like Vietnam in the sixties, seventies, where people worked long hours in factories, mostly women, in the north of the country, with little formal education, with few qualifications, very cheap labour, child labour. It happens in these countries, meaning, in Morocco it's the same. Because, in Europe it is no longer allowed to do that. And then it is not allowed to be done here in Portugal and we send everything to Morocco and Vietnam, and to China. This is a path, which is very difficult. (sound overlap: agree) (Incluir+: 265-273)

2. P3.1- I think on a global scale the consequences are climate change, that's number one. On an individual level I still think that the greatest concern is the cost, in terms, financial cost.
P3.3- Not only financial, but also to the environment. […]
P3.1- It's not easy to measure the impact of energy production, there is still production with gas, with fossil fuels, with coal, with not clean sources of energy. And all the outputs that, other forms of pollutions, like polluting water, polluting the air. So, it's a very big impact, I think, it's one of the sectors with more impact, energy production, at a global level. (CEA: 72-78)

With the question of "What impacts is energy having on our lives?", most of participants reflected on energy production's impacts such as "environmental pollution" (water and air) and "climate change" (Extract 11.3). They recognised the unequal distribution of impacts when countries in the Global North depend on the Global South for fossil fuel-based energy or their cheap grey energy in material production (Extract 11.1, 11.2). By referring to Portugal in the sixties and seventies as being a bit like contemporary Vietnam, a participant associates these consequences with the same pattern of countries in the Global North exploiting the Global South, where environmental rules and trade unions don't exist or aren't respected, and where people work long hours in factories (Extract 11.2). Representing cosmopolitan injustice in fossil fuel-based energy production as a difficult path to change (Extract 11.2), the participant also reflected on the same pattern of reindustrialisation in the green development/post-fossil fuel era in Europe.

"You get the feeling that you can't do anything": experiencing helplessness as an individual under green capitalism

Citizens also experienced disempowerment in acting at the more structural level when environmental and green energy policies are made to preserve the economic status of affluent

countries at the expenses of other less affluent ones. Or more generally, by recognising that continued overconsumption via a "green" lifestyle continues to exploit the Earth and non-human beings:

Extract 12:

1. P1.1- There are changes that are structural. This change has to be on other levels. (sound interference). Governments, countries, larger companies, etc.
   P1.2- However, we have here a problem still, that is, which countries, companies.
   P1.1- You get the feeling that you can't do anything.
   P1.2- You get the feeling that you can't do anything and you get the feeling, I get it, I get the feeling that, okay, these guys now want to do all this because they're making money from it. It's not for sustainability reasons, or environmental, or, yeah, it's just because they want to make money. Because when you see that electric car narrative, for example, and then you see all those stories about the production of battery equipment, which comes from the mines who know where it's from, exploiting people even in an undignified way, isn't it? (Somos Comunidade: 166-169)

2. P1.1- But then, wait. But then you have to introduce something that is: you come from this model, I don't know if we're distorting it, but we have a model of industrial revolution, where it's basis was labour-intensive, that people travelled from the fields to the cities to work in the factories. But you are now living another industrial revolution, in which the factories are increasingly going to depend on less people and more and more machines. So energy is important, but this point where people will won't have any income, they're already reaching a point of not having income. The production of objects, there are less and less factories in operation every day. With only one or two people, and they produce day and night, twenty-four hours a day. There are no strikes, there is no tiredness, no… (Somos Comunidade: 192)

As shown in the above extracts, there is a feeling of helplessness, connected with the overload of precarity in all domains of life discussed above (Casanova et al., 2019), that comes from the political economy and related structural inequalities in our contemporary societies in which not only people feel they cannot do anything to change those inequalities, but also the course of change brought by digitalisation and the green transition is seen as inevitable and brutal in its consequences for working class people. Politicising conventional energy citizenship, participants reflected on the dilemma of increasing production (or efficiency) with machines when people do not have income to buy products due to the loss of their employment – "So energy is important, but this point where people will won't have any income…" (Extract

12.2). As the exploitative relation between the capitalist system and its labourers as well as environment resources in the fossil-fuel based model (Extract 12.1) shifts to the exploitative relation with machines because "there are no strikes, there is no tiredness" (Extract 12.2), it raises an ethical question about human and non-human rights in the energy, production, and consumption-intense societies in which we live.

Procedural injustice and trust in institutional participation

"It ends up demoralising/annoying me": experiencing frustration and distrust in the process of political participation

As PEDs could cause injustices to vulnerable citizens locally and have impacts globally as discussed above, participants found it important for citizens' duties and rights to participate in the process of policymaking from the beginning. However, they realised that more democracy does not mean more inclusion in participation, because procedural injustice and mistrust in the past frustrated and demotivated present and future participation. The extracts below illustrate the emotions attached to the process of participation and the acceptance or reluctance in cooperation with the state.

Extract 13:

1. P1.2- I think a good citizen needs good institutions. And good politicians. Because if we are good citizens and if we participate, we give our opinions, our contributions, but nothing is met, nothing is heard, we really end up giving up, don't we? Because what we say doesn't matter to anyone. […] we here sometimes feel that it's all very beautiful on paper, but it didn't come from anyone, it wasn't from the people, it didn't have the contributions that people gave or that they might have given, because the mechanism wasn't created to listen to them. Because I think here in Torres, specifically, I think people are collaborative, organisations, associations are collaborative and have been over these years, and when, when the local council, when the municipality organises big debates, usually people go and participate genuinely. But then, the end result, often does not mirror, does not show what people would like and then-. […]
   P1.2- And then we see someone who got in charge of something that doesn't interest anyone at all, but who's getting a big pay cheque, and then the other one who's in front of it is nothing. In other words, it ends up, demoralising me, doesn't it. (Somos Comunidade: 331-338)

2. P3.1- So, in Torres Vedras there is this PAESC 2050, it was presented, it was the plan for the green transition energy 2050. I don't know if you have access or you know this-. It's PAESC, it's the green transition, a plan of Torres Vedras for 2050. It was presented last month and there was a public consultation on the website, so any person can give opinions and suggestions for the city plan. And there are also PDF reports, with everything. I have access, I don't know if they are available anymore, but maybe, if you search for PAESC 2050, probably is on the website, but if not, you can just ask or send an email and I can send it. I was in the presentation and I was given a big list of policies and strategies to apply, and then I was sent also on the website. I can also share these ideas if you want, because they are all written and we can just share. But this is a good example of…what is a good citizen. And also, a good municipality that do these public presentations. It was very generalised, the presentation. It was not specific, it was more general, but in the PDF, in the reports, there are all the sectors that they will– it's much more description. And yes, they want to involve citizens, at least to be aware. (CEA: 274-276)

The extracts show the uncertain and even potentially disappointing results of public participation in decision-making that does not effectively integrate citizens' suggestions. While some participants reified that "a good example of what is a good citizen" is public consultation online for new local energy and climate plans (Extract 13.2), others pointed out that some participatory mechanisms were actually created to not listen to people because there are economic interests that take precedence (Extract 13.1). This mistrust in politicians and the public decision-making process thus demotivated citizens from engaging with political institutions because "if we are good citizens and if we participate, we give our opinions, our contributions, but nothing is met, nothing is heard, we really end up giving up, don't we?" (Extract 13.1). However, some other participants in the following extracts pointed out that this sense of procedural injustice is a consequence of a *telos*-oriented, individualistic, and consensus politics of citizen participation that does not give space for open discussion, constructive conflicts, and collective agency in the participatory processes.

"I don't want a table with people who all agree": empowering democratic participation through counter normative of consensus politics and representative democracy

Besides good institutions, participants also renegotiated citizenship's meaning to demand a real democratic participation that acknowledges the conflicts between different values rather than protecting a pre-defined proposal. The extracts below detail some examples of what a good energy citizen should be in defending procedural justice by challenging the normative consensus politics in participatory governance.

