CHAPTER 5

Rescaling Renewable Energy Communities in Portugal: Expert Imaginaries of Business-As-Usual, the Empowered Citizen and the Smart Network

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Introduction

As the climate crisis intensifies, growing demands for an acceleration of Europe's transition to renewable energy have led to the institutionalization and "upscaling" of disparate and local practices of community energy (European Commission, 2018). The new legal concept of "Renewable Energy Community" (RECs) provides an interesting context to study the discursive aspects of energy-related legal changes amidst a push to decentralize energy transitions. More generally, it provides the opportunity to examine the role of different types of expertise in both the

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institutionalization phase of legal innovation and the mediation of these innovations to the public. Adopting a pragmatic sociological perspective, this chapter thus explores the representations of new energy community laws by Portuguese energy experts. We investigate how these experts perceive this concept as a solution to energy transition and climate change challenges and the varying narratives and imaginaries that are shaping their responses. Emphasis is placed on how these experts align their understanding of RECs with different definitions of the common good and principles of worth (Boltanski & Thévenot, 2006). By analysing the spatial, temporal and moral aspects of expert representations, we uncover the nuances of legal innovation concerning RECs. In the next section, we will introduce the concept of REC in more detail, setting out the broader empirical and theoretical context. This will set the scene for the analysis and discussion that will follow.

Background

Renewable Energy Communities and the Portuguese Energy Transition

Renewable energy communities take diverse forms but are usually thought of as place-based initiatives, where local groups engage in energy-related activities, such as renewable energy generation, in order to achieve socio-economic and environmental objectives, such as local development and carbon footprint reduction (Savaresi, 2019). With their institutional "upscaling" in the EU's recast Renewable Energy Directive (REDII) (European Commission, 2018), RECs have been increasingly associated with at least four main justifications. Firstly, they have been viewed as a means to generate "social benefits," alleviate energy poverty and to deliver a democratic, just and inclusive energy transition (Savaresi, 2019). From this perspective, discourses of "energy democracy" (Szulecki, 2018) and "energy citizenship" (Devine-Wright, 2012) are seen as key drivers of RECs, though they themselves are ambiguous and sometimes contested concepts (Lennon et al., 2020). Secondly, promoting community energy and other forms of citizen participation has been seen as a way to counter so-called "Not In My Back Yard" (NIMBY) reactions associated with the development of renewable energy generation plants and increase the "public acceptance" of renewable energy in general (Azarova et al., 2019). Thirdly, RECs and other forms of "decentralized" or "distributed" forms of renewable energy generation have also been viewed as a means to

leverage investment in the low-carbon transition (Kampman et al., 2016). Lastly, the decentralization of electricity networks is seen as a way to make those systems more efficient, thereby increasing their resilience and guaranteeing energy security (Moroni et al., 2019). RECs are, thus, increasingly positioned as a solution to the "energy trilemma" of affordability, environmental friendliness and security of supply. Yet, the tensions between these goals and their associated competing interests, logics and values are often overlooked.

Beyond these justifications, REDII defined a REC as a legal entity which, "is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity" (European Commission, 2018). Their shareholders or members can be natural persons, SMEs or local authorities, and their primary purpose is to provide environmental, economic or social community benefits rather than financial profits. These principles are open to interpretation by Member States and the latter were expected to transpose REDII into their own legal and policy frameworks by July 2021. Portugal partially transposed REDII in 2019 and then fully in January 2022 (Presidência do Conselho de Ministros, 2019a, 2022), with new regulatory frameworks for the national electricity system published between 2020 and 2023 (ERSE,). The Roadmap to Carbon Neutrality and the National Energy and Climate Plan (Presidência do Conselho de Ministros, 2019b, 2020a) contained proposals for increased citizen participation, with the latter signalling the intention to develop an enabling framework for RECs (Rescoop, 2023). RECs in these policy documents are seen as complementary to large-scale solar systems and as a solution to issues like energy poverty, with public participation being a central goal. However, their expected contribution to Portugal's renewable energy objectives has not been explicitly defined. Moreover, the country's continued emphasis on large-scale, centralized renewable energy installations and a new vision of a green hydrogen economy (Presidência do Conselho de Ministros, 2020b) has meant that progress in the development of RECs has been slow (Scharnigg & Sareen, 2023).

