



The Dawn of Solar Photovoltaics: Emergent political economies at the solar-agri-land nexus

# Solar industrialization, ‘sacrifice zones,’ and new environmental movements: emerging discourses of commonality and critique in Portugal’s energy transition

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## Abstract

The transition to renewable energy is being pursued within neoliberal frameworks that prioritize market competition and industrial development, increasingly resulting in significant negative socio-ecological consequences and environmental injustices. As a result, scholars and activists are increasingly taking up more radical discursive strategies, adopting critical terms like ‘sacrifice zone,’ to describe marginalized places. In short, critiques of fossil fuel regimes are increasingly accompanied by an emerging critique of hegemonic renewable energy regimes. Through a case study of community resistance to a large-scale solar PV project in Alentejo, Portugal, this article aims to further understand this critique by analysing the arguments and discursive strategies that local movements are utilizing against business-as-usual renewable energy transitions and how they are received by powerful actors. Findings reveal that opposition is not solely driven by self-interest or place-attachment, but is deeply rooted in critiques of procedural and distributive injustices, framed through the critical and constructive discourse of ‘sacrifice zone’ which not only enabled residents to make sense of what was happening, but also allowed them to build new forms of territorial commonality and critique. This study highlights how the concept of the ‘sacrifice zone’ functions as a means of co-producing new knowledge and as a tool for explaining and coping with change. From the perspective of pragmatic sociology, it can also be viewed as a critical strategy of self-vulnerabilization—one that resists change, demands recognition, challenges state authority, and attempts to foster new territorial movements.

**Keywords** Large-scale solar photovoltaics · Orders of worth · Social acceptance · Sacrifice zone · Environmental justice · Portugal

## Introduction

Climate change and energy transition have ascended to a position of paramount importance on the global policy agenda. However, it is increasingly acknowledged that transitions to renewable energy are mainly being pursued

by neoliberal capitalist logics of market competition and industrial development, with technocratic forms of government limiting citizen input on policy and planning decisions (Chilvers and Longhurst 2016; Newell 2021). In Europe, the EU’s Green Deal, the impacts of the war in Ukraine, and the ongoing energy price crisis have accelerated the political impetus for an energy transition, while national policy incentives and declining costs for solar photovoltaic technology have also made large-scale solar projects increasingly attractive to private equity and asset management firms (George and Gupta 2022; Vezzoni 2023). Consequently, the deployment of renewable energy infrastructure is generating various negative social and ecological impacts both within and beyond EU borders, often disproportionately affecting rural,

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peripheralized territories, deepening existing vulnerabilities while creating new ones (Brock et al. 2021).

These impacts are driving scholars and activists to adopt more radical discursive strategies. The concept of ‘sacrifice zone,’ popularized by US-based environmental justice activists and writers, describes places disproportionately impacted by environmental contamination and industrial exploitation, often due to socio-economic or political marginalization (Juskus 2023; Lerner 2012). This term is now being used to critique the systemic negative impacts associated with large-scale renewable energy projects. In short, critiques of fossil fuel regimes are increasingly accompanied by an emerging critique of hegemonic renewable energy regimes. Through a case study of community resistance to a large-scale solar PV project in Alentejo, Portugal, this article aims to further understand this critique by analysing the arguments and discursive strategies that local movements are utilizing against business-as-usual renewable energy transitions and how they are received and shaped by powerful actors and institutions.

Since the early 2000s Portugal’s energy transition has been mainly associated with a modernist policy agenda of techno-economic development. Unlike the country’s swift rollout of wind energy, the current development of large-scale solar PV and lithium mining projects are provoking significant opposition from local communities (Canelas and Carvalho 2023; Silva 2023). The case analysed in this article is one example of this emerging trend, with the lack of public involvement in the decision-making process leading to opposition and the establishment of a protest movement. Based on a qualitative, multi-method and interpretive research strategy, we aimed to explore the representations that this community had of the project and how they were related to broader self-understandings and place meanings, but also to the actions and representations of other actors, such as the state and the project developer.

Contributing to the literature on social acceptance of renewable energy technology and energy justice (Batel 2020; Jenkins et al. 2016), we show how local resistance movements reflexively draw upon different place meanings and experiences in their critique of large-scale renewable energy projects. Moreover, complementing our theoretical perspective with analytical tools from pragmatic sociology (Boltanski and Thévenot 2006) and social psychology (Batel and Castro 2018), we show how these critiques are shaped by self–other relations, the deployment of ‘orders of worth’, and objectified in critical concepts such as ‘sacrifice zone’. We therefore also add to the literature on framing and discursive strategies in social and environmental movements (Caiani 2023; Centemeri 2022; Della Porta and Diani 2020). More importantly, we show how rather than a self-interested ‘NIMBY’ (Not in My Backyard) argument or one based on an attachment to place, citizens are reflexive and

creative actors who can discursively engage with political discourses of the common good in response to the hegemonic discourses deployed by institutions (Avila 2018; Batel and Rudolph 2021).

The rest of this article is structured as follows. In the next section, we provide an overview of research on renewable energy conflicts, comparing and integrating the approaches of social acceptance and environmental justice. Subsequently, we outline the theoretical approach that is used in this paper and introduce the key concept of ‘sacrifice zone’. We then introduce the Portuguese context and case study, before detailing our approach. The findings section is divided into four sections, each focusing on different moments in the conflict and specific dimensions of the ‘sacrifice zone’ discourse as they are conceptualized by Juskus (2023) and re-interpreted from the pragmatic sociological perspective. We conclude by summarizing our findings and contributions.

## From social acceptance to environmental justice: a brief summary of research on renewable energy siting conflicts

Early research on the social acceptance of renewable energy often explained public opposition through the ‘NIMBY’ concept, portraying resistance to infrastructure as selfish, ignorant, or irrational (Lake 1996). In response, a second wave of research emerged, challenging these assumptions by adopting approaches from other disciplines, such as psychology (e.g. Huijts et al. 2012). This wave criticized the focus on public attitudes and reframed opposition as shaped by broader factors such as institutional processes and developer practices (Devine-Wright 2006). It also introduced the idea of ‘place-protective action,’ where resistance was conceived as stemming from threats to local culture and emotional attachments, rather than selfishness. This reframing led to increased recognition of procedural and distributive justice in renewable energy implementation, promoting practices like community engagement, benefit sharing, and alternative ownership models (Haggett and Aitken 2015).

Rather than two distinct historical waves, however, these different approaches to the ‘acceptance’ of renewable energy are contemporaneous, and research on the recent acceleration of solar energy around the world is indicative of this, with a growing number of studies on the public acceptance of large-scale solar projects based on cross-sectional survey methodologies (e.g. Carlisle et al. 2015; Scovell et al. 2024). As such, social acceptance research has been subject to continued critique, namely for having an instrumental approach to energy justice which fails to challenge an underlying vision of the energy future as a continuation of business as usual (Bidwell and Sovacool 2023), which is even more

urgent given the global inequities associated with solar PV supply chains (Healy et al. 2019; Mulvaney 2024; Sovacool and Stock 2024). In keeping with this, Batel (2020) suggests that there is an emerging third wave of research which can be characterized as ‘critical,’ not only because it questions other theoretical and methodological approaches, but also because it criticizes the hegemonic ideological and political economic factors (e.g. neoliberalism) shaping renewable energy projects and energy transitions more broadly (Furnaro 2019; Hess 2016; Toke and Laubner 2007).