Extract 14:

1. P1.3- I think that the participatory budget model is quite important because people end up joining the political power and cooperate with it in finding common solutions that serve the largest number of people, and it ends up being very positive because it obliges people to sit, for example, in a parish here in the city, it obliges these people to sit at a table, rather, they are there of their own free will, but they sit at a table and think together how they will solve the problem of their street or the abandoned park, or the road that needs to be fixed. Or the association that needs the roof to be fixed. This is important because people get more involved with each other and are not isolated. They don't have that individualistic tendency to close themselves in. And there's a lot of this trend these days, people thinking only about themselves rather than getting together and cooperating more with each other. That is, to think more about the collective and not just themselves. And I think it's positive in that sense. The real purpose of politics is also this, which is, I don't want a table with people who all agree. The interesting thing is that there are different of how to arrive at an interesting solution, that might not be obvious. Because there's always something to add. I think one thing, G finds another, A finds another, and this, all together, makes for a much more interesting solution than what I was thinking. (Somos Comunidade: 351)

2. P2.1- And they, like, being an abstract entity, when (?), but we are the state, aren't we? Therefore, the state is not an abstract entity. The state is all of us with our contributions and taxes. It's just that there's such a strong financial illiteracy in this country too, that people don't-
   Illiteracy, yes. That people also don't understand that the state is not a person who is in a bureau running the state. It's all of us. So it's us that're going to steer this boat wherever we want it to go. Then we have a set of people who have been elected to make some decisions that are-.
   P2.5- And that they represent that you voted. And it's important to squeeze these people.
   P2.1- And it's important to be there and to rise to the occasion when we are called to a verdict. Now, if people cringe, "Oh, no, I'll stay here." (Incluir+: 458-460)

3. P3.4- So, I'd be more politicised, I would understand why this guy has this position and the other has another opinion and why, and I have, I can think about it and be more politicised and involved, I can become a citizen that is more involved in understanding. (CEA: 269)

These extracts show how citizens make sense and utilise participatory institutions such as participatory budgeting (Extract 14.1), voting and consultations (Extract 14.2), and citizen assemblies (Extract 14.3) not to align with a clear outcome but to politicise it. Instead of overthrowing participatory budgeting because the outcome only served projects that the municipality wanted to fund (as some participants highlighted), they redefined this practice as

making people sit down together to find solutions that serve the largest number of people (Extract 14.1). To enact this diversity in the participatory process is important because, as one participant puts it, this is the real purpose of politics, not sitting down at a table with people who all agree (Extract 14.1). Instead, we must be more politicised in order to understand why one person has one position and someone else has another (Extract 14.2). Therefore, instead of seeing the state and its institutions as an abstract entity that represents opposite interests to what lay citizens propose, participants reconstruct citizenship as an inclusive, intimate, dialectic relationship with the state because "the state is all of us with our contributions and taxes" (Extract 14.2). The reminder of the political power of citizens to "steer this boat wherever we want it to go" and to "squeeze these [elected officials]" reconciles the frustration and tension of their past experiences with participatory governance.

However, this reformulation of institutional participation still does not address citizens structurally excluded from the beginning, such as those who do not pay tax, immigrants, or gender minorities, nor does it challenge the unequal power of hegemonic neoliberal energy citizenship discourse in participation processes. This is why there are other representations of energy citizenship that tried to overcome different tensions between neoliberal energy citizenship experiences and energy justice aspirations, which prefigured more transformative energy citizenship as presented in the following section.

8.2.3. Prefiguring transformative energy citizenship

This subsection explores themes that emerged from certain patterned ways of thinking and practicing that are more reflexive and creative in responding to challenges of conventional energy citizenship. By reflecting on tensions and contradictions – or *cognitive polyphasia* – in how to realise the ideal of energy citizenship, participants remake sense of energy citizenship that transform the relation with others – body, community, place, and institution.

Embodiment[11] of energy citizenship in the natural, holistic cycle of energy

[11] Embodiment: verb // The act of expanding one's self-awareness to include the felt experience of the body, such as sensory, sensational, emotional, and physical experiences, and incorporating that information into one's overall conception and conduct of themselves, their identity, beliefs, behaviors, and ways of being.
(https://traumaresearchfoundation.org/defining-embodiment/#:~:text=Embodiment%3A%20verb%20%2F%2F%20The%20act,behaviors%2C%20and%20ways%20of%20being.)

"What they think that can produce energy is renewable energy that are sold as technologies, but there are many ways of producing energy": overcoming the false dichotomy of renewable vs. fossil fuel energy by distinguishing between natural and artificial energy

Adding individual variations to the consensus of energy as commodified electricity – an external force that mediates human interaction with nature in both renewable and fossil fuel sources, some participants overcame the false dichotomy between renewable and fossil fuel energy by recognising that there are alternative understandings of energy based on indigenous and local knowledge that are more holistic to the energy cycle as extracts below demonstrate.

Extract 15:

1. P1.2- Not everything in life depends on this energy that is produced by us. That is, I think that we, as living beings, depend on the energy of the sun and water and all that. And that, of course, we have our way of life very much based on the energy that human beings produce, don't we? So in electricity, gas, everything. But I think it's possible to live without this energy. That is, it is possible to live another way, without the energy produced by us, without an almost artificial energy. It's not natural, it's made by us.

   P1.3- Learn to have another lifestyle, to be able to live this way.

   P1.2- Sure, but it's possible. Some people live. There are many who live. Much of humanity lives without it. We're lucky.

   P1.1- You would have to do every day kilometres, which also uses energy, but it is motor energy, to go get a bucket of water, or get firewood to make lunch, because otherwise there is no other source of energy. Or that you only have electricity for an hour a day, or-. (Somos Comunidade: 76-79)
2. P2.3- I think, not think, I know, as we all know, energy is a spectacular thing, as in everything, it was talked about among other things, the world itself. But when the power goes out, because there is a lack of energy in my village from time to time, I, because of the way I grew up, I don't make a fuss about it. I get the candles, we have firewood, if we have to heat the house my mother has a can of coals in the middle there and she would give it to us. I used a coal-heated iron a lot. We had electricity and then moved to my mother's house when I had my middle daughter […] And I went from electricity to coal again. To oil, to wood, to heating water for baths. In the summer, so I wouldn't have to do this job, we had bowls outside and the sun would heat up the water and we, to me, I won't say I don't miss [electricity], I do, of course. But I can do without it without panicking. (Incluir+: 96)

3. P3.1- For me it is a very complex topic because there are many forms of energy and, in a society, it's a very complex topic. But resuming, as they were saying, it is very important to think more as a producer than as a consumer and 90% or more of the people are just

> consumers of energy, there's not many producers and people, what they think that can produce energy is renewable energy that are sold as technologies, but there are many ways of producing energy. If you look to nature, as in permaculture design, there's a principal that is store, catch and store energy. And for example, catching water from the rain is a way of storing energy. Or doing compost is a way of making energy with bacteria. Or using gravity, using the wind, or using the sun. Planting a garden in an intelligent way is also managing energy well. So, I think it's very important for most of, more people to have awareness on different energy types and how they can be more efficient in their daily lives. Not just in their homes, but in their life styles, in their gardens, in their buildings, in their condominiums, industries. Everywhere. And be more responsible for their own production and consumption instead of just taking as granted and consuming and not producing. Or not being aware, at least, of energy. (CEA: 62)

Some participants break out of the false dichotomy of either fossil fuel or renewable to claim that both of them are "artificial" and there should be alternatives to that with new concepts of "natural energy" or "motor energy" (Extract 15.1). By learning from examples of people in other parts of the world or previous generations, participants recognise that it is not only possible to have an alternative way of life and relation to energy that is not so dependent on electricity produced by modern technology in a way they label artificial, but also it is possible to connect and exchange between different kinds of energy in a holistic way. To overcome the imposition that the renewable energy consumer and producer are the only legitimate duties in the European standard of energy citizenship, some participants resist this behaviour change by going "from electricity to coal again. To oil, to wood, to heating water for baths [with sunlight]" as local sources of energy (Extract 15.2). Meanwhile, other participants reconceptualise natural energy from permaculture, an agriculture school of thought that uses Earth's natural cycles to produce foods and regenerate the soil permanently without the intervention of modern technology (Extract 15.3). This natural process of producing and transforming energy following natural cycles prefigures a different meaning of energy citizenship that is sensitive to the physical and psychological experiences of the body in the interaction with the environment in PEDs.

"We should sleep more…and with better quality": using both alternative representations of energy (content) and analogy of human organism (format) to embody energy citizenship

By resorting to common-sense rather than scientific knowledge, participants contribute an alternative understanding of human-energy relations that encompass other forms of energetic experiences from kinetic or physiological to psychological. Thus, it decentralises the idea that

energy should only be produced under mechanistic, electrical form to serve economic activities and hedonistic living. Instead, citizens reconcile with the experience of energy needs in everyday metabolism, human relation, and a healthy life, as the extracts below demonstrate.