Theoretical Perspective: A Pragmatic Sociological Approach to Sociotechnical Imaginaries

In recent years, the social psychology of legal innovation and research on "sociotechnical imaginaries" of the energy transition (Batel & Devine-Wright, 2015; Carvalho et al., 2022) have highlighted the importance of processes of meaning-making and communication when it comes to constructing the legitimacy of technoscientific and legal change. In particular, the social representations and future-orientations of expert "intermediaries" are of critical importance, not only in the processes of legal institutionalization itself, but also in the "generalization stage" when these new ideas and practices are "upscaled" via dissemination and propagation to the public (Castro, 2012; Scharnigg & Sareen, 2023). In these communicative processes, meaning-making is entangled or "co-produced" with the spatio-temporal dimensions of sociotechnical change and power relations (Batel & Devine-Wright, 2015; Jasanoff & Simmet, 2021, see also Pikner, Chapter 4).

One of the main ways this has been examined is with the concept of sociotechnical imaginaries, defined as "collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology" (Jasanoff, 2015, p. 4). Research from this perspective has been fruitful in identifying the main directions in which energy futures are being envisaged, contested and strategically deployed (Hess & Sovacool, 2020), and has been highlighting that in the Global North renewable energy transition imaginaries tend to emphasize "business-as-usual" and "techno-market fixes" (Levidow & Raman, 2020, see also Albrecht & Klein, Chapter 2), but that recently alternative imaginaries have also started to emerge, such as those that emphasize the importance of "energy democracy" and citizen empowerment (Hudlet-Vazquez et al., 2023), and those that emphasize the potential of "smart" technological transformation and a new industrial revolution (Strengers, 2013; Vicente & Dias-Trindade, 2021).

While the sociotechnical imaginaries approach is relevant in identifying what those imaginaries are made of in terms of representational contents, they pay less attention to the moral projects they are trying to achieve or project into the future. As such, some researchers have recently sought to nuance these imaginaries with concepts from the pragmatic sociology

of engagements and critique (e.g. Ballo & Rommetveit, 2023; Cowell & Devine-Wright, 2018; Laes et al., 2023; Nyberg et al., 2017; Rommetveit et al.,; 2021; Wallace & Batel, 2024) namely the concept of "orders of worth" (Boltanski & Thévenot, 2006)—the plurality of social representations of the common good that people use to make justifications and critiques in everyday situations and that can also be objectified in material environments and institutions. Pragmatic sociologists originally identified six orders of worth circulating in Western liberal democracies: domestic, civic, inspired, industrial, market, fame, with the later addition of the projective and green orders which emerged in response to contemporary critiques of capitalism (Boltanski & Chiapello, 2018; Boltanski & Thévenot, 2006; Thévenot et al., 2000). Orders of worth are particularly insightful for our purposes because they bound together representations of space, temporality and the public with a notion of what is deemed to be the *common* good (as opposed to a *private* good, i.e. self-interested or for a particular group) (Table 5.1).

In this chapter we therefore aim to enrich the concept of sociotechnical imaginaries with concepts from pragmatic sociology, positing imaginaries as an assemblage of disparate ideas, objects and practices that can, in turn, pre-figure other new ideas, objects and practices (Bialasiewicz et al., 2007). Along with other types of discourse, orders of worth are posited as a key component of imaginaries as they help explain how and why different imaginaries come into conflict or rapprochement with each other (Chiapello & Fairclough, 2013). In addition, because a single imaginary can bring together different orders of worth, the latter can also

Table 5.1 Orders of worth and some key dimensions

Order of worth	*Principle of worth*	*Time formation*	*Spatial formation*
Inspiration	Flash of inspiration	Ruptured	Moving
Domestic	Hierarchy, tradition	Customary	Local, proximal
Fame	Opinion of others	Trends	Communication channels
Civic	Solidarity	Perennial	Evenness of the public sphere
Market	Competition	Short-term	Global marketplace
Industrial	Efficacy, performance	Long-term	Cartesian grid, system
Projective	Flexibility, connectivity	Immediate	Networked
Green	Sustainability	Future generations	Planet, ecosystem

help explain how an imaginary takes shape (or not) and why some are more powerful than others. We therefore follow approaches which ascribe actors with an agency to parse through various imaginaries, choosing some legitimizing imaginaries to be materially enacted over others (Jessop & Oosterlynck, 2008; Watkins, 2015).