From this critical perspective, studies of renewable energy conflicts shift focus to power relations, examining ‘what is being said, how, by whom, and for whom’ (Batel 2020, p. 7; see also Pearse 2021). Rather than devising strategies to overcome opposition, this approach questions the necessity and form of renewable energy projects in specific contexts and has led to a growth in research on decentralized and community-owned energy systems, emphasizing the potential of such models to foster democratic energy transitions. While the second wave legitimized place attachment as a valid political response, this third wave can be described as embracing an ‘agonistic’ democratic model, viewing opposition as a sign of a healthy public sphere rather than a pathological condition (Cuppen 2018).

This critical turn aligns closely with environmental and energy justice perspectives, which document the tangible impacts of energy projects on mostly rural marginalized communities already subjected to oppression and dispossession (Horstink et al. 2024; Temper et al. 2018a). These approaches focus on the realities of systemic injustice rather than perceptions, but they also pay close attention to the concerns, claims, and argumentation of communities who are resisting (Temper et al. 2020). Environmental justice authors advocate for transformative changes rather than mere acceptance. For example, Temper et al., (2018a, b) criticize the dominant ‘energy transition’ narrative, contrasting it with calls for ‘radical transformation’ (Temper et al. 2018b). Policy recommendations from this perspective prioritize justice over efficiency, advocating for participatory decision-making and equitable energy systems (Levenda et al. 2021).

While social acceptance research has been predominantly oriented to *policy* and to solving research problems such as the ‘social gap’ (Bell et al. 2005), environmental justice scholars can be described not only as *critical*, but, following Burawoy’s (2005) typology, as often engaging in *public sociology*—research that is conducted for and with publics. They have explored strategies like counter-mapping, which challenge energy colonialism and promote grassroots mobilization (Avila et al. 2022). These interventions frame communities not as obstacles to progress, but as sources of new, emancipatory imaginaries for energy futures. From a theoretical perspective, these approaches often build on concepts used by activists themselves, not only to critique

professional and policy frameworks, but also to co-produce knowledge and inspire further grassroots action (Del Bene et al. 2018).

One important example of this is seen in the notion of ‘sacrifice zone’ which has, in recent years, gained traction as a concept used by both scholars and activists to critically investigate and communicate the systematic accumulation of environmental injustices in particular geographical contexts. Originally a technical term used for livestock management in North America and the UK in the 1970s, it is increasingly being adopted by activists, communities and scholars as a simultaneously critical and constructive concept to talk about ‘the places that disproportionately bear the environmental harms our economies produce’ (Juskus 2023). In the following section, we will briefly unpack this concept in relation to the theoretical framework of pragmatic sociology of engagements and critique (Boltanski and Thévenot 2006; Thévenot 2014), an approach to social meaning and action which is useful for fulfilling the promise of the ‘third wave’ of social acceptance research.

### Unleashing the third wave: ‘sacrifice zone’ from a pragmatist perspective

Both the third wave of social acceptance research and environmental justice studies share a commitment to strengthening critique and fostering social movements. To advance these goals, it is essential to analyse the discourses and representations employed by local movements resisting ‘business-as-usual’ renewable energy transitions (Newell 2020). This includes examining how these discourses are shaped and received by powerful actors, their evolution over time, and their impact in building commonality by mobilizing diverse actors.

The third wave aligns with broader trends in the social sciences, particularly the pragmatic turn in the study of social and environmental movements (Centemeri 2022). Unlike structural approaches, which emphasize the enabling or constraining material conditions for movements, pragmatist perspectives focus on how grievances are transformed into collective mobilizations and how discursive strategies articulate justifications and critiques. This approach recognizes that concepts like ‘justice’ and ‘fairness’ are contested and context dependent, shaped by diverse values and practices (Eranti 2017). By embracing this pluralism, researchers can move beyond reductive psychological explanations of opposition, such as self-interest or place-attachment, to better understand conflicts over renewable energy projects.

The work of Thévenot et al. (2000) underscores the importance of context in shaping environmental conflict justifications. They observed that a discourse or ‘grammar’ of individual self-interest often legitimized arguments in US

**Table 1** Orders of worth and some of their key elements

Order of worth	Higher common principle	Represented subjects	Represented objects	Temporality	Spatiality
Market	Competition	Competitors, buyers	Wealth	Short-term future	Global
Industrial	Efficiency	Professionals, scientists	Means	Long-term future	Cartesian
Civic	Collective will	Collectives, citizens	Legal forms	Perennial	Even, detachment
Domestic	Tradition	Superiors & inferiors	Rules of etiquette	Customary	Local, proximal
Inspired	Outpouring of inspiration	Visionaries	Dreams, visions	Ruptured	Moving
Fame	Reality of public opinion	Stars and their fans	Names in the media	Trend cycle	Visibility
Green	Sustainability	Environmentalists, non-humans	Nature	Future generations	Planet ecosystem
Projective	Flexibility	Collaborators, brokers	Projects, initiatives	Instantaneous	Network

Source: Boltanski and Chiapello (2018), Boltanski and Thévenot (2006), Lafaye and Thévenot (2017)

conflicts, whereas a grammar of common good justification was more typical in France. Additionally, Thévenot (2014) identified a third grammar centred on attachment to common places. A pragmatist perspective views ‘place-attachment’ not as an alternative to the ‘NIMBY’ framework, but as a distinct grammar, acceptable to varying degrees depending on the cultural context (Eranti 2018). From Thévenot’s (2014) perspective, common good, individual self-interest, and attachment to common places are ‘grammars of commonality,’ different ways that people coordinate, justify and establish forms of togetherness in social life (Thévenot 2014). This perspective, in line with the third wave, invites researchers to consider that resistance to renewable energy projects can stem from justice claims extending beyond individual and local concerns (Neveu 2002).

Boltanski and Thévenot’s (2006) framework of ‘orders of worth’ provides a valuable tool for analysing these dynamics (see Table 1). They identify six evaluative grammars used to justify actions and resolve conflicts in pursuit of the common good: market worth (price and competition), industrial worth (efficiency and expertise), civic worth (solidarity and collective welfare), fame worth (reputation and opinion), inspired worth (creativity and spirituality), and domestic worth (tradition and hierarchy). Added later was ‘green worth’ (environmental sustainability; Lafaye and Thévenot 2017) and ‘projective worth’ (innovation and collaboration; Boltanski and Chiapello 2018). These orders of worth can help reveal the diverse principles invoked in energy conflicts, and demonstrate how opposition often reflects broader justice claims rather than narrow, localized concerns (Laes et al. 2023). One of the analytical virtues of this framework is that it shows how the same set of orders of worth can be deployed by all relevant actors to a dispute, such as the community, the developer, and the state, to justify and criticize energy policies and projects (Vasstrøm and Lysgård 2024). Orders of worth can also be used in combination or what Boltanski and Thévenot (2006) refer to as ‘compromises’ because there is always an underlying tension which is ignored. By exploring the formation of compromises and shifts between

orders of worth, researchers can better understand the relational dynamics influencing responses to renewable energy infrastructure and policy (Thévenot et al. 2000).

Juskus (2023) adopts a similarly pragmatist approach to the concept of ‘sacrifice zone,’ identifying eight features—effectively a grammar—underpinning its use in US environmental conflicts. First, it highlights the *spatial* concentration of environmental harm in certain areas to preserve others. Second, it invokes *the ‘greater good,’* an abstract ideal used to justify sacrifices without the consent of affected populations. Third, it implicates *agency,* attributing the separation between areas of sacrifice and abundance to specific agents, whether individuals, institutions, or policies. Fourth, it serves as a *critical* concept exposing the unjust and uncontrollable distribution of ecological harm, advocating systemic change to democratize costs and benefits. Fifth, it elicits an *emotional* response, often framing individuals or communities as victims or vulnerable, sometimes through religious connotations. Sixth, it is *relational,* revealing connections between sites of extraction, production, consumption, and waste. Seventh, it *unites* diverse groups who identify as sacrificed while resisting subjugation. Finally, it acts as a *‘boundary object,’* bridging perspectives across activists, scholars, policymakers, and others.