Extract 16:

1. P1.3- The energy that someone else transmits to me. Good energy, bad energy.
   P1.1- We're laughing at these things, good vibe, bad vibe.
   P1.4- The energy of Reiki.
   P1.1- J is talking about like, the good vibes of a person. Sometimes you have a good energy.
   P1.2- And reiki, which L said.
   P1.1- Reiki is a like an energy therapy with the hands. Its origin is in Japan, I think and it's for healing. (Somos Comunidade: 49-54)
2. P2.4- Me, it's my husband who just today made lunch and dessert. I was full of energy. So you asked what you think, and I thought, this is energy.
   P2.1- Energy can be food, which brings us energy for movement. So, on a first impression, energy, movement.
   P2.4- Yes, I went right away and thought, "The man is full of energy today." And he set the table. (Incluir+: 5-7)
3. P3.4- […] So, nature gives us examples and our bodies have technologies to save energy, the name is enzymes. So, you have all the time chemical reactions in your body, and you need heat, warmth, to make a reaction, to make a chemical reaction, but in normal conditions, without enzymes, you'll need seventy degrees to make that happen, but with enzymes, it just, our temperature, like, thirty-six, thirty-seven degrees, it's possible with enzymes. So, it's a way, the body has ways to save energy, which is inspiring for us. […]
   P3.2- It's true. If you think of cities as bodies, it's like traffic and the movements, and actions and the behaviours of the people.
   P3.4- Those are the enzymes?
   RU - Those are enzymes. My dog also saves a lot of energy, he sleeps a lot. So, all the animals have their efficient mechanism.
   P3.4- But we are humans.
   P3.2- But we should think of human society as an organism, and not just something mechanical.
   P3.1- We should sleep more.
   P3.2- We should sleep more.
   P3.4- Not just more, but better quality. And that thing that I said, the (?) it's a way to sleep better and hygienic of sleep, better quality, I mean. Better quality. It's a way to save energy also. (CEA: 300-310)

From everyday experiences about what energy means to participants, energy is more embodied in physical and mental resources such as making lunch and dessert, moving, healing someone with reiki therapy (Extract 16.1, 16.2). Thus, to overcome the alienation from artificial energy and reclaim natural energy, energy citizenship means being conscious about what we use our energy for and what effect or consequences it has on ourselves and others, such as the energy someone else transmits, or their good or bad vibes (Extract 16.1). Also, this embodiment of energy respects the natural cycle of energy regeneration rather than taking it for granted as an infinite source to extract. Claiming "cities as bodies" and "human society as an organism, and not just something mechanical" (Extract 16.3), participants prefigured the practice of sleeping more and sleeping better as a radical counterproposal to the conventional script of saving on electricity bills and emissions by using more renewable energy. The metaphor of enzymes in our body and learning from non-human bodies such as dogs sleeping (Extract 16.3), help participants to reflect and show that there are alternative sustainable ways to save and recover our energy by reconnecting to our body's needs. "Sleeping more and better" (Extract 16.3) becomes a symbolic act to challenge the imperative of more productivity or prosumption and a prioritisation of human well-beings in an energy-intensive lifestyle that leads to a burn-out society (Han, 2015).

Making energy citizenship collective within and beyond the local community

<u>"People can search themselves, in their individualism, new solutions that can be shared with the community": overcoming the tension between individual and collective responsibility/ autonomy</u>

While the neoliberal capitalist arrangement of the energy system promotes for an individualistic lifestyle and consumption, participants draw from polemic representation of "paradigm shift" to de-individualise energy citizens. Thus, PED meaning-making gave space for them to explore alternative ideas for autonomous community self-organisation in combatting the freedom of choice in neoliberal energy citizenship.

Extract 17:

1. P1.3- […] And I was going to say, just going back a little bit, I was thinking, <u>does the paradigm shift, the change in people's lifestyles, imply the collapse of the capitalist system?</u> Because the current way of life, the way industries produce, is not compatible with combatting climate change. That is, to combat it, there are companies that will have to go

bankrupt, people who will have to become unemployed, and this can call into question the way of life as we know it and the way we relate to each other and the ideal of prosperity that everyone yearns for, of a rich country, where everyone lives well, where people have an average lifestyle, they can buy what they want. And they waste a lot. (Somos Comunidade: 208)

2. P3.2- I don't know but if we, if the industries change, and if the cities change at this level, new jobs will appear, old jobs will disappear, new mindsets, new ways of thinking, new, other kinds of opportunities. New living.
   P3.4- Complete transformation.
   P3.2- Complete transformation.
   P3.1- There are a lot of conflicts because of energy and resources, so if it's more of a communally managed infrastructure-.
   P3.2- Less competition.
   P3.1– There's less competition, more - [cooperation]. (CEA: 190-195)
3. P3.1- Exactly, because it's about management, if it's an individual management, it's always consuming more than if you manage with a group. But today it's a very individualised society and people are managing their lives and their resources separately, so the consumption is much more. So, we need to find ways of organising people together and share management of resources, land, energy production and consumption, time. Which leads to more efficiency at a local level. Production of food, water, everything is mentioning, so it's a good insight. It's a big challenge also. And also, people can search themselves, in their individualism, new solutions that can be shared with the community. Like, cooking more efficiently, or having communitarian centres for cooking or for bringing water or bringing food, education, and knowledge. (CEA: 211-212)

Reshaping the duty of energy citizens is not to follow the conventional script of purchasing anything you want and wasting a lot or individually managing energy in an individualised society where people manage their lives and resources separately (Extract 17.1, 17.3). This paradigm shift from a lifestyle of individual consumption "can call into question the way of life as we know it and the way we relate to each other" (Extract 17.1), emphasising less competition and more cooperation through communally managed infrastructure (Extract 17.2). Rather than cooperating with current institutions, participants envision it as a complete transformation (Extract 17.2), which means "companies will have to go bankrupt, people who will have to become unemployed" (Extract 17.1). At the same time, "new jobs will appear, old jobs will disappear, new mindsets, new ways of thinking, new, other kinds of opportunities. New living." (Extract 17.2). In this sense, PEDs could challenge economic growth, the ideal, prosperous, rich

country that people yearn for (Extract 17.1) that has created a lot of conflict over energy and resources (Extract 17.2). Instead of envisioning a revolutionary goal and future, the focus is on a new way of thinking in which people organise and manage resources, land, energy production and consumption, and time in a communal fashion (Extract 17.3). To overcome the big challenge of this paradigm shift in de-individualising energy citizenship, participants reframed individualism as a source of creativity that can create new solutions to be shared with the community rather than to only engage in their private sphere of energy consumption in the role of consumer or prosumer (Extract 17.3).

Sharing experiences to diversify knowledge from different cultures and contexts

This subtheme further discusses how the transformation from individual freedom to collective responsibility and autonomy is "not resolved but foregrounded and navigated" (Gordon, 2020, p. 783) differently by different individuals and groups to prefigure anti-capitalist politics in local, translocal, and global context. Using examples of personal stories about local initiatives, participants challenge the norms of neoliberal energy citizenship that could hinder more collectivistic and cosmopolitan ideals of energy citizenship.

Extract 18:

1. P1.1- The human beings themselves, for example. **Now I'm going to play devil's advocate.** For example, you're here as a researcher from Vietnam. I could find a radical solution where researchers, for the sake of the environment, could only investigate in their radius of action because they could not make trips far away. In terms of human development, much of the development we have had has been due to relationships of exchange, since forever. And human advancement occurred with however many exchanges as there were. With cooperation, knowledge of other cultures, rather than being isolated amongst ourselves. So, that's an issue too. Isolation then has implications on another level.
   P1.2- That is, to be self-sustaining and closed off, to live closed off in our community, is not-.
   P1.1- There is another side of the coin.
   P1.2- Exactly. It can also be highly penalising.
   P1.1- I've been involved in a process with friends with an eco-village, and one of the things that was a problem was, so we live here a kind of bubble, self-sustaining amongst ourselves, only, and we almost forget that there is a world out there. There's a social side that's also a little selfish, sometimes a little bit. In the meantime, we're fine, everything else, whatever. (Somos Comunidade: 225-229)

2. P3.2- Exactly. In other places there is more sun, less sun. For example, in Alentejo, there's the most solar radiation in Europe, so it has a lot of potential. Also in Spain, there are areas where you can take advantage of the energy of nature, for example, the waves or the ocean, they are-. (sound overlap). We have a lot of coasts that we can produce energy and adapt the strategies to the potential of the places and with the participation of people, to spread this knowledge. Starting from the schools, to teach children to make a small wind turbine, for example, in Torres Vedras, and they will grow and they will know, be specialised and do their own small, and so on. And many examples like this, where people can learn their own solutions and share with their communities. (CEA: 214)

The common thread amongst participants with regard to knowledge sharing and community organisation is the dialogue with others in different cultures or contexts. In dialogue with the researcher conducting the focus group (Extract 18.1), a participant used a hypothetical scenario to contest the imperative of sustainability, in which the radical solution for an ethical individual researcher would mean refusing to travel long distances to reduce energy consumption, which in turn might hinder more sustainable impacts of knowledge exchange and learning from other cultures. A participant in Extract 18.2 contextualised practices in energy planning by "adapting the strategies to the potential of the places and with the participation of people, to spread this knowledge", so that "people can learn their own solutions and share with their communities" (Extract 18.3). This discourse drew from another rationality of advancement that is not based on competition, as one participant stated "And human advancement occurred with however many exchanges as there were. With cooperation, knowledge of other cultures, rather than being isolated amongst ourselves" (Extract 18.1). Thus, this rationality values bottom-up knowledge sharing to challenge the imposition of technologies developed in mass for different contexts and cultures.