Within this conceptualization of an imaginary, the implicitly or explicitly envisioned "scale" of RECs is a function of the spatial representation that is mobilized in conjunction with other important representational objects, for example "the local" and "the public" (Barnett et al., 2012; Walker et al., 2021). Practices of rescaling can thus be defined as involving the supplanting of one order of worth by another. New proposals for RECs can begin to be understood as implicated in practices of "scale jumping" because they are situations where certain conceptions of scale are negotiated, challenged and politically contested (Smith, 2004). Our main theoretical premise is thus that rescaling is initiated in "testing moments" that arise in the midst of uncertainty. In this sense, this study approaches RECs as something virtual or "not yet," whose future possibilities must be reflexively envisioned by actors.

Methods

To examine imaginaries of RECs in the Portuguese energy sector 23 semi-structured interviews with different types of energy sector expert—legal/policy experts, academic researchers and representatives of administrative/regulatory bodies, industry associations, environmental NGOs, cooperatives and private companies/utilities—were conducted between 2020 and 2022, with each lasting between 1 and 2 hours. While the sample was neither representative nor exhaustive, these experts occupy some of the key positions in the Portuguese energy sector. The resulting data was then subjected to a pragmatic discourse analysis (Batel & Castro, 2018). This implied, as a first step, performing a thematic analysis to identify the main meanings—i.e. imaginaries and orders of worth—in the interviewees' discourse. Then, as a second step we performed a rhetorical analysis of the data (Billig, 2003), focusing on *how* the meanings were conveyed. This allowed us to identify particularly if and how specific ways of representing the future were tied into the identified representations of RECs, as well as to explore associated psychosocial processes in representing the future.

Results and Discussion

Analysis of the interviews revealed three imaginaries about the role of RECs in Portugal's energy future. First, an imaginary oriented to maintaining "business-as-usual" was predominantly articulated by energy system bureaucrats, legal experts and, to a lesser extent, representatives of energy companies. The second imaginary was based on the idea that RECs are about "empowering citizens" and was mainly articulated by representatives of cooperatives and social science academics, but also occasionally by representatives of administrative authorities. Thirdly, an imaginary of RECs as agents of the "smart network" was strongly expressed by interviewees who held elite roles in the renewable energy industry or who were associated with companies operating with cutting-edge technologies and business-models.

Despite these three imaginaries, it is important to preface this analysis by stating that they were not completely distinct and did not map directly on to certain types of actors. Rather, interviewees were discursively "polyphasic" (Batel & Castro, 2018)—their social representations were not always consistent with each other, and sometimes were even contradictory. Nevertheless, rather than looking for a common denominator in the form of a single shared imaginary of RECs, we have instead attempted to reconstruct the plurality of more or less coherent "semiotic orders" (Watkins, 2015) and examined the relations between them, as summarized in Table 5.2.

While each of these imaginaries is constituted by a wide range of issues, objects, practices and meanings, to establish how they rescale RECs, the following analysis will focus on two key issues. First, we will unpack the legal concept of "proximity" and the different representations of "the local" that it facilitated. Secondly, we will examine how participation in RECs was conceived in the different imaginaries and the representations of "the public" that it depended on. In the third part of the analysis, we will examine the different ways that the scalar dimension of the imaginaries—based on representations of the local and the public—is discursively used to open up the future to multiple possibilities or, rather, to close down alternative possibilities, restricting the future to a single inevitable outcome.

Table 5.2 Expert imaginaries of RECs in Portugal

Imaginaries	*Business-as-usual*	*Empowered citizen*	*Smart network*
Main orders of worth	Market, Industrial, Fame	Civic, Projective, Domestic	Projective, Inspired, Market, Industrial
Representation of the public	Self-interested entrepreneurs and passive consumers	Active citizens	Passive/active user
Representation of the local	Local as complementary to the national; site of efficiency and security	Local as place of community; site of citizen participation	Local as strategic point in the network; site of interconnection of everything
Representation of the future	Future as continuous, stable and complementary with the past; discourse of cautious planning	Future as contingent; multiplicity of potential futures; discourse of critique	Future as discontinuous with the past; discourses of transformation and inevitability

Proximity and Representations of "The Local"

When the concept of RECs entered the Portuguese legal and regulatory context in 2019, one of the main uncertainties was the concept of "proximity." As it was defined in REDII, this concept entailed that the physical infrastructure owned and operated by an REC should be located within its geographic boundaries, as should its members. In our interviews, the concept of proximity was a key object of discussion and it facilitated three different representations of "the local."