Radical environmental justice discourses like ‘sacrifice zone’ can be further illuminated through the lens of pragmatic sociology and the reformulated social acceptance research agenda. A key insight from both the orders of worth framework and the ‘sacrifice zone’ discourse is that meaning emerges through self–other relationships. From Boltanski and Thévenot’s (2006) perspective, justifications for the common good essentially involve sacrificing personal self-interest for a ‘generalized other.’<sup>1</sup> Similarly,

<sup>1</sup> Boltanski and Thévenot’s (2006) ‘polity model’ of justice, which underpin orders of worth, has six axioms: A1. Principle of common humanity; A2. Principle of differentiation (states of worth); A3. Principle of access to differentiated states (common dignity); A4. Order (scale of values or goods); A5. Investment formula (links higher states to a sacrifice); A6. Higher states are beneficial to the common good. Regarding A5, they state: ‘Given that, by virtue of their com-

social psychological research explores self–other dynamics, for instance in how citizens relate to the ‘institutional other’ under new environmental laws (Castro and Santos 2020). Political ecological perspectives also examine the role of othering, vulnerability, and economic development narratives in governing climate change (Andreucci and Zografos 2022). The reason that ‘sacrifice zone’ is a particularly striking concept from these perspectives is that it implies that the state, or other powerful agent, is abdicating from an implicit model which sustains various constructions of the common good and gives direction to the ordinary sense of what is just (i.e. the everyday capacity of people to evaluate situations, justify their actions, and critique others, see Boltanski and Thévenot 2006, p. 144). It stands to reason, then, that the actual existence of ‘sacrifice zones’ or even a sufficiently shared belief in their existence would have profound effects on a political culture, leading to new grammars of commonality and difference, and the redrawing of boundaries of the ‘imagined community’ upon which constructions of the common good are presupposed (Anderson 1983). From this perspective, the claim that one is being sacrificed is a recognition, and potentially a denunciation, of being rendered invisible or irrelevant by institutional others. Nixon (2011) describes this as being ‘evacuated from place and time and thus uncoupled from the idea of both a national future and a national memory’ (2011, p. 190). In effect, claims of injustice which deploy this concept challenge the legitimacy of a sacrifice and reveal the unequal social and environmental costs of energy transitions.

The perceived legitimacy of such claims has implications for political action, energy transitions, and broader social change. By defining the boundaries of what is deemed acceptable or legitimate, these discourses shape the field of possibilities for resistance and reform. Understanding these dynamics through the conceptual perspectives of pragmatist sociology and environmental justice enables researchers to better analyse the contested terrains of energy conflicts and the new commonalities they can lead to.

Footnote 1 (continued)

mon humanity (A1) that identifies them as human beings, all human beings have an equal power of access (A3) to the higher states (to which the greatest degrees of happiness are attached), there is no way to understand, without calling upon additional hypotheses, why all members of the polity are not in the supreme state (thus forming an Eden). To explain why this is not the case, we have to refer to an investment formula (A5) that links the benefits of a higher state to a cost or a sacrifice that is required for access to that state. The formula of sacrifice or economy is the regulator that suppresses the tension between a common humanity and an ordering of states’ (Boltanski and Thévenot 2006, p. 76).

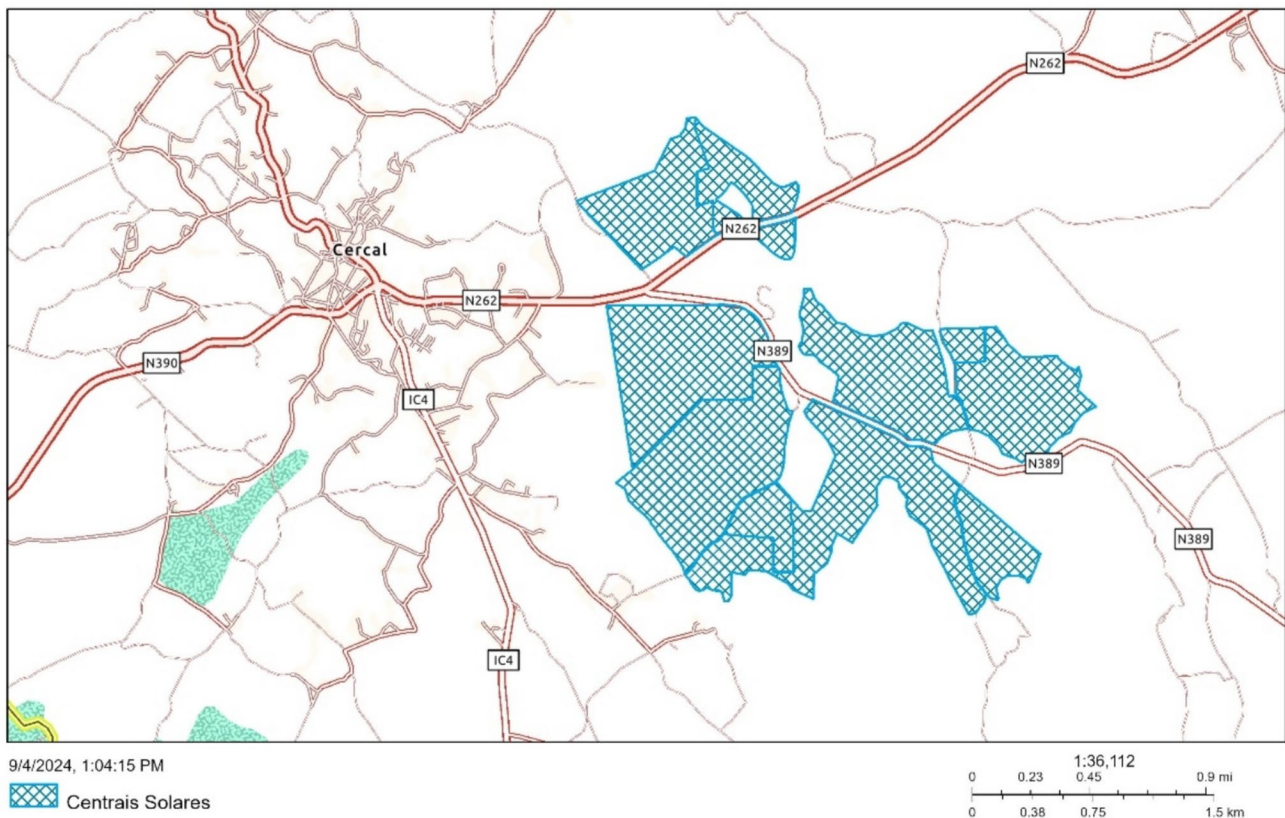
## The Portuguese energy transition and the deployment of solar energy in Alentejo

Portugal is often seen as a leader in the renewable energy transition and this success has been attributed to an imaginary of techno-economic and political modernization (Delicado et al. 2016) in which its rapid rollout of wind energy in the early 2000s did not involve the public, in ways that became politically necessary in other European countries (Bento and Fontes 2015; Soares and Silva 2014). While the state during this period recognized an increase in environmental awareness of the public, this was problematized mainly as diffuse local opposition to renewable energy projects, according to a ‘NIMBY’ representation (Figueiredo and Fidélis 2003).