Renegotiating citizenship boundaries by direct actions

Being excluded or forgotten in low-carbon urban and transport design, participants negotiated the meaning of what a good citizen means through different tactics of participation as demonstrated in the extracts below.

Extract 19:

1. P2.4- I don't know if anyone knows about that problem that there was, and there is in Runa. Because of the train station.[12]
   P2.2- There is a gentleman who often complained about this.
   P2.4- And we won. Runa came here to the city council, and they managed to do it. Because they want to make an electric train, one of those things. […] A substation to supply electricity to the train. They wanted to do it in Runa. This place was not alright, the place was not alright. And there was one man who even said, he went on television. This was one who spoke. He went on television and said, "Even if you pick up a shotgun and come and tear this up, I'll shoot you, because I'm at the end of my life and I don't care." The people all came together, because they didn't want the substation in that place. […] So they did the proposal for another location. They're going to redo it[to build it on the other side of the platform] […]
   P2.5- But that's it, it's people coming together. It's just a dude with a pistol. That's it.
   (Incluir+: 481-490)

2. P2.2- I don't feel well, you know? My daughter takes out the car, does something, goes to the roundabout, comes around, parks there. Because I'm afraid of her [crossing on foot]. I'll go there and get it. Ten meters and there's no way to get there. There isn't. This side has already been designed to park the cars to go by bus to Lisbon. They forgot about the people that live there. But it's very-. I've thought, I'll go there at night and paint [a crosswalk], but then I don't. Okay, then I have the dichotomy of being a public servant and being respectful, but after being a user.
   P2.5- But you're not disrespecting anyone in demanding a crosswalk and demanding safety.
   P2.2- I'm definitely not going to do it, but I feel, okay, no one is going to tell me, but I feel like, "No, I have to do this the right way." I'm not going to do it behind the scenes, I have to do it the right way, send an email. The next building meeting maybe I'll address this topic. That's it, maybe. It's very-. Because I have to go by car, I'm spending an unnecessary resource, literally to go twenty meters. Because it's easier for my girl to get off the bus and say, "Mom, come get me." I have to put on my shoes, or I'm in my pyjamas, to walk ten meters to do it. (Incluir+: 507-511)

While the direct actions of "a man with a pistol" on television contesting the siting of a substation for electric trains are seen as an effective act of citizenship for those who are at the end of their life and therefore have nothing to lose (Extract 19.1), other direct actions such as

[12] Participants are referring to a local contestation in Runa near the city of Torres Vedras against the siting of an electric substation for the train line between Lisbon and Caldas da Rainha (source: https://www.publico.pt/2021/03/24/local/noticia/acordo-vista-localizacao-subestacao-runa-torres-vedras-1955754)

painting the crosswalk are seen as “offending” and conflicting with the image of civilised, institutional acts of citizenship for those who used to work for the municipality or identified with their public image (Extract 19.2). The strong normative argument for doing things the “right” way, via institutional participation such as sending an email or addressing at the building meeting versus the “wrong” way, via non-institutional participation (Extract 21.3) gives value judgements to these acts of energy citizenship. By defending direct actions such as “It’s people coming together. It’s just a dude with a pistol” (Extract 19.1) and “You’re not disrespecting anyone by demanding a crosswalk and demanding safety” (Extract 19.2), the focus group negotiated the legitimacy of direct actions as non-institutional participation. By protecting demanding the basic rights to the city, energy, and transport for all citizens, participants challenged the social order of modern capitalist logic which prioritises automobile infrastructure over pedestrian safety and efficiency “because I have to go by car, I’m spending an unnecessary resource, literally to go twenty meters” (Extract 19.2).

8.3. Concluding remarks

The study showed how citizens struggled to make sense of neoliberal energy citizenship through socio-psychological experiences that are mentioned in the theoretical part of this thesis. In dealing with a new object such as a PED in an uncertain context of multiple crises, participants expressed their shared concerns for technological risks, such as power cuts and energy deprivation, financial risks in investing in renewable and energy efficient technologies, the excessive burden of changing energy routines and practices, as well as the physical and psychological displacement from the change in infrastructure and place meanings. Importantly, the issue of trust is raised not only relating to the energy company and experts deploying energy technologies, but also relating to politicians and the participation process, which could empower or disempower citizen participation for a just PED.

These socio-psychological experiences of the conventional script of neoliberal energy citizenship made participants in the focus groups reflect on wider social inequalities and environmental impacts both locally and globally. This is represented through discourses of energy injustices and a sense of unfairness in the distribution of cost and benefit, in the inclusion or exclusion of vulnerable citizens, and in the decision-making process. This resulted in a negotiation for activist energy citizenship by asking for responsibility from the state to improve infrastructure and subsidies rather than individual responsibility, especially in retrofitting and public transport. Thus, being a good energy citizen does not only mean adopting and adapting

to changes but also means coping with changes by claiming their right to energy, the city, and transport. According to participants, activism could range from writing complaint letters, talking to the municipality, to engaging in participatory budgeting, to citizen assemblies or public consultancy without a pre-defined outcome. Adding to that, cosmopolitan injustice is important to participants as they are aware of grey energy in global material production and consumption that perpetuates green colonialism (Batel & Küpers, 2022; Normann, 2020). This shows that engaging with how things are made and used throughout time and space helped participants politicise conventional scripts of individual consumer/prosumer energy citizenship and start searching for an alternative governmentality that could prefigure more transformative energy citizenship.

By overcoming tensions or gaps between energy citizenship ideals vs. current practices, the focus groups renegotiated energy citizenship meanings based on common sense and indigenous knowledge of energy and place-making. Other ways of thinking about energy as a natural cycle rather than artificial extraction transformed citizens' energy experience through human and non-human bodies and prefigured other energy citizenships that are more aware of the energetic needs of their health and well-being. Sleeping better to save energy is an example of energy practice that counters the individual energy efficiency script of action that is highly dependent on artificial technologies and electricity. Another different way of organising energy life without relying on dominant technologies of government is to reconceptualise individual autonomy and responsibility as dialectic and interdependent with collective autonomy, thus encouraging mutual alternative learning solutions between individuals and groups from different cultures and contexts. This is based on reconstructing cooperation as the main rationality for human advancement rather than competition. Sometimes, prefigurative politics also involves direct actions to negotiate energy citizenship boundaries that prioritise human needs over machines and profits.

CHAPTER 9

GENERAL DISCUSSION

9.1. Summary and main findings

This dissertation explored how energy citizenship, as an emerging socio-psychological concept in energy social sciences and humanities research, is being socially constructed and negotiated within participatory governance arrangements and through citizens' everyday practices. This research focused specifically on energy citizenship in the context of Positive Energy Districts (PEDs), which are smart cities or neighbourhoods where local government, stakeholders, and citizens manage a decentralised energy system to create an annual surplus of renewable energy.

Through a case study – Torres Vedras, a town in Portugal that aims to develop with PED characteristics in the future – this research analysed specifically how energy citizenship is being defined within current participatory governance practices, through a governmentality and social representations theory framework. The governmentality framework (Inda, 2008; Lemke, 2012) was adopted to understand and explain if and how meanings about human-energy relations (e.g., energy as commodity) and related power relations, shape the ways of being or conducts of the energy subject (e.g., as prosumer/consumer). On the other hand, based on social representation theory (Batel & Castro, 2018) and the social psychology of citizenship (Andreouli, 2019), how these subjectivities are reproduced, negotiated, or contested by different stakeholders across institutional, mediating, and consensual spheres was analysed.

By analysing the consequences that certain representations of energy citizenship have on the lived experiences of citizens, this research aimed to question the conventional scripts of energy citizenship. Specifically, it explored how energy citizens' subjectivities are lived through socio-psychological factors such as lived experiences of risk, uncertainty, and trust; distributive justice, recognition justice and people-place relations, and procedural justice; as well as routines and capabilities. The outcomes of the research prefigure transformative energy citizenships by identifying alternatives to neoliberal governmentality that are attentive to just and inclusive PEDs.