The Local as the Site of Technical Efficiency and Grid Security

In the business-as-usual imaginary, regulatory authorities preferred a local approach to RECs for improved grid resilience and efficiency. They aimed to prevent unfair costs for everyday consumers and sought RECs that required minimal grid investments. This vision favoured continued economic growth and high energy use, limiting "self-sufficient" RECs to small areas with pre-existing domestic or industrial ties. As one regulatory authority representative put it:

> We're combining in the local all these chances for providing flexibility to the grid and reducing the use of the grid, promoting zero carbon energy

> communities and buildings so that they can be somehow self-sufficient. (P5, regulatory authority, engineering)

Importantly, the decree-law of 2022 had a clause allowing exceptions for projects in the national interest, which was viewed with scepticism by stability-focused administrative authorities. They believed energy community members should be local residents, not large businesses, to ensure fair tax incentives. However, the administrative authority's focus on stability through proximity was perceived by other actors as limiting innovative models like "virtual energy communities" which were at the centre of the "smart network" imaginary.

The Local as the Site of Community

In the "empowered citizen" imaginary, RECs were anchored in lost cooperative traditions, implying that genuine RECs should resonate with this history. Instead of being novel, they're tied to a people-driven energy past. By anchoring them in history, the function was to validate and redefine RECs, setting them apart from both centralized systems and market decentralization. As one social scientist put it,

> Community energy has been around for quite a while, and in some countries in Europe, I mean even in the US, a lot of regions in the US were electrified by local villagers and by rural associations. So the history of energy is filled with moments where you have this community driving everything, you know? (P9, academia, social science)

As illustrated above, the *domestic* order of worth was thus used to represent RECs as small and locally bounded practices. Comparisons were made with practices in other domains, such as supermarket co-ops and traditional community practices for sharing natural resources, with an analogy made between river and electricity management. Whereas the civic order of worth values the rule of law, this perspective valorized the self-regulation of a community (*"what you would find was that the newcomers, who did not know the rules, sometimes felt the need to acknowledge them and discover how to implement them"*). Thus, in the empowered citizen imaginary, representations were fundamentally prefigured by questions of spatial scale. However, while genuine RECs were envisioned as citizen-led, their portrayal as small, local groups aligned with the administrative goals of grid stability in the business-as-usual imaginary (see above).

The Local as the Site of the "Optimization of Assets"

RECs, in contrast to common smart network concepts like smart homes and grids, focus on both producing and consuming energy. Discussions with engineers from new energy firms revealed that in the smart network context, "local" was not just about reducing losses or citizen participation, but also means technological interconnectedness and the emergence of new, more optimized markets:

> I feel Renewable Energy communities are more linked to, let's say, in a more vague way, the optimization of local energy assets. But they could be also like the grids. But like in a more localized way. And I would say optimization of local energy assets because of course, like, it could be also involving electric vehicles, storage, whatever other types of, even, in theory, even heating infrastructure connected to, for example, solar collectors, or biomass, or boilers, whatever, just inventing and showing that, in theory, like, the scope it shouldn't be just like, collective self-consumption, it should be wider. And that's why I'm saying an optimization of local assets because it's not only production. It should be also about, demand response and all these fancy new things. (P12, renewable energy co-op, engineering)

This excerpt highlights the shift in understanding of RECs, from traditional market and industrial viewpoints to a more complex "techno-epistemic network" (Ballo & Rommeveit, 2023). In this context, "local" signifies a strategic point in a network of energy assets rather than a tight-knit human group. This perspective broadens the legal and policy framework for RECs, going beyond the common notion of production, public involvement and grid efficiency. Proponents of this view saw RECs as both catalysts for and reliant on modern innovations, encompassing new financial markets, efficiency technologies and human roles.

Participation and Representations of "The Public"

The issue of participation in RECs was a complicated one from the outset. Although REDII mandated that members should reside near the infrastructure, it did not bar external entities or private firms, and Portugal's new laws thus leaned towards including these external parties. Subsequently, how the interviewees represented participation was influenced by perceived public and private sector values and motivations.