More recently, the Portuguese government’s renewed vision of the energy future, encapsulated in key strategic documents like the Roadmap to Carbon Neutrality (República Portuguesa 2019a) and the National Energy and Climate Plan (República Portuguesa 2019b), is built upon the expectation of developing over 20GW of installed solar PV capacity by 2030, with the majority of this being through centralized, large-scale developments in rural areas as well as through apparent commitments to ‘active’ participation and ‘energy citizenship’, predominantly through decentralized solar initiatives such as renewable energy communities (Carvalho et al. 2022; Wallace and Batel 2024). However, the deployment of centralized and decentralized solar have taken place at distinct rhythms (Campos et al. 2022), leading to the identification of a ‘scalar bias’ in the Portuguese energy transition (Sareen 2022) with new market mechanisms, such as auctions, for large-scale solar PV licences leading to record prices and a sudden increase in the number of projects planned for the Southern part of the country (Silva and Sareen 2021).

This acceleration of the Portuguese energy transition has led to several highly publicized cases of local resistance (Silva 2023; Brás et al. 2024). The case analysed in this paper is a conflict over a large-scale solar power park and associated very high voltage power line being developed one kilometre from the village of Cercal do Alentejo (LMAT, see Fig. 1 for location of solar PV plant and Fig. 2 for the broader study area and the location of the power line).<sup>2</sup> The Alentejo region is characterized by its biodiverse flora and fauna (including threatened species, such as Bonelli’s eagle), agro-silvopastoral cork oak forest (known as the ‘montado,’

<sup>2</sup> The electricity grid in Portugal is sub-divided into transmission grid (very high voltage—150–400 kV) and distribution grids (high, medium, and low voltage)—see REN—Redes Energéticas Nacionais (n.d.).



**Fig. 1** Location of the Cercal solar PV plant (source: adapted from Cercal Power 2023)

it is one of the most emblematic landscapes in Portugal), extensive agricultural areas, and its tourism-dependent economy (Cabeça 2020). On the other hand, the region is also plagued by a range of social and environmental issues such as depopulation, land ownership concentration (latifundia), and desertification (Behrens et al. 2010; De Almeida 2018; Juntti and Wilson 2005; PORDATA 2024).

In 2020, the developer of the project, Cercal Power, a subsidiary of the Hamburg-based investment company Aquila Capital, aggregated five separate licences into a single project. Official numbers indicate that the solar panels would therefore have a total direct impact area of 394 hectares and an estimated installed capacity of 275 megawatts, making it one of the largest solar parks in Portugal.<sup>3</sup> Furthermore, the project will entail the construction of a power line connecting the photovoltaic plant to the National Energy Transmission Network, whose point of delivery is the Sines Substation. It will have sixty-nine supports (six are existing supports and sixty-three are to be built) distributed

over a length of about 25.6 km. The construction time is expected to be around twelve months with 2000 non-local workers present at the peak of activities, creating four permanent jobs. The project has a lifespan of thirty years, and the decommissioning costs have not yet been specified (see Cercal Power 2021, p. 11).

## Research strategy and methods

For this case study, we adopted a qualitative and multi-method approach to explore the ways that various actors represented the project, with a particular focus on how the local community experienced and responded to it, and what they expected from the future. In addition to gathering relevant documents such as Environmental Impact Assessments (2021 and 2023), public consultations (2021 and 2023), media articles (2021–2024), and transcripts of industry events, this involved semi-structured interviews with 15 residents, including 3 active members of the local protest group, *Juntos pelo Cercal* (JPC, ‘Together for Cercal’), conducted in July 2022, who were either contacted online via a local

<sup>3</sup> The project has a total area of impact of 816 ha, with 632 ha under direct contract (for 29 years and 11 months). Under Portuguese law, the project can increase still by 20%.

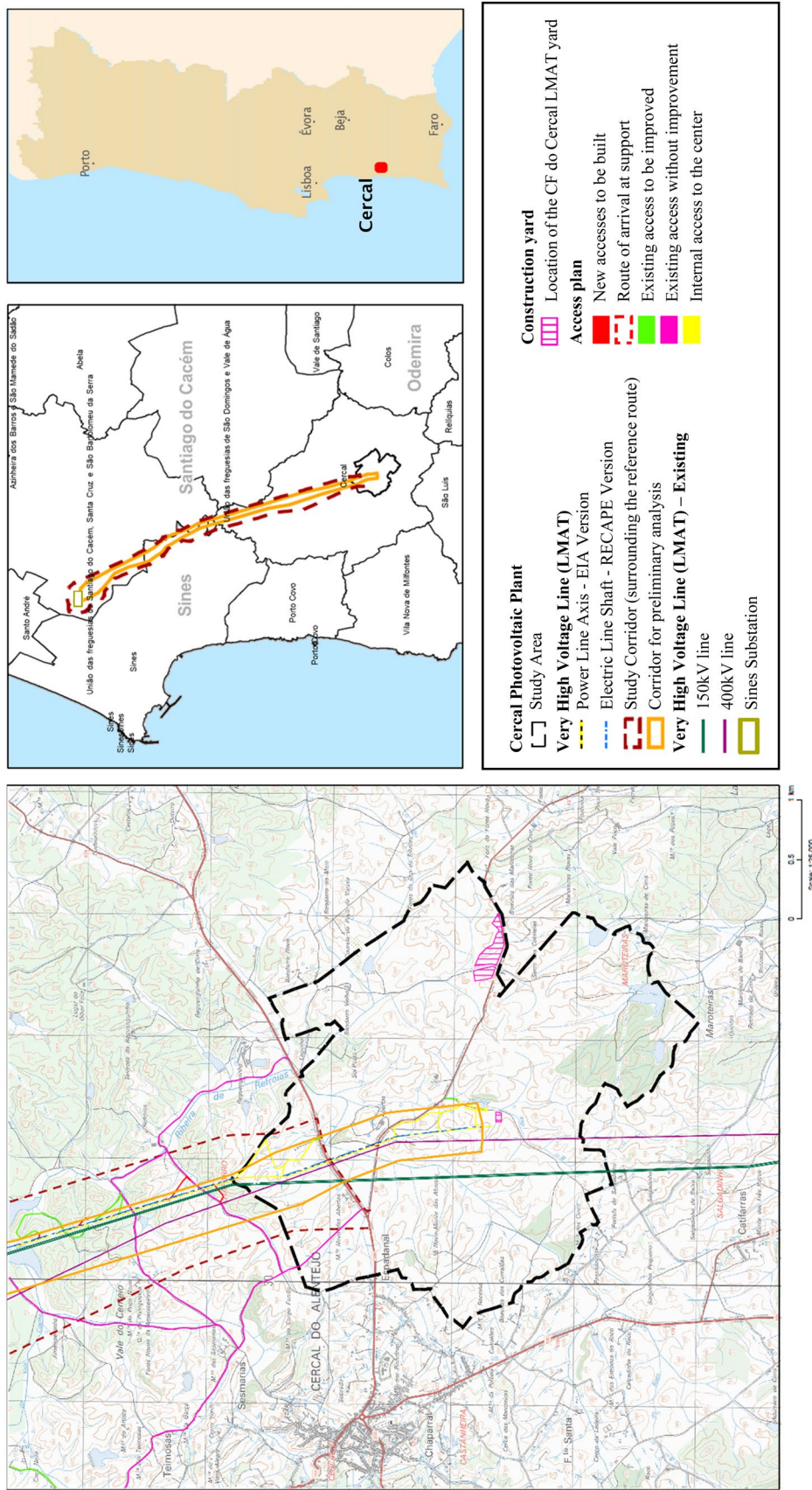


Fig. 2 Location of Cercal photovoltaic plant and very high voltage power line and administrative framework (source: adapted from Cercal Power 2023)

**Table 2** Timeline of key moments in the controversy over the Cercal project (2021–2023)

2021	2022	2023
Closure of Sines coal plant and announcement of re-development plans	RTP broadcasts report about the case (and others) entitled ‘Sacrifice Zone’	Developer announces Renewable Energy Community
Cercal project announced, public consultation opened & public information session conducted	Approval of the revised version of the solar plant, after ‘substantial changes’	Public consultation opened for power line to connect Cercal project with Sines
Environment agency issues conditional approval of project	Court rejects JPC’s request for an injunction	Amnesty International publish report on ‘mega solar plants’ in Portugal
Creation of local protest movement (JPC), crowdfunding campaign & filing of injunction	Aquila announces partnerships with national universities	Prime Minister resigns in the ‘Operation Influencer’ scandal
	Government announces ‘SIMPLEX’ measures to speed up licensing and approval of projects	JPC protests with other regional social movements, calling for the immediate suspension of project licensing

messaging group or approached in the village of Cercal.<sup>4</sup> For most of these interviewees, it was known beforehand that they opposed the project, but those approached in the village were largely ambivalent. We encountered difficulty in arranging interviews with individuals who supported the project, but supportive arguments were seen in the public consultation responses.