In summary, this dissertation adopted a qualitative research approach using an integrated framework of governmentality and critical socio-psychology of citizenship to answer four main research questions:

1. How is energy citizenship represented and experienced through participatory governance in PEDs?

2. Is participatory governance in PEDs reproducing or challenging neoliberal governmentality? How?
3. What consequences do different representations of energy citizenship have on just and inclusive PEDs?
4. What are possible prefigurations or alternatives that could foster transformative energy citizenship for sustainable PEDs at all levels (environmental, social, economic)?

These research questions were addressed through three qualitative studies based on the case study of Torres Vedras in Portugal. In *Study 1 – institutionalisation of energy citizenship*, the focus was on how multi-level policies for enacting and implementing PEDs represent energy citizens. By using a governmentality socio-psychological approach to analyse six policy documents at EU, national, and local/Torres Vedras levels, the study confirmed the prevalence of a neoliberal governmentality of energy citizenship in policy. This governmentality promotes the ideal of the smart and ethical prosumer, which excludes those citizens, such as the energy vulnerable, who lack the technical, financial, and political resources to participate. This neoliberal representation of energy citizenship, thus, materialises a green growth logic, which implies that economic growth is still the main concern, and not more sustainable and balanced human-energy-nature relations. However, the analyses in Study 1 also identified two alternative representations of energy citizenship, albeit much less prevalent than the smart and ethical consumer: the active (vs. resilient) vulnerable consumer and the local-global citizen. These representations are used in national and local policies respectively but are often still co-opted to fit green growth objectives. This co-optation consequently still marginalises vulnerable voices in favour of state and expert authorities. As such, although this first study found no radical alternative representations of energy citizenship in policy discourses, it highlighted how the theoretical framework used sheds light on the dominant neoliberal assumptions in policy discourse, and how it attempts to shape energy citizenship subjectivities.

The socio-psychological impacts and meaning negotiation process of the hegemonic and emancipated representations of energy citizenship identified in Study 1 were then further explored in Study 2 and Study 3, which respectively focused on mediating stakeholders between these policies and citizens, and between citizens themselves. *Study 2 – mediation of energy citizenship* explored, through semi-structured interviews with key stakeholders i.e., representatives of local associations, authorities, and businesses, how energy citizenship representations are reified, negotiated, or contested by these stakeholders, key to the deployment of PEDs and related infrastructures and projects. This study suggests that technical

experts and business stakeholders in energy and transport reified the neoliberal hegemonic representation identified in Study1 and that they did so by often using rhetoric devices, such as an "either-or" grammar, to set boundaries between citizens (as consumers/prosumers) vs. non-citizens. Technocratic and market rationalities – enacted through devices such as smart meters and financial incentives, respectively – are incentivised by most stakeholders, their discourse depoliticising renewable energy and instrumentalising energy citizenship for green growth. This legitimates other types of interventions, such as parking nudges and energy efficiency norms, that naturalise inequalities and exclude vulnerable, disadvantaged citizens in their access and relation to energy.

Besides the reification of the hegemonic representation, this second study also found that local government and representatives of the civil society negotiated the hegemonic representation by using emancipated representations that claim energy as a right, in order to include marginalised citizens (the poor, elderly, people with different needs) in an energy welfare system. Instead of representing vulnerable energy citizens as passive beneficiaries as identified in the public policies analysed in Study 1, civil society stakeholders proposed more agentic narratives of energy citizens, such as confidently reclaiming their social subsidies for paying energy bills and engaging in housing retrofitting projects as equal partners and not as only passive beneficiaries, based on an assistentialist perspective (see, for example, Herrera & Frei, 2023). Legal protection for consumers and public feedback platforms to enhance municipalities' sustainability are examples of technologies of mediation to negotiate responsibilities between individual consumers and local governments and energy companies that were discussed by participants. These would further legitimate the role of civil society intermediaries, like local associations and NGOs, in making sure that PEDs are more participatory and inclusive. However, it also increases and adds to individual citizens' responsibilities to be well-informed of energy systems and rights, and to be active in reclaiming these rights through heavily bureaucratic processes, i.e. technologies of participation (see also Bartiaux et al., 2016)

Importantly, civil society representatives, especially of grass-root organisations, contested the mainstream representation of disengaged and sceptical citizens as non-citizens. These stakeholders reinterpreted citizens' polemical (in)actions as a consequence of class struggle in a consumerist, capitalist society. Thus, they also proposed a more collaborative citizenship that includes care for others instead of the individual responsibility doctrine of the hegemonic representation. Place-based and inclusive planning and design of the city were stressed as

alternative human-energy-place relations linked to the idea of energy and the city being a type of commons (Tsavdaroglou & Kaika, 2022), therefore also linking energy issues with the green gentrification that is happening in newly regenerated urban areas (Anguelovski et al., 2022), including Torres Vedras.

Study 3 – consensualisation of energy citizenship, aimed to explore the daily energy experiences of citizens to examine how they represent energy issues in response to the institutionalised and mediated representations of energy citizenship identified in the previous two studies. It investigated how citizens act, feel, and reflect on changes brought about by PED-related interventions in Torres Vedras, and how they engage with or resist them. Many citizens, as participants in different focus groups, struggled to engage with and make sense of neoliberal energy citizenship, and this was conveyed based on their lived experiences of a range of socio-psychological processes. They expressed concerns about technological risks, financial and capability challenges, and trust issues with energy companies and politicians, alongside the burden of being made individually responsible for the energy system, while not having a say from the beginning. The ambivalence between being an efficient energy consumer/prosumer while keeping a "European [imperial] standard of living" (Brand & Wissen, 2012; Dorn et al., 2022), led citizens to reflect on social inequalities, people-place relations, and socio-environmental impacts for vulnerable people around them. Thus, citizens who are closer to the local government called for an activist energy citizenship that emphasises state responsibility over individual action. By reflecting on injustice issues (recognition, distributive, procedural, cosmopolitan – Sovacool et al., 2019), citizens negotiated citizenship boundaries by resisting the hegemonic neoliberal capitalist model of PEDs as smart and sustainable cities (see also Kaika, 2017) and by reprioritising human basic needs over profit-driven motives. Concretely, they shared how they negotiated this hegemonic representation of energy citizenship, by enacting other forms of energy citizenship based in direct actions such as painting crosswalks where they considered they were lacking for safe pedestrian mobility, and by participating in bottom-up initiatives like public demonstrations and public budgeting. This also led to discussing people-energy-environment relations that emphasised the embodiment of energy and collective autonomy in managing it, as well as the paradigm shift required for that and away from green growth.

Going back to the research questions that this thesis aimed to answer, this thesis has showed that energy is first and foremost a political topic, given that the meanings of energy, and therefore their socio-psychological and environmental consequences, are constantly being negotiated both now and historically (Daggett, 2019); and also that, in a related way, the access

to, distribution, and use of energy, which is key in modern societies for education, health, work, leisure, and social purposes, is defined based on those meanings and on who has more power to reify them. Through all the conducted studies, this thesis demonstrated that the hegemonic representation of energy citizenship, as enacted through policies at different levels in Study 1 and by different stakeholders in Study 2, but also as contested by the latter, including by citizens in Study 3, is that of the energy neoliberal smart and ethical consumer/prosumer, which contributes to reproducing the neoliberal governmentality present in other domains of life (A. Carvalho & Ferreira, 2022). However, other representations were also identified in those policies and stakeholder discourses, namely emancipated representations that attempted to integrate the energy vulnerable into the hegemonic neoliberal vision of energy citizens. These emancipated representations of the active (vs. resilient) energy vulnerable citizen and of the local-global citizen are aimed at mobilising citizens without leaving anyone behind, as per the motto of the United Nations Sustainable Development Goals[13], but still revealed problematic articulations with a green growth ethos and the instrumentalisation of citizens' participation in energy and environmental related decision-making processes (Ryder et al., 2023). Alternative, more radical and polemical representations of energy citizenship were not identified in the analysed policies in Study 1, as could be expected, but were proposed and discussed in studies 2 and 3. They were mainly proposed by representatives of local associations and community leaders who experienced exclusion and other impacts of the hegemonic representation of energy citizenship themselves. These findings and analyses, together, suggest that participatory governance is mostly reproducing neoliberal governmentality, but allowing some space for hegemonic representations of energy citizenship to be contested and negotiated.