Self-interested Companies and Passive Consumers in the Marketplace
In the business-as-usual imaginary, the key assumption was that the public are essentially "passive"—uninterested in becoming involved in energy production, let alone management or governance. This was expressed by a project developer:

> The consumer doesn't want to be active. 99% of the consumers, they just don't want to and that's it […] I get the idea, but the consumers don't want to change and don't want to get involved. They just want the problem solved, just in the same way that I don't want to get involved, for example, in the accounting of… whatever. "OK, just solve it already and leave me alone." It's the same. Or the lawyer issue. "I don't want to know. Please don't explain it to me. Solve it and it's OK." (P15, energy company, engineering)

The depiction of a passive public regarding RECs contrasts with the usual portrayal of individual self-consumers as savvy entrepreneurs. This discrepancy stems from a scaling perspective where such entrepreneurial traits were attributed to the private firms expected to expand RECs nationwide. From this viewpoint, passivity and self-interest coexist, especially when market value takes precedence. Likewise, a leading legal expert on REDII rationalized allowing profit-driven firms to participate by deeming the notion of people joining RECs purely for altruistic reasons as a "romantic idea."

Active and Knowledgeable Citizens in the Public Sphere
In the "empowered citizen" imaginary, participation extended beyond mere membership or financial gains from energy projects. The underlying belief was that initiatives like RECs can transform people's relation to energy and to the environment. They should encompass more than just energy production and consumption, a sentiment echoed in an interview with an energy co-op representative:

> Even me, I heard in some conferences, that well, "We think in this collective self-consumption for industry and parks with companies of services. Not for people, because this is too complicated for people." No, it's not supposed to be. That is not the spirit of the directive. Even now that we have the European Commission in our side, helping, they really want that the citizens participate in this energy transition, then we have the national government saying this is too complicated. No, it's not. We are not dumb.

> We can do. We know how to do it. Well, we are European citizens. We have knowledge, we know how to make questions. Come on, don't look at us as dumb, because it's like that: the national government and the other entities that have obligations in this sector look to the citizens like that. For example, in Portugal you cannot discuss the issue about a cooperative starting to manage the grid. It's really complicated. Nobody believes in that. (P4, renewable energy co-op, engineering)

This discourse pivoted on defining citizenship based on knowledge rather than on the capacity or willingness to invest. Contrary to the business-as-usual view, the public is oriented towards the common good and possesses the knowledge and eagerness to participate. Still, they require state support in terms of financial and bureaucratic means. What's missing from these discussions, though, are specific suggestions on facilitating this, as well as the common arguments for collective ownership and autonomy. Interestingly, even among expert advocates for citizen empowerment, some disputed the notion that citizens should actively engage in decision-making and project initiation.

Prosumers in the Digital Network

The representation of RECs in the smart network imaginary attempted to transcend the active versus passive narrative found in both the business-as-usual and empowered citizen imaginaries, while ignoring the moral question of self-interest vs. common good. The representation was twofold: people are both active and passive, but viewed through the lens of digital network users or "agents" rather than marketplace consumers or public sphere citizens, as is seen in the following:

> But the future: it's the interconnection of everything. It's the creation of local energy markets. It's exploiting local assets in a more comprehensive manner, in a more optimized manner, and just learning and understanding how it should monetize things at the user level. So basically it's transforming very passive energy consumers into very, very active agents in energy markets, with the support of the technology that we have been developing. (P10, energy company, social science/engineering)

Thus, in this imaginary, the rhetoric of both the business-as-usual (markets, monetization) and empowered citizen (active, rather than passive, consumers) imaginaries are integrated to form the representation of the active agent in local energy markets—the prosumer. But while the

business-as-usual imaginary appealed to the self-interest of investors and the empowered citizen imaginary to the knowledge of citizens to make use of public finance, the smart network imaginary viewed support as primarily coming from digital technology.

Representing the Future to Discursively "Jump Scale"

The business-as-usual imaginary presented RECs, on the one hand, as a *business opportunity* in order to attract external investment and, on the other hand, as a means of ensuring energy security by reducing use of the grid. The key insight was that each of these dimensions of the business-as-usual imaginary—which constitutes the hegemonic representation of energy and energy transition (Batel & Rudolph, 2021)—not only enabled the future of RECs to be represented along particular lines; it also constrained it—so much so that tensions between different ideas and actors threatened the stability of its hegemony. Thus, while the business-as-usual imaginary represented RECs as a "point of continuity" (Krishnan & Butt, 2022) between the past and the future in order to maintain stability, the other imaginaries were oriented to the future as *discontinuity* and *multiplicity*. In this section, we will examine in more depth how representations of the local and the public were used together in order to re-imagine the future in the smart network and empowered citizen imaginaries.