Interviews lasted between 30 min and 2 h and took place in a variety of locations around the village, including in people’s homes, cafés, the village square, on the project site, but also online, and were conducted in either Portuguese or English. We began by asking each participant about how they first heard about the project, its development, and the response of the wider community and then proceeded to inquire about what they expected the future to look like, including the potential positive or negative impacts that the project could have and potential alternatives. Maps of the project site were shown to interviewees to help facilitate responses. All interviews were recorded and transcribed with the informed consent of each of the participants.

The collected material was subjected to a pragmatic discourse analysis, an approach recently developed to combine a focus on themes or ‘content’ with a focus on discursive strategy (Batel and Castro 2018). We first coded the texts according to the main objects of representation (e.g. place, project, community—taken as key aspects in siting conflicts from the social acceptance/energy justice literature) and according to the type of statement (e.g. argumentative claims or accounts of events). The argumentation was then analysed by categorizing the *content* of arguments with the orders of worth framework (see Buclet 2023) and then examined the

*form* of arguments—the different discursive strategies that were used to negotiate between different orders of worth and to contest or support the project, including the way that the relations between self and other were represented. In the next section, these findings will be presented in detail.<sup>5</sup>

### Findings: the making of a ‘sacrifice zone’

Our analysis revealed that, as well as the typical forms and objects of argumentation against the siting of renewable energy infrastructure near communities (e.g. procedural and distributive injustice, visual and economic impacts), the residents of Cercal elaborated a more radical critique of institutions which, implicitly and explicitly, adopted the discourse of ‘sacrifice zone’. In the following, we will analyse different dimensions of this discourse around four different moments: the initial emergence of the controversy; the reformulation of the project; the court’s dismissal of the resident’s legal case; and the resignation of the Prime Minister after a corruption investigation related to the re-industrialization of the broader region (see Table 2).

### Representations of the common good and the critique of peripheralization

When plans for the solar park were announced in March 2021, the Environmental Impact Assessment emphasized objectives such as diversifying Portugal’s energy sources, ensuring supply security, and meeting commitments to renewable electricity production and greenhouse gas reduction (Cercal Power 2021). This announcement followed the closure of the nearby Sines coal-fired power plant and was

<sup>4</sup> Although only three interviewees were directly and consistently involved in JPC’s activities, the boundary between insiders and outsiders was not clear-cut. Most interviewees had participated to some extent, even if only by attending an information session or engaging with the Facebook group.

<sup>5</sup> Pseudonyms are used in all extracts.

part of a broader vision to reindustrialize the Portuguese economy, with the Port of Sines at its centre (Agência Lusa 2021). Key to this vision was the 2020 National Hydrogen Strategy, a controversial initiative absent in the National Energy and Climate Plan published only a few months earlier. In April 2021, Prime Minister António Costa announced ‘Sines 4.0,’ a global data mega-centre highlighting the region's potential for ‘energetic sustainability’ due to its proximity to low-cost renewable energy (RTP 2022).

Despite the Cercal project's March announcement, the Portuguese Environmental Agency (APA) held a public information session only two days before the end of the mandatory consultation period in May 2021. The meeting, disorganized and conducted under COVID-19 restrictions, incited public anger toward representatives of APA, the local parish council, and the developer. Residents were dismayed that everything seemed to have already been decided and that the public representatives seemed to be on the side of the developer. While the authorities and the developer offered *green* justifications and *civic* benefits such as economic development and job creation, these arguments found limited support. Most respondents dismissed these claims and criticized the project's purported environmental benefits.

One specific source of controversy was that the high-voltage power line was expected to affect approximately 200 cork and holm oaks, including both those to be removed and others whose root systems would be impacted by excavation activities (Expresso 2023). Given the significance of cork oaks to both the nation and the local community, Portuguese law provides stringent protections for these trees (Government of Portugal 2001). Thus, to proceed with the necessary interventions, the project developers requested that the power line be recognized as ‘Project of Essential Public Utility,’ which would allow them to proceed with the removal of oak trees in the area. Such a declaration is emblematic of the way that institutions have the power to sacrifice certain orders of worth by appealing to the ‘greater good,’ something which will be discussed in more detail in the third findings section.

As seen in Table 3, in their arguments about the project, opponents construct a self–other relation in line with the sacrifice zone discourse where there is distinct opposition between a local ‘we’ and an external ‘they.’ This distinction was absent in the supporting arguments, where any notion of an ‘other’ would more likely refer to the community itself. Another difference was that supporters' arguments relied on generalized principles detached from local concerns while opponents drew upon place-specific meanings, issues, and experiences, connecting them to broader values. Opponents were thus able to justify the importance of the cork oak forest as heritage (domestic worth), ecosystem (green worth), and as a source of employment (civic worth). This composition often invoked metaphors such as ‘monoculture’ and

‘desertification,’ traditionally associated with intensive agriculture. In one televised interview, a local resident articulated these fears:

‘This is all monoculture. Everyone knows that. Beyond causing desertification of the land, monoculture also causes social desertification. It destroys the social fabric of the area. That is our biggest fear.’ (Raquel, quoted in RTP 2022)

Here, ‘desertification’ embodies dual meanings—land degradation (green worth) and depopulation (civic worth)—reflecting a collective identity (‘we’) under threat from the project's industrial scale. As seen below, this collective identity is associated with the *habits*<sup>6</sup> and *customs* of the *domestic* world:

The local population is clearly being harmed and sacrificed, without mercy or pity, as their limited literary resources are unable to defend their most basic rights to maintain their habits and customs and thus determine the non-implementation of such a powerful project on their lands (Maria Belizanda, Consultation Response, Agência Portuguesa do Ambiente 2021).

At the heart of this discourse of being sacrificed was the sense of a *domestic* self-identity being excluded from the *civic* world of laws, courts, rights, and procedures, which was meant to mediate their concerns to others. Thus, in their responses to the consultation residents also sought to expose the private interests underlying the project proponents' superficial appeals to the common good, which, by contrast to their own concerns, were being included due to a ‘flexibilization of the law for the promoter’ (Florence, Consultation Response, Agência Portuguesa do Ambiente 2021). These dynamics align with Juskus' (2023) notion of a ‘sacrifice zone,’ where affected communities challenge the external forces imposing costs on their local environment.