As for the consequences and implications that different representations of energy citizenship have on just and inclusive PEDs, the analysis of Study 2 found that coercive technologies of government, such as energy efficiency regulations, are usually coupled with conducive technologies of the self, such as nudging, to reproduce hegemonic neoliberal governmentality that limits citizens to being active only as market participants. However, this representation was resisted by citizens in their everyday lives, as discussed in Study 3, given that it renders citizen-consumers powerless and hinders their agency in coping with energy poverty and green gentrification. Even when more civic participation mechanisms were discussed and promoted by stakeholders in Study 2, these did not always directly challenge

[13] Motto of United Nation on their website: "Leave no one behind" (source: https://unsdg.un.org/2030-agenda/universal-values/leave-no-one-behind)

neoliberal governmentality. Instead, these technologies of mediation or technologies of participation were discussed in Study 3 as psychological tactics for public acceptance of decisions/regulations that had already been made, or as a form of therapy to placate the consequences of such decisions. The distributive, recognition, and procedural injustices as outcomes from these exclusionary practices thus prompted citizens to renegotiate meanings of energy citizenship. Specifically, citizens in the focus groups challenged the *telos*-oriented tendency in participatory processes, in order to reclaim the democratic ideal of politics that is more open to constructive conflicts (Mouffe, 2018), pluralism, and diversity (Coelho et al., 2021), and inclusion.

In working towards a just and inclusive PED, participants productively reconstructed and prefigured energy citizenships that are more human-centric than technocratic. They did so by recognising and finding ways to settle the conflict between the current energy and economic model and the paradigm shift towards a decentralised and democratised PED, between the economic values of green growth and other values such as cultural, social, and environmental ones, between the urgency of the global crisis of climate change and inter-local solidarity. It was through both individual and collective (local and beyond-local) forms of citizenship in addressing these conflicts and injustices that citizens found ways to negotiate and propose more transformative meanings of energy citizenship.

9.2. Theoretical contributions

This thesis connected social psychology and other social sciences' critical frameworks through the concept of energy citizenship. The initial theoretical contribution of this dissertation involves a critical examination of energy citizenship as based in everyday practices, subjectivities, and self-other relations and related meaning-making processes, rather than as deterministic, pre-defined, and based on legal rights and duties. The combination of governmentality as a theoretical framework with social representation theory offered a unique lens to understand how energy citizens' subjectivities are both created and experienced in relation to diverse socio-psychological processes, and how the meanings of energy citizenship are accepted as they are, challenged, or renegotiated in the meaning-making processes across institutional, mediating, and consensual spheres. As a result, this approach reconceptualised citizenship from the general view of a decontextualised individual-self to a relational-self that is not only socially and culturally embedded, but also linked to the political economy and

ecology of the local-global context that citizens are situated in, in this case specifically in Torres Vedras, Portugal, an EU country, as a case study.

Moreover, the integrated framework of governmentality and social representation allowed this work to explore and unravel the links between participatory governance and the subjectification process in governmentality. Through policy document analysis (Study 1) and interviews with stakeholders (Study 2), this research pointed out how the mainstream governance approach to energy citizenship is often based on assumption that citizens are homo economicus and neoliberalus (Olivadese et al., 2021; Teo, 2018), and therefore uncritical of political goals and existing ideologies such as green growth in European research and governance (Pollex & Lenschow, 2018). This research pointed out how citizens' resistance to behaviour changes and infrastructure are mostly interpreted by expert and policy as a cognitive deficit in cost-benefit analysis, and thus easily overcome by economic incentives such as subsidies and compensations. The presented analyses revealed how participatory tactics such as public consultancy are often harnessed to foresee risk and future opposition and to try to increase public acceptance (Ryder et al., 2023) of what citizens can do as consumers rather than what the state can do. In other words, this research highlighted how social innovations in participatory governance tend to be captured by incumbent actors (Pel, 2016).

Additionally, our framework provided a deeper understanding of what impacts sustainability changes mean to citizens by exploring their lived experiences and relevant socio-psychological impacts such as in relation to risk, uncertainty, trust, justice, people-place relations, routines, and capabilities. By examining energy citizens' lived experiences in their own terms, the presented empirical work, especially in Study 3, helps understand that citizens' "failure" to participate in the energy market and institutional processes is due to hidden inequalities, exclusions, and injustices in how energy citizenship and citizenship in general are initially constructed by policy and stakeholders.

The approach developed and used in this thesis thus allowed for an examination of how conventional energy citizenship is reproduced and reified (Batel & Castro, 2009), and also how alternative claims for citizen engagement based on energy rights and energy justice are negotiated. As such, the findings of these studies contribute a robust case to critical governance literature, which differentiates between normative and pragmatic participation. The latter reinforces the ideal that "participatory governance is expected to contribute to improving the 'quality' of decisions by incorporating locally held knowledge" (Glass & Newig, 2019, p. 198) rather than to achieve predefined goals from the government and developers.

Additionally, the inputs from SRT also deepened the understanding of the subjectivation process as proposed by governmentality approaches, given that as McIlvenny and colleagues pointed out, not much research using governmentality as a framework looks at "how citizens negotiate relations among themselves and with other social actors rather than with forms of institutionalized governance of citizens" (2016, p. 74).

Another contribution of the proposed theoretical framework in this thesis is made by incorporating an exploration of material and spatial aspects into the representation of energy citizenship. It is clear from the empirical results presented that citizens did not only make sense discursively of their subjectivities (Batel et al., 2016) and of their feelings of being included or excluded from the discussed energy regulations and infrastructures, but they also engaged with energy, transport, and retrofitting materials and practices to renegotiate the meaning of their place, such as for socialisation rather than energy efficiency in the new context of PEDs. Practical knowledge exchanges, such as building small renewable energy generators to adapt to the local spatial specificities and place-making practices or painting crosswalks because they were lacking, provided evidence for different energy citizenship possibilities and boundaries beyond the conventional ones (see also Gailing & Röhring, 2016).

9.3. Applied contributions

This research contributed to a better understanding of the consequences of participatory governance on energy citizens' subjectivities and practices, which is useful for energy policymakers and municipal planners to consider in policies, regulations, and plans for energy projects and infrastructures and for citizens' engagement in those. The present research revealed and criticised how citizen's resistance to change is still often considered to be something to overcome with quick technological fixes such as nudging, boosting, and promoting self-entrepreneur and flexible consumer/prosumer roles. It suggested that policies and technologies of government that address individual behaviours in their private sphere such as smart meters, only have a micro and short-run effect, as also highlighted by previous research (Dholakia et al., 1983; Guerreiro et al., 2015).

Individual change based on intrinsic values and motives regarding energy-environment issues is subjective, and therefore it is hard to spread the effect to society at large. In the presented empirical findings, for example, most participants still found PED related technologies such as heat pumps unfamiliar and only highly educated, mostly male (Scharnigg & Martin, 2024) participants could explain it to the rest of the group (see Study 3). Furthermore,

the individual changes in energy practices do not last long once the incentive or stimulus disappears because social practices, rhythms, working schedules, and local infrastructure do not change (Shove et al., 2015). This showed in participants' complaints about public transport infrastructure in Torres Vedras and their awareness and criticism of hedonistic lifestyles.

As the meanings of energy practices are socially constructed, this research suggests that communications in policies and participatory processes between citizens and experts should not address energy citizens as primarily consumer/prosumer. It is showed that this subjectivity not only puts the whole burden and responsibility onto individuals and thus excludes marginalised citizens, but also limits citizens' agency to market participation at the expense of community, social, and political participation (B. Lennon et al., 2019). Therefore, the present research catalyses and calls for different stakeholders and citizen groups in PED-making to not only engage in understanding their lived experiences within the conventional script of energy citizenship, but also to value their knowledge and power in reshaping transformative meanings of energy citizenship in their own terms. By building energy citizenship from the ground-up, this research advocates for policymakers to consider seriously the consequences of the hegemonic representation of neoliberal energy citizenship and technocratic interventions on policy, its effects on disadvantaged groups, and to reconsider the relation of everyone with energy and its sites of extraction, production, distribution (Küpers & Batel, 2023), as a form of commons.

The qualitative research approach used in this thesis, especially in Study 3, co-created solutions to tackling some of the social and environmental impacts of PEDs with the participants. It created a political space for them to engage in dialogue openly by connecting people with similar interests in making PEDs and energy transitions more just and inclusive, but with different opinions to exchange in a constructive conflict process (Mouffe, 2018). Feeling the power of collective agency, many participants expressed the enthusiasm to further discuss and connect beyond the focus groups to improve local democratic capacity, strengthen local social solidarity, and exchange local knowledge on energy matters.

By giving voice to citizens that are not usually heard on the topic of energy, which is often seen as ubiquitous and thus taken for granted in society (Ambrose, 2020), this research captured the different realities of citizens' experiences with energy issues and challenged the hegemony of western modern capitalism and its policy practices that exclude populations that it deems unproductive in society. These findings can then provide policymakers and PED planners some suggestions, such as:

- Make use of older generations' practical knowledge for saving energy in the local climate without depending too much on industrial technologies;
- Set up community gardens and public spaces for social bonding and sharing common resources like food, energy, and water;
- Apply organic, nature-based solutions for energy production in circular ways such as composting, waste-to-energy, and microgeneration of wind energy;
- Promote health and well-being to regenerate human energy in the city (Walker, 2021).