Discontinuity and Confirmation

As should already be clear, RECs in the smart network imaginary were represented as something entirely new and discontinuous from the past. When asked about how they saw the future unfolding, interviewees espousing this imaginary would typically talk at length about *what was going to happen*. That is, they did not allow for any uncertainty and were overtly *descriptive* rather than *prescriptive*. This *prophetic* "discourse of inevitability" (Leonardi, 2008) only recognized a single possibility: the supplanting of the business-as-usual imaginary by the smart network imaginary. However, this transformation was represented without being explicitly critical and instead deployed the *inspired* order of worth to create enthusiasm and build excitement but, as is seen in the following accounts, about a range of different objects:

> And so, this is going to bring a huge paradigm shift. It's going to probably bring you less emissions of course, as it is expected and mitigation of debt. And you are going to have a lot more participation of the citizens and the families and the corporates on the energy transition. Basically, this is what I see. I see continuous increase of the renewables share in the electrical power. […]. And so, I think this is going to be completely different, this is going to generate new markets, new companies, some of them probably will not survive the energy industrial revolution. And the participation of people, I think people are going to be more demanding on what they purchase in terms of environmental impact. I think they are going to be more demanding and understanding the traceability of where their energy consumption is coming from. I think even if you buy a shirt or a pair of trousers or some sneakers, you´ll still want to know if this is being done sustainably from the source of the raw materials, but also in terms of how you do all the value chain, the supply chain and what type of energy you use to generate this. So, I think this is a social revolution as well as an industrial revolution. (P20, industry association, engineering/business)
>
> Well, I'm a positive person and I should say that the transformation has already begun. If you notice, some years ago the rule was big projects centralized with distribution, transportation, a trade company and consumers. Now we are talking about prosumers, we are talking about decentralization. […] We are talking about proximity. We are talking about proximity between the productions and between the consumers. We have also some experience, like in Germany, like in Spain and like in, I suppose Brooklyn in the United States, of the use of blockchain, and peer to peer energy contracts. So, the change is going on. And I believe that we will have a mix between gas and renewable energy, in my opinion, without nuclear, and we will have more and more prosumers. (P3, law firm, legal)

As can be seen, the representation of RECs in the smart network imaginary transcended both the passivity of *market* consumers and the *industrial* scale of centralized projects. But rather than active participation in energy community operations or governance, the public's *activeness* was primarily attributed to their demand for information. Similarly, the emphasis on local proximity primarily pertained to the use of advanced digital technologies like blockchain. Beyond these semantic aspects, the prophetic discourse of inevitability can be characterized by three main features: first, metaphorical language was employed to paint a vivid picture of the future and create enthusiasm. While aiming to show the future's distinction from the past and present, these metaphors often repurposed and echoed past utopian technological ideals, as noted by

Strengers (2013). Secondly, the sense of impending, inevitable change was reinforced through repetitive phrases (e.g. "we are talking about") and future-focused verb forms (e.g. "you are going to have"). Thirdly, the way that the discourse interchanged between using "you," "they" and occasionally "we," establishing a relationship between the speaker and the audience, not only prevented any conflicting viewpoints but also created a sense of detachment (Moscovici, 2008). This detachment, combined with the portrayal of predictions as inevitable outcomes, lent them an authoritative, factual air. In essence, the smart network narrative reframed the roles and expectations of the public in the evolving landscape of RECs, emphasizing inevitability and the transformative nature of the future.