Interviews conducted a year later revealed how the flawed public consultation became a ‘critical discourse moment’ (Carvalho 2008). This event not only highlighted the procedural failings of the APA but also fostered an enduring representation of decisions being made behind closed doors. Residents increasingly viewed these issues not as bureaucratic incompetence, but as part of broader governmental efforts to expedite the energy transition under pressure from multinational renewable energy companies. This sense of procedural injustice galvanized community resistance and shaped their framing of the conflict. The local protest group, JPC, emerged in response to the APA session, positioning itself as a nonpartisan movement representing residents,

<sup>6</sup> Throughout this article, italics are used to signify that a word belongs to an order of worth.

**Table 3** Examples of main community arguments for and against the project in the 2021 public consultation (Agência Portuguesa do Ambiente 2021, authors' translation).

Issue	Arguments in favour of the project	Arguments against the project
Socio-economic impact	<p><b>Civic-industrial compromise—project will bring wealth and jobs to the area</b></p> <p>'I support this project that will bring wealth to the parish, the municipality and our country. Those fields have been abandoned for a long time. They are useless. I think it is great that they are using them to install solar panels. Cereal needs investment and new jobs.' (Silvia)</p>	<p><b>Civic order of worth—project will result in negative economic impacts that will lead to further socioeconomic decline</b></p> <p>'It's all related to livelihood, the change to the livelihoods. This investment of 164 million creates four permanent jobs, but at the same time destroys, or hinders 150 direct, indirect jobs.' (Bruno)</p>
Environmental impact	<p><b>Green order of worth—the project will produce renewable energy and fight climate change</b></p> <p>'I am concerned about climate change and the impact that rising sea levels could have on many people who will be displaced and who will suffer. We all have to do our part, and I think the project will be good for Cercal.' (Julia)</p> <p><b>Green-projective compromise—possibility of place-technology fit (adaptability)</b></p> <p>'Excellent initiative!!! Could you consider planting aromatic herbs under the panels, for example coriander, pennyroyal, fennel, marjoram, etc.?' (Laura)</p>	<p><b>Inspired market compromise—de-beautification of landscape will decrease value of assets and local business</b></p> <p>'A sea of panels occupying the land, replacing the beautiful landscape of the area, will see their properties and land, and their own assets, devalued not only by the implementation of the power plant but also by the limited, if not impossible, capacity to expand their businesses' (Maria)</p> <p><b>Green order of worth—contesting the meaning of 'green' based on future and recyclability of panels</b></p> <p>'This is an energy transition project, that is, a "green energy" project, but how can something be declared green if there is still no solution for when it reaches the end of its lifespan?—as there are still no ways to recycle solar panels, it is impossible to declare a project like this as "green", because in the long term it will also have a major environmental impact' (Carolina)</p> <p><b>Green order of worth—project will lead to increased temperatures and desertification of land reducing biodiversity and causing negative outcomes for human health</b></p> <p>'Installing such a large area, even with the intention of increasing renewable energy production capacity, would have harmful effects on the environment: an increase in desertified areas, increased local and global warming, a decrease in biodiversity, and a detrimental effect on the quality of life of local populations' (Paulina)</p>
Cultural impact	<p><b>Inspired order of worth—there will be no visual impacts of the project</b></p> <p>'And you can't even see it from Cercal... unlike the other one that is above Vale de Agua. There are always those who say bad things and would prefer the project to go somewhere else, like the guys from ZMar who wanted the poor things to be well but then it wasn't in their backyard. [...] who don't want anything to happen and for everything to stay the same.' (Mateus)</p> <p><b>Inspired order of worth—embracing the new</b></p> <p>'They avoid fossil fuels. And they are beautiful and modern. We need to stop living in the Middle Ages and embrace new technologies. I support this project!' (Patrício)</p>	<p><b>Domestic order of worth—cork trees are the soul of the region</b></p> <p>'We cannot accept the fact that the 'promoter' of the project would have the right to cut down 100-year-old cork oaks on rustic land, while this is a protected species, the soul of the region' (Florence)</p> <p><b>Domestic order of worth—loss of a traditional way of life and place identity</b></p> <p>'Given that the Alentejo Coast and its population have already been so affected in their way of life—such as the Port of Sines and the Petrogal refinery, the greenhouses in Odemira, etc.—it would be wise not to continue destroying and overcrowding our land with yet another monster of industrial production' (Maria João)</p>

Table 3 (continued)

Issue	Arguments in favour of the project	Arguments against the project
Political	<p><b>Green industrial compromise—the country should maximize its resource potential</b></p> <p>‘Projects like this are not only an added value from an environmental point of view (green energy) but should also be a priority and a national goal. As one of the European countries with the greatest solar potential, we have an obligation to take advantage of and maximize this resource. We have an obligation to invest in green energy sources associated with hydrogen, for example, and to begin closing thermal power plants.’ (Daniela)</p>	<p><b>Civic order of worth—the inadequacy of public engagement and disregard of the law</b></p> <p>I would like to formalize my position of protest against the installation of a photovoltaic plant in Cercal do Alentejo and express my repudiation of the way in which the process of communicating the information to the population of Cercal was conducted. From the lack of transparency [...] to the scheduling of an information session on the penultimate business day for public consultation [...] to the misinformation of those who presented and defended this project, everything demonstrated the disregard for the opinion of the local population in view of the relevant impacts, contrary to the spirit and letter of the EIA process recognised in the legislation’ (multiple)</p>

entrepreneurs, and others connected to the parish and with the motto, ‘renewables yes, but without sacrificing the Alentejo’ (Esquerda 2021, August 7). To raise awareness, JPC organized three public sessions focusing on the project’s environmental and economic impacts (see Fig. 2). Their critiques extended beyond procedural issues, targeting the *industrial* and *market* orders of worth underpinning the project. The industrial scale was seen as incompatible with the area’s identity, ecology, and economy, while the project’s green justification was dismissed as ‘greenwashing’—a means for distant investors to profit from carbon credits while leaving Cercal dispossessed.

These critiques reflected the *geographical* dimension of ‘sacrifice zones,’ as exemplified below:

‘Portugal is the periphery of Europe. You know, it’s the ‘finisterra.’ And Alentejo, the southern area, is the periphery of Portugal [...] There is this image that there is nothing here, a sort of empty territory.’ (Bruno, Interview, July 2022)

As Frois (2012) notes, Portugal’s peripheral condition is a common narrative, portraying the country as a European backwater. Self–other relations also play an important role in this representation. In effect, Bruno represents himself and the community as *othered* from the perspective of governing institutions, but in a peripheralizing way that enables the place to be represented as empty and ready for development (see also Groves 2017; Rudolph and Kirkegaard 2019).

JPC’s arguments increasingly drew on the notion of sacrifice to critique the inequities of industrial development. The group’s petition letter reflected this framing:

‘Law dictates and above all justice mandates that the sacrifices that result from the common good (regardless of whether we are here in a situation of common good or not) are proportionate and distributed equitably. This is manifestly not the case.’ (Petition letter from residents submitted to the public consultation, Agência Portuguesa do Ambiente 2021)

This statement underscores a key feature of the sacrifice zone concept—the belief that a just polity necessitates sacrificing one’s own self-interest for the common good, whereas the state, in contrast, enforces sacrifices on others. Drawing upon the *civic* order of worth, the *petition letter* also attests to the residents’ self-representation as *citizens* and their representation of *the law* as an expression and arbiter of the common good. Thus, in October 2021, JPC applied for an injunction with the aim of suspending the effectiveness of the favourable environmental impact declaration.

The growing opposition and the questioning of the project by national political parties or by other environmental/social justice associations meant that by the end of the year, the Cercal project had attracted significant attention in the

public sphere (RTP 2022). The project promoter and state institutions responded in two main ways. First, the promoter sought to bolster legitimacy through a reformulation of the project and its broader activities. Second, the legal system dismissed JPC's case, intensifying local disillusionment. Boltanski and Thévenot (2006) argue that actors seek to prevent conflict by creating situations that 'hold together,' but these responses further divided the community and reinforced representations of the future as a *fait accompli*.