9.4. Limitations and future research

Energy citizenship is an important concept and phenomenon to study in social and environmental psychology and this thesis provides a first exploration and understanding of why and how it is so. The research herein also presents several limitations that could be tackled in future research to expand our knowledge in practical, methodological, and theoretical dimensions.

Practical challenges involved the unpredictable conditions for field work and data collection. As the interviews study (Study 2) spanned over a year due to the disruption of the COVID-19 pandemic, stakeholders' contacts from potential organisations kept changing during the course of the research, which led to a lower participation rate than expected, at least in some stakeholder groups such as businesses. The focus group study (Study 3) attempted to follow a full co-creation approach (Elkjær, Horst, Nyborg, et al., 2021) by discussing the guidelines for the focus groups with the citizens' group representatives, and some feedback was received that the format of the focus group needed to be more approachable when discussing abstract issues such as energy. However, the implementation of such ideas was limited due to time and resource constraints from both the researcher and participants. There was also a lack of participation from specific vulnerable and marginalised communities such as the Roma people, immigrants, people with diverse needs, LGBTQ+, and others in these studies. Also, the participants in the focus groups were mainly citizens that were already involved in local associations that are concerned with and push for more social inclusion and participation in other societal domains beyond energy issues.

It is also notable that the methodological approach to governmentality and social representation based on discourse analysis does not capture the full messiness of micro-political practices in everyday life (see Silva, 2015). Thus, future research could use more ethnographical

methods in analysing the effects and interaction of technologies of government and technologies of the self with energy citizens, or the interaction between the mediated and the consensual spheres. This could mean using more methods and approaches such as ethnomethodology, diaries and walking interviews, recording public meetings, photovoice, among others, that arguably make different lived experiences with energy and citizenship-making processes more visible (Ambrose, 2020).

Theoretically, research from socially-oriented humanistic psychology could be useful to connect individual socio-psychological and emotional experiences with social (political and economic) structures, thus making citizens more conscious about energy as a political issue via critical social thinking (Cornish et al., 2016; Fromm, 1968). While this did happen, especially during Study 3, it could have been integral to the research process from the beginning. Last but not least, this research found some links but did not focus on the relation of energy citizenship with other domains of citizenship such as multicultural integration and urban citizenship (e.g., Zisakou & Figgou, 2023). Future research, thus, could also focus more on how energy citizenship connects to other types of citizenship, such as national citizenship and global/cosmopolitan citizenship in general (Andreouli & Howarth, 2013; Coelho et al., 2021; Kühn & Bobeth, 2022).

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ANNEXES

ANNEX A. Informed consent and debrief for both interview and focus group studies (chapter 7 and chapter 8) in English and Portuguese

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INFORMED CONSENT

The present study arises in the context of a doctoral thesis and Smart-BEEjS research project underway at **Iscte - Instituto Universitário de Lisboa,** funded by the European Commission through Horizon 2020 program with grant agreement number 812730. This study concerns about the role and identity of citizens in the decentralized energy transition towards Positive Energy Districts – districts and neighborhoods that produce more renewable energy than their consumption.

The study is carried out by researcher **Minh Thu Nguyen (email: mtnnu@iscte-iul.pt)**, who can be contacted if you have any questions or comments. Your participation in the study, which will be highly valued, as it will contribute to the advancement of knowledge in this field of science, consists of a one-on-one interview and lasting for 1 hour with guiding questions or **a focus group with other participants lasting for 2 hours** and guided by discussion moderator in both English and Portuguese. There are no significant expected risks associated with participation in the study.

Participation in the study is strictly **voluntary**: you can freely choose to participate or not to participate. If you choose to participate, you can stop your participation at any time without having to provide any justification. In addition to being voluntary, participation is also **anonymous** and **confidential**.

The interview or focus group will be recorded and stored in a secure and accessible space for at least 5 years counted from the end of the PhD project. The recorded data will be made accessible to those who wish to undertake scientific research with it, with all respects of the anonymity and confidentiality of participants.

I declare that I have understood the objectives of what was proposed and explained to me by the researcher, that I have been given the opportunity to ask all the questions about the present study, and for all of them, to have received an enlightening answer, and **I accept** participate in it.

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_____ (location), _____ / _____ / _____ (date)

Name:_____

Signature:_____

(Informed consent Portuguese version)

iscte INSTITUTO UNIVERSITÁRIO DE LISBOA

cis_iscte Centro de Investigação e Intervenção Social

CONSENTIMENTO INFORMADO

O presente estudo surge no âmbito de um projeto de investigação a decorrer no **ISCTE – Instituto Universitário de Lisboa**, financiado pela Comissão Europeia através do programa Horizon 2020 com o acordo de subvenção número 812730. O estudo tem por objetivo de representar a identidade e missão dos cidadãos na transição energética descentralizada para os Distritos de Energia Positiva - distritos e bairros que produzem mais energia renovável do que o seu consumo.

O estudo é realizado por investigadora **Minh Thu Nguyen (email: mtnnu@iscte-iul.pt)**, que poderá contactar caso pretenda esclarecer uma dúvida ou partilhar algum comentário.

A sua participação no estudo, que será muito valorizada pois irá contribuir para o avanço do conhecimento neste domínio da ciência, consiste em uma entrevista individual com duração de 1 hora com perguntas norteadoras ou **um grupo focal com outras pessoas com duração de 2 horas** e orientada por moderador de discussão em inglês e português. Não existem riscos significativos expectáveis associados à participação no estudo.

A participação no estudo é estritamente **voluntária**: pode escolher livremente participar ou não participar. Se tiver escolhido participar, pode interromper a participação em qualquer momento sem ter de prestar qualquer justificação. Para além de voluntária, a participação é também **anónima** e **confidencial**.

A entrevista ou grupo focal será **gravada** e armazenado num espaço seguro e **acessível durante pelo menos 5 anos** contado a partir do final do projeto de doutoramento. Os dados registados serão acessíveis a quem pretenda realizar investigação científica com ele, com todos os aspetos do anonimato e confidencialidade dos participantes.

Declaro ter compreendido os objetivos de quanto me foi proposto e explicado pelo/a investigador/a, ter-me sido dada oportunidade de fazer todas as perguntas sobre o presente estudo e para todas elas ter obtido resposta esclarecedora, pelo que **aceito** nele participar.

_____ (local), _____/____/_____ (data)

Nome:_____

Assinatura:_____

Email/Telefone:_____

Morada:_____

(Debrief in English)

DEBRIEFING/EXPLANATION OF THE RESEARCH

Thank you for having participated in this study. As indicated at the onset of your participation, the study is about the role and identity of citizens in the decentralized energy transition towards Positive Energy Districts – districts and neighbourhoods that produce more renewable energy than its consumption and aims to understand the socio-psychological processes and lay-expert relations through which these citizen's roles are appropriated and/or contested in PED. More specifically, to give a voice to citizens in developing PED.

We remind that the following contact details can be used for any questions that you may have, comments that you wish to share, or to indicate your interest in receiving information about the main outcomes and conclusions of the study: Minh Thu Nguyen (email: mtnnu@iscte-iul.pt, telephone: 932342862).

If you wish to access further information about the study topic, the following sources can also be consulted: www.smart-beejs.eu .

Once again, thank you for your participation.

(Debrief in Portuguese)

***DEBRIEFING*/EXPLICAÇÃO DA INVESTIGAÇÃO**

Muito obrigado por ter participado neste estudo. Conforme adiantado no início da sua participação, o estudo incide sobre o papel e a identidade dos cidadãos na transição energética descentralizada para os Distritos de Energia Positiva - distritos e bairros que produzem mais energia renovável do que o seu consumo e visa compreender os processos sociopsicológicos e as relações leigas-especialistas através das quais os papéis destes cidadãos são apropriados e/ ou contestado no PED. Mais especificamente, para dar voz aos cidadãos no desenvolvimento de PED.

Reforçamos os dados de contacto que pode utilizar caso deseje colocar uma dúvida, partilhar algum comentário, ou assinalar a sua intenção de receber informação sobre os principais resultados e conclusões do estudo: Minh Thu Nguyen (email: mtnnu@iscte-iul.pt, telefone: 932342862).

Se tiver interesse em aceder a mais informação sobre o tema do estudo, pode ainda consultar as seguintes fontes: www.smart-beejs.eu.

Mais uma vez, obrigado pela sua participação.