Multiplicity and Critique

By contrast, in the empowered citizen imaginary, interviewees would typically reply with a question of their own: *"what I think the future should be or what I think the future will be?"* The bifurcation of the future between *prescriptive* and *descriptive* orientations established the discursive context for representations in which the *present* future was contested because it was excluding beings considered important in an alternative order of worth. These so-called radical critiques (Boltanski & Chiapello, 2018) were those in which the key uncertainties which constituted RECs were re-evaluated and a *multiplicity* of possibilities were recognized. These radical critiques were primarily aimed at the industrial order of worth—the format of the current trajectory of the energy transition based on "large-scale renewable power plants"—but from different perspectives:

> Well, I'm not very proud of energy policies in this moment, about the energy transition. I think, what I see is that we are replacing fossil fuels by large, large scale renewable power plants, wind, and now photovoltaic. But we are not-. We should take this opportunity to make the energy sector fairer and with more justice, and just to the citizens. So, for me and for the cooperative, the renewable cooperative perspective, this transition should not be only a question of technology: You take the fossil fuel power plants and just put PV and wind power plants. It's not only about that. It's about the engagement of the citizens. The empowerment of the citizens to consume and produce their own energy and be an active citizen or active participant in the energy sector. And I don't see that in Portugal in this moment. (P4, renewable energy co-op, engineering)
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> What I would like to see is kind of the opposite. I would like to see Energy communities popping up everywhere and creating synergies, local

> municipalities also supporting a lot of these activities and projects. And also medium sized systems, because medium sized systems can be really interesting. I like this kind of synergies between agriculture and mining regions. Mining regions are mines that could have local energy being produced for the energy being used for the mining process, kind of. So I, I think medium size or even in degraded lands, lands that you know cannot be used for agriculture for a few decades because the land is so degraded. Then you could try and put solar panels there and at the same time work the land so that it's rested, it gains strength again and nutrients again. So I don't know, there's a lot of things you could do. This is what I would love to see, but I don't think it's going to happen. I think the trend is going to be what's going on in Cercal, unfortunately.[1] (P9, academia, social science)

These two extracts reveal several relevant aspects to our analyses. First, that different orders of worth are used, depending on the situation being discussed—for instance, the first leans on the civic order of worth, emphasizing empowerment and citizen participation, while the second adopts a more versatile approach, combining the projective order (favouring medium-sized projects) with the green order (reviving deteriorated lands), and to a lesser extent, the civic order. This multifaceted approach mirrors Thévenot et al.'s (2000) idea of "pragmatic versatility," suggesting the adoption of varied values depending on the situation. However, something transversal to these discourses, was that they presented the present moment as a critical juncture, an "opportunity" to diverge from the dominant market-industrial value systems. This framing paved the way for envisioning alternative futures and critiques. The first extract's more traditional social critique posits large-scale industry against empowered active citizens, emphasizing values like fairness and justice. In contrast, the second extract's pragmatic critique compares large-scale renewables to medium-sized systems, emphasizing their potential for synergy across industries and values. This divergence illustrates the shift in perspective from localized, citizen-led projects to broader, integrative systems that can bridge various sectors. Thus,

[1] Cercal do Alentejo, a parish in the South of Portugal, is the site of a proposed large-scale solar park and very high voltage power line. The latter will connect the installation to the nearby Sines industrial complex, where it will be used to sustain a data Carolin and to produce "green" hydrogen—one of the country's main bets for the energy future. Such projects are provoking increased indignation about the way Portugal's energy transition is being pursued and, as in the case of Cercal, are generating a sustained social movement to imagine and implement an alternative energy future (see Brás et al., 2024).

while these experts advocated for a departure from large-scale, centralized renewable projects, they differed in their envisioned alternatives and the values they foregrounded. The first championed local, citizen-led initiatives, while the second emphasized pragmatic, medium-sized solutions which involve citizens but in collaboration with a range of other "stakeholders."

Conclusions

The three imaginaries of RECs that we have identified in expert discourse in Portugal were constituted by a wide range of issues, meanings and material objects. In this chapter we have chosen to principally focus on the issue of the imagined *spatial scale* of RECs, and how this was represented in relation to *future expectations*. In particular, the representation of the possible scale of RECs within each of the imaginaries centred on uncertainties regarding the role of "the public" and other actors and the meaning of "proximity" or "the local"—both key aspects of the original definition of Renewable Energy Community in the EU's Directive. We stated at the beginning of our analysis that these imaginaries were not completely autonomous from each other but were, rather, relational. In this final section we shall summarize some of these relations.