### Locating agency: the developer's reformulation of the project

In November 2021, Aquila's Head of Development and Construction in Portugal participated in a panel at the Portuguese Renewable Energy Association's annual conference (APREN PT 2021). When asked about growing public resistance to large-scale projects, his response began with an emphasis on the urgency of decarbonization. He invoked scientific studies to stress the necessity of significant solar energy deployment as the first step in global decarbonization, aligning with the government's prioritization of large-scale projects for their efficiency, cost-effectiveness, and stable electricity supply for industries (República Portuguesa 2019a). He balanced this by acknowledging the importance of sustainability, listing 'biodiversity concerns, soil preservation, and landscape impacts' as priorities addressed through partnerships with universities and other entities (APREN PT 2021).

This response exemplifies what Boltanski and Thévenot (2006) describe as a discursive strategy to diffuse critique by introducing diverse values and 'beings' from the green, industrial, and civic worlds. Yet, such strategies often sidestep the root of the conflict—in this case, local community concerns. When pressed further, he reverted to civic arguments about economic benefits, emphasizing domestic considerations such as 'local hiring quotas,' 'local supply chains,' and 'local consumption' (APREN PT 2021).

In July 2022, the project was reformulated following APA's conditional approval. Adjustments included increasing the distance between houses and the fence line, preserving cork trees, and planting new ones as part of a 'green curtain.' The company also publicized partnerships with universities for agrivoltaics research and environmental monitoring in Cercal and later proposed establishing a Renewable Energy Community for the town (Agência Lusa 2023; *Jornal de Negócios* 2022). Framing these initiatives within the *projective* order of worth, the company presented them as fostering innovation and collaboration. 'This is always our way of acting,' a company statement declared, 'fostering partnerships that allow us to create a shared value strategy wherever we are' (Ambiente Magazine 2022). Rather than

just rhetoric, setting up a situation that holds together and creates legitimacy involves a 'test of worth', which can be understood as the demonstration of an order of worth through a material practice (Boltanski and Thévenot 2006). This was the aim of one of their university *collaborations*—to analyse 'the *interface* between solar and agricultural production, identifying *synergies* between both activities,' and 'making it possible to *complement* local knowledge with an independent academic and scientific component, deepening the characterization of the area where the plant will be installed' (Bernardo 2023).

However, these measures were dismissed by JPC as 'cosmetic' and tokenistic (Bernardo 2022). The partnerships' *projective* worth was deemed irrelevant to their broader claims, with suspicion also cast on the credibility of associated partners. This response highlights the tension between attempts to legitimize large-scale projects after controversy has already been established and affected communities' persistent mistrust.

### Dislocating agency: projects of national interest and the court's dismissal of the Cercal case

While the 'Declaration of Essential Public Utility,' mentioned above, concerns specific aspects of a project's EIA, large industrial projects in Portugal can be expedited and justified as a whole by applying for 'Project of National Interest' (PIN) status, especially if they can demonstrate certain kinds of value, like creating jobs or aligning with renewable energy policy. Though public information about such classifications is scarce, a 2024 media report revealed that there are 55 PIN projects in Portugal, primarily involving foreign capital and concentrated in Sines (Ataíde 2024). Špirić (2018) notes that environmental justice movements face significant barriers in opposing projects deemed of national economic interest, especially in contexts of low political accountability. Although there is no evidence that the Cercal project has received PIN status, the opacity surrounding the process has fuelled local beliefs to the contrary. This perception frames the lack of procedural justice as a deliberate act to facilitate private economic interests, with one interviewee describing the state's decarbonization targets as 'a justification for almost everything' (Interview with Bruno, July 2022). This discourse was bolstered by the government's 2022 'SIMPLEX' legal reform aimed at streamlining licensing procedures. Environmental NGOs, such as ZERO, criticized the initiative, accusing the government of undermining APA's capacity to conduct thorough environmental evaluations (ZERO—Associação Sistema Terrestre Sustentável 2022).

The perception of an unjust and opaque system was further reinforced when JPC's legal case was dismissed in October 2022. The court concluded that the defects alleged by JPC, flaws in public participation during the public consultation process and an alleged lack of environmental impact assessment for deforestation—did not constitute 'nullity' but rather 'annullability.' Nullity, which allows legal action at any time, applies only to severe and fundamental defects, such as violations of the core of a basic right—e.g. public participation rights, as protected by the Portuguese Constitution and the Aarhus Convention—or complete omissions of legal requirements. The court found that public participation was sufficiently provided for, and the deforestation impacts were considered in the environmental assessment, albeit with potential procedural flaws. Evidence submitted by JPC, such as public consultation testimony and televised footage from the APA information session, was excluded by the court, with the presiding judge ruling that they were 'irrelevant and totally innocuous for the assessment of the dispute in consideration' (Diário da República 2023).

JPC's subsequent unsuccessful appeal argued that the court failed to account for the unequal treatment of rural communities, stating that conducting a public consultation in Cercal as if it were in Lisbon violated 'the principle of equality':

'The Court ignored the fact that the principle of equality was, shamefully, but consciously violated, because when a public consultation is carried out in Cercal do Alentejo in the same way as it would be done in Lisbon, one is being treated equally which is unequal' (Diário da República 2023).

Like Blok and Meilvang's (2015) study of Danish environmental activists' difficulty in communicating their place-attachments to planning authorities, JPC's claim of injustice was based on the perception that, in the Portuguese context, the *civic* principle of equality must consider the *domestic* particularity of rural communities. As Boltanski and Thévenot (2006, p. 232) state 'a judgement is deemed equitable when it takes into account the existence of worlds external to the nature of the test,' whereas 'inhuman' verdicts derive from the strict application of the rules of justice. This claim of an inequitable judgement can be related to the legal *principle of proportionality* (Cottier et al. 2012) which, unlike other areas of law and in other jurisdictions (EU law), did not play a role in Portuguese administrative law. As such, the issues brought to court by JPC, at most, could render the Declaration of Environmental Impact annullable, requiring additional action by JPC within a 3-month deadline. It is worth noting here that a court guided by the principle of proportionality, rather than the rigid distinction between nullity and annullability, might have reached the same overall

verdict while ensuring greater accountability and transparency.<sup>7</sup> Such an approach could also have included recommendations for compensatory measures to address JPC's claims of procedural injustice (Cerchia 2021). However, in the Cercal case the provisional measure was merely dismissed and the case extinguished. While it is not the focus of this article, this insight highlights the need for more research on the role of legal processes in renewable energy siting conflicts and their relation to concepts and claims of energy justice.

What was also notable about these legal proceedings was JPC's charge that the exclusion of evidence was done in a *conscious* or deliberate way, only deepening the community's sense of powerlessness and fuelling the perception that they were being sacrificed for private interests. Likewise, interviews conducted with residents in July 2022 revealed profound feelings of disempowerment and indignation. Suggesting Dworkin's (2003) notion of 'luck egalitarianism,' where arbitrary factors—e.g. spatial location—lead to distributive injustice, one resident commented:

'And we were not lucky, but the sacrifice area was all this area in Cercal, Morgavel, it was also the cheapest way to do it. So, we were not lucky. We were just in the wrong place at the wrong time'. (Camila, July 2022)

Such expressions of inevitability, resignation, and the sense that 'behind the scenes, everything has been settled for a long time' (Interview with Ana, 2022) were common in our interviews. These accounts reflect what Juskus (2023) describes as the 'dislocation of agency and dignity,' where 'the self' is portrayed as powerless and vulnerable, while 'the other'—in this case, the developer and state actors—is seen as omnipotent and external.