ANNEX B. Semi-structured interview guide (Chapter 7)

Study 2: Interview guide

Introduction

1. **Name, job, affiliation, location and background**
2. **Overall program and research interest:**
   Smart-BeejS is a European research consortium exploring human-centric approaches to Positive Energy Districts (or smart cities, producing more energy than they consume) to tackle climate crisis but towards inclusivity, justice and well-being of the citizens.
   My research project focuses on the topic of energy citizenship, which is the representation of rights and responsibilities, or qualities and power of citizens in relations to other stakeholders and the government during this PEDs energy transition.
   Through this research, I want to understand how different representations of energy citizenship could influence citizen's political participation in different ways and what consequences it may have to their social inclusion, perception of justice and well-being.
3. **Objective of the interview or research question:**
   This interview is within a series of interview with stakeholders (local government, businesses, NGOs, citizen's groups) in different areas of PEDs (energy, transportation, urban housing) to explore how they represent (reproduce or negotiate) the conventional meaning of energy citizenship and what alternative meanings they would suggest.
4. **Expectations and relevance of stakeholders:**
   How I know about and why I choose you for this study? I have known you through xxx event/ reference from the municipal council/ or seen your (organization) name mentioned in the Revista de Municipal. By contacting you, I consider your (organization) role plays an important part in shaping energy citizenship (in either conventional or transformative ways) and your acceptance to this interview invitation showed your interest in the topic.

Consent

- To be recorded
- To be referred to/quoted in publications (anonymous or not?)
- Any doubts?

Questions

Flow: Energy citizenship in general -> in PED -> to broader context of climate crisis

1. What are the roles of energy in citizen's life (through transport and housing)? Or how can energy contribute to quality of life of the citizens?
2. What impact does energy system like PEDs can have on citizen's life (at local and global scale)?
3. Do you think citizen is an important actor?
4. In the context of energy transition towards PED and to tackle climate crisis, what do you think a good citizen should be and should do? *
5. What are citizen's rights and responsibilities in energy system like PEDs?
6. How can citizen participate in PEDs decisions that have impact on their lives?*
7. How can citizen participate in PEDs decisions that have impact beyond their lives (local and global impact)?*
8. How active participation of citizens (or what kinds of citizen participation) in energy project like PEDs could help tackle climate crisis and energy poverty problem in their local area and beyond? *

*Prompt: Why? Can you give specific examples/reflections from your experiences/knowledge that make you think so?

Debrief

Thank you for the collaboration throughout the interview. Your thoughts and sharings are very much valuable to the project that contribute to a more just and inclusive PEDs.

Please let me know if you have any inputs for the interview process and questions, e.g. which part did you find difficult to answer and why? Are there anything/any remarks you would like to add in your previous answers?

You can keep my contact for future enquiries or changes regarding your consent/answers or if you wish to discuss more about the topic of our conversation.

Can you refer any contact for further discussion on the topic?

ANNEX C. Focus group discussion guide and props (Chapter 8)

Discussion guide for focus group

Introduction

1. Introduce the objective of the research and focus group,
2. Go through consent form and start recording,
3. Have a round of introduction of the participants (name, age, how long living, job)

Theme 1: People-energy relations

1) When you think about energy, what comes to mind? 2) What is energy?
2) What is its role in the world and in people's lives in general?
3) Which impacts can it have?
4) Now, think about your everyday life and the role of energy in it. Can you tell me/describe to me the role that energy plays in your everyday life? How would you describe your relations with energy/electricity?

Theme 2: Acts of energy citizenship (more structured probing exercise – 7 tips structured in private-community-public sphere)

5) If you could change anything in how energy impacts on your everyday lives what would that be? Why?
6) Who do you think is responsible for? Who do you think have the control over energy? and who should be more empowered?
7) Could you think of any other ways to engage with energy than the ones we discussed so far?

Transition

To meet the climate and energy plan objectives (to tackle energy poverty and to enhance sustainable territory image), the city needs to become more self-sufficient on renewable energy (or a Positive Energy District that produces more renewable energy than it consumes). This involves changes in technology, infrastructure, regulations, business model and also consumption/production behaviours (for example, in renewable energy production, energy efficiency measures, and electric mobility).

Theme 3: Energy poverty and energy justice in PEDs

8) Are you already experiencing these changes (feelings…)?
9) Could you imagine how these changes would look like?
10) Are there any ways you can think of in which these changes in energy production and use might create differences in experiences in your neighbourhood? Which? Why?
11) Who do you think could be affected by those changes? How?

Theme 4: Energy citizenship and energy democracy in PEDs

12) How do you feel about these changes? How do these changes affect you at personal level?
13) Do you think these new changes in production and use of energy also comes with duties and rights? What are they?
14) What do you think a good citizen could look like?
15) What are the facilitators for a good citizen to participate in energy decisions?
16) What are the barriers for a good citizen to participate in energy decisions?
17) How citizens/you can engage in the decision-making of energy projects such as PED? Why?

Conclusion and debriefing

Do you have anything to add?

Sum up the energy citizenship that the participants are representing to verify and ask for any further reflections on the connection between being a good/bad energy citizens on energy justice, energy poverty and the way they relate to energy in general.

Asking contacts of participants for dissemination session.

Gift voucher.

(Probing 7 tips to achieve energy justice, extracted from https://smart-beejs.eu/wp-content/uploads/2021/09/final-version-booklet.pdf)

TIP #1: CHOOSE A BETTER ENERGY SUPPLIER

We often think about the consequences of our energy use on other people or the planet, but feel powerless about the decisions made by energy companies on how the energy is produced and sold. One way to have an influence on this, is to buy from energy suppliers whose values are in line with yours.

Choose your own energy supplier to get better prices and to use more renewable energy.

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TIP #2: FIND SUPPORT FOR YOUR ENERGY EFFICIENCY PLAN

Many of us know that taking advantage of energy efficiency technologies, such as better insulation, highly efficient appliances, or placing solar panels, can make our homes more comfortable and contribute to protect the planet. However, the high costs of these devices may make these changes out of our reach.

Your local or national government may subsidize or offer tax breaks for your next energy-efficiency home renovation. Go to look for it.

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TIP #3: JOIN THE HEAT PUMP BANDWAGON

Gas will become increasingly scarce and more expensive. Along with the need to phasing out fossil fuels, the energy systems for winter comfort will be electrified . Besides, Europe will be increasingly hot during the summer, especially in the Southern Countries. Hotter temperatures will increase the need for summer thermal comfort, which releases CO2 in the atmosphere.

Mount a last generation heat pump. It is a device that uses a small amount of energy to move heat from one location to another. Heat pumps can also use electricity from renewable energy for heating, cooling and have hot water all year around. Over its lifetime, a new air-source heat pump can reduce greenhouse gas emissions by 46 to 54 per cent compared to natural gas alternatives.

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TIP #4: ACTIVATE YOUR MOBILITY PLAN

Have you ever dreamed of a city that has mobility options responsive to different people's needs, while also respecting the environment?

Sharing Mobility is a concept that responds to the ever-growing demand of using greener modes of transport and only when necessary. Increased digital infrastructure and investment in these new modes of transport is allowing citizens to travel more conveniently, respectful of the environment.

Sharing Mobility Options include:

- Bike sharing,
- Electric scooter sharing,
- Motorcycle sharing,
- Carsharing.

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TIP #5: START A COMMUNITY GARDEN

The urban heat island effect is an area considerably warmer than the surrounding rural areas. Lack of green space and excessive use of air conditioning are the main causes. These islands are an increasing concerns due to the increase of the temperature.

Start a community garden to create green spaces and raise awareness in the larger community and the local authorities. These interventions to reduce UHI include reducing air conditioning usage, promoting cool pavements, and other green infrastructure, such as green roofs.

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TIP #6: SHARE RENEWABLE ENERGY IN YOUR COMMUNITY

There is a great untapped solar and wind energy potential. Many EU countries have already allowed households to generate their own energy. Can the revenue for self-consumption and the surplus of energy be used for social and environmental purposes?

New and innovative ways to share energy resources are emerging and being adopted by consumers, for instance by consumer via energy Communities . They are a way to organize collective energy actions in an open, democratic way. Energy communities can be financially beneficial, strengthen community ties and have environmental benefits.

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TIP #7: HAVE A SAY IN EU ENERGY POLICIES

The EU energy polices influence local and national regulations, including on housing energy efficiency. However, citizens gave little voice in these regulations.

Make your voice heard via policy feedback, public consultations, and citizens' initiatives at the EU level.

TAKE THE INITIATIVE
European Citizens' Initiative

Alternatively, think about starting an European Citizens' Initiative (ECI). This allow to propose law and policies to the Europen Commission directly from the citizens.

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