Firstly, in the business-as-usual imaginary, it was seen how RECs were primarily viewed within a discourse of complementarity (Trencher & van der Heijden, 2019) and as a "point of continuity" (Krishnan & Butt, 2022)—they were expected to be important as technological substitutes for fossil fuel imports and old hydroelectric installations, but their role would be limited in comparison to large-scale solar projects that would be the backbone of the new "green hydrogen" economy (Carvalho et al., 2022). Thus, RECs were not seen to be in conflict with incumbents or a threat to their market share. Instead, they were seen as just another stakeholder of the energy market "ecosystem." In this way, RECs "jump scale"—they are local activities represented as supporting national energy strategies (Devine-Wright, 2022; Levidow & Raman, 2020). Tensions were palpable in this imaginary, however, not least in relation to the re-signification of "the local" via the legal definition of proximity, thus highlighting the importance of meaning-making in attempts to rescale community. Furthermore, a representation of the public as passive and uninterested—hegemonic in energy governance (Chilvers & Longhurst,

2016)—was maintained and this justified the re-signification and rescaling of RECs as private initiatives which could pursue profit.

It was this prospect that led to the concern—explicit in the citizen empowerment imaginary—that the concept of RECs was in danger of becoming diluted or even co-opted by large commercial energy companies (Roberts, 2019). This imaginary was based on both recollections of lost traditions of collective action and civic ideals of empowerment and active citizen participation. However, while these representations were effective launchpads for critiques of the status quo, their adherents were often uncertain about how this citizenship would work in practice or how it would link to broader issues such as energy poverty. This raises the separate question of their broader role in society: which vision of the collective future are RECs anchored in? Which larger political imaginaries do they awaken? As was seen above, this was another area where the empowered citizen imaginary fell short, instead depending on worn out and empty signifiers of "empowerment" without explicitly identifying the actors who currently hold power or elaborating alternatives to the continuation of "business-as-usual."

This perspective reveals an affinity between the discourses of empowerment and liberalized self-consumption at the centre of the business-as-usual and empowered citizen imaginaries of RECs (Anfinson, 2023; Laes & Bombaerts, 2022; Lennon et al., 2020). The issue is that adherents of the latter were unable to adequately differentiate their vision of RECs from practices of individual investment decisions. Furthermore, radical environmentalist discourses were notably marginal in the empowered citizen imaginary. While academics and environmental NGO representatives did refer to the "principle of sufficiency" and ecological issues associated with large-scale projects, there was no coherent anchoring of the concept of RECs into emerging political rationalities such as "degrowth" (Demaria et al., 2019). Instead, the environment was imagined as just another element to be integrated into the smart network.

By contrast, techno-economic elites were able to imagine a coherent future about the role of RECs in society. As such, the "smart network" imaginary can be seen as a direct response to the limitations of the other two imaginaries. At a semantic level, it did this through a re-signification of the local and of the public which had the effect of rescaling RECs in line with the spatial metaphor of the *network* as well as with a future imagined as a discontinuous and *inspired* rupture, that is, as a (technical) *revolution*. These metaphors show that while prophetic actors

clearly emphasize that the future will not be the same as the past or the present, their visions also "resonate and repackage technological utopian ideas from the past" (Strengers, 2013, p. 2).

In sum, our analysis of expert imaginaries highlights the importance of "the local" and "the public" as objects of social representation. However, in contrast to other contexts where "the local" is given a specific meaning based on the socially constructed characteristics of a particular place (Walker et al., 2021), expert imaginaries at the institutionalization stage of renewable energy innovation are operating at a more abstract level of representation, where experts are able to discursively "jump scale" (Smith, 2004) by deploying different orders of worth.

Lastly, in this chapter we have aimed to complement the concept of imaginaries with the pragmatic sociological framework of orders of worth to enrich and nuance the analysis of how sustainability transitions are currently being "rescaled." This theoretical synthesis has been useful for two principle reasons. Firstly, it has provided a template of the plurality of orders of worth and this has aided with identifying tensions, compromises and changes in discourse. Secondly, because each of these orders of worth is an assemblage of different representations—including of space, time and the common good—the framework has been useful for identifying the objects of representation that matter and their discursive interrelations. Our use of this framework, however, has undoubtedly focused on the representational rather than the material. As such, there are ample opportunities to continue this research in other empirical contexts, using the full gamut of pragmatic sociological concepts such as "tests" and "regimes of engagement" (Thévenot, 2005) to explore how imaginaries of the energy future are being rescaled and transformed as they are disseminated in society and accepted or contested by different actors.

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