The notion of being sacrificed became a central theme in the community's discourse, mobilizing affective engagements with their place, community, and future. Residents closest to the project site expressed fears of personal insecurity, danger, and risk. One participant articulated this vividly:

'I imagine this [gestures to the land] is going to be all black. And what I'm most afraid of, and that scares me, is that they're building a high wall here because of the reflection. I'd rather see the panels than a wall, so... we will stay here as if we were in a prison.' (Patricia, July 2022)

<sup>7</sup> As stated by Lord Toulson of the UK Supreme Court in the well-known case, *Patel v. Mirza*: 'The public interest is best served by a principled and transparent assessment of the considerations identified, rather than the application of a formal approach capable of producing results which may appear arbitrary, unjust or disproportionate' (quoted by Cerchia 2021, p.).

Such metaphors underscore the emotional and physical disruption perceived by residents living on the fence line (see Fig. 3). The ‘wall’ symbolized both the literal transformation of the landscape and the figurative enclosure of their lives, encapsulating a sense of entrapment imposed by an anonymous and external other. The centrality of this more emotional and personalized discursive repertoire was the main difference between those outside and inside the local protest movement. In other words, while phrases such as ‘being sacrificed’ and ‘sacrifice zone’ were explicitly voiced by those more directly involved with the protest group, they appeared more subtly in the language of outsiders, further indicating how the discourse was employed to create a sense of shared understanding and commonality.

The representation of the future as a *fait accompli* stemmed from both the lack of transparent communication from developers and the state’s institutional barriers to addressing community concerns. Residents felt excluded from meaningful participation, with decisions framed as predetermined and unalterable. Nixon’s (2011) concept of ‘unimagined communities’ is relevant here, as residents viewed themselves as excluded from the national narrative of renewable energy modernity. The sense of being sacrificed was not merely a reflection of material harm, but also a recognition of being rendered invisible in broader societal and policy contexts. This dynamic further illustrates the challenges faced by communities in rural areas when contesting large-scale renewable energy projects. The highly personal and localized nature of their grievances, while deeply felt,

proved difficult to generalize into broader civic or institutional terms (Blok and Meilvang 2015; Thévenot 2014). Yet, these personal narratives and metaphors were vital for articulating their resistance and forging a sense of shared indignation.

### Unveiling relations between sites of extraction and drawing together a diverse array of groups

Although the Cercal power plant received approval in 2022, a new EIA process began in 2023 for the power line connecting it to the Sines substation. This separation created confusion, with the environmental NGO Zero emphasizing that ‘one of the components cannot exist without the other,’ leading to uncertainty about what was possible to achieve through a response to the consultation (Agência Portuguesa do Ambiente 2023). Nevertheless, citizens argued that the new power line failed to meet the conditions set forth in APA’s favourable conditional approval. While concerns about economic, environmental, and cultural impacts persisted, the focus shifted towards procedural failures within the EIA process. *Environmental* arguments were able to draw also from the *industrial* world—a recently published ‘map of sensitive territories’ from the National Laboratory of Energy and Geology (LNEG; Prado 2023) and several academic voices were deployed to help criticize the mitigation measures, particularly regarding the felling of cork

**Fig. 3** First public information session organized by JPC, in the centre of Cercal, May 2021 (source: Facebook)



oak in Cercal, and also several other projects in the region (Serafim and Gaudêncio 2023, October 27).

During this period, citizens' arguments increasingly addressed the broader political systems responsible for these projects, often framing political actors as criminally liable. One public consultation comment captured this sentiment:

'Let us hope that international directives can integrate, with retroactive effects, criminal liability for political decisions (without the knowledge of the populations and local authorities) that have allowed the implementation of projects (such as this one) that have demonstrably presented adverse effects on the environment and health' (Fernando, Consultation Response, Agência Portuguesa do Ambiente 2023).

Such statements illustrate how local critiques revealed connections between places and projects, linking Cercal with other projects in the region. The 'sacrifice zone' discourse became a strategic tool for exposing these industrial relations and, as these allegations of criminality unfolded, attention shifted from industrial practices to broader claims of private arrangements between political and economic actors. Beneath the rhetoric of economic growth and climate change mitigation, residents perceived that it was private interest that was dictating decisions. In interviews conducted in 2022, residents described these projects as externally imposed: 'somewhere in Europe, probably in Brussels, they told us that maybe we should do a hydrogen project in Sines to be tested in Europe' (Interview with Camila, July 2022). This sentiment gained traction following the 'Operation Influencer' scandal, which exposed questionable dealings in Sines and ultimately led to the resignations of the Prime Minister and the Secretary of State for Energy.

For JPC, this scandal validated suspicions of corruption. In the aftermath, they volunteered to be assistants in the legal process and called for the project's suspension, arguing that 'the energy produced by the Cercal photovoltaic plant and other megaprojects in neighbouring locations would fuel the industrial expansion of Sines, which lies at the center of these criminal implications' and that the same authorities who approved Sines' expansion also facilitated the opaque licensing of the Cercal project and others in the region. The local population, they affirmed, 'have the right to know whether the sacrifice that is being imposed is based on the practice of alleged crimes' (Diário de Notícias 2023, November 13). In the following months, JPC also began investigating entities like the European Investment Bank, which they believed were unwittingly part of the driving force behind the Cercal project (Green Savers 2024). In sum, these *revelations*, insofar as they are recognized as real by the broader public, can be understood as *tests* legitimizing the discourse that the region was being transformed into a 'sacrifice zone.'

These *unveiled* relations contributed to JPC's decision to expand its scope, using the concept of 'sacrifice zone' to unite critiques of industrial development across the broader region (Nobre 2023, May 21). Their efforts highlighted the cumulative impacts of the energy transition and the inadequacies of participation mechanisms. But they also composed new commonalities with those opposing other large-scale projects in the area, including mining, luxury tourism, and intensive agriculture, and aligned with broader social justice causes, such as the rights of economic immigrants and animal welfare advocacy (Serrano 2022, May 27). Together with these other movements, they organized a demonstration in Sines on October 5th, 2023, and a first national demonstration on the 25th April march commemorating the 50th anniversary of the Portuguese Revolution (Esquerda 2023, October 3; see Fig. 4).

The struggle gained further visibility with the support of international NGOs like Amnesty International, which published a report on mega solar projects in Portugal (Amnesty International Portugal 2023). These interventions demonstrate Juskus's (2023) point about how the notions of sacrifice and sacrifice zone operate as a 'boundary object,' connecting diverse actors to the issues at hand. However, the discourse is not always employed for the same purposes. For instance, recent research in Portugal has shown how those living in rural areas often represent their life choices as involving certain 'sacrifices,' such as the amenities that come from urban living (Batel et al. 2024). More pertinent to this case is the Minister of Environment and Climate Change's 2021 argument that 'there has to be a small sacrifice here on the part of each of us, because building the future with the instruments of the past... the human species will disappear from the planet' (República Portuguesa 2021). This statement highlights what is often implicit in



Fig. 4 View of the land where the project is to be developed (source: author, 2022)



**Fig. 5** 'Hands off the Alentejo Coast'—poster for the April 25th march in Lisbon; Alentejan activists, including from Cercal, demonstrating with activists from Barroso protesting lithium mining. Source: photo and image reproduced with consent of the activist group TAMLA

state discourse: that achieving its goals will require certain sacrifices from the public. In this case, however, the Minister pre-empts critique by including himself in this public, suggesting that sacrifices will be shared by all rather than imposed on specific groups (Fig. 5).

JPC, and others, countered justifications of re-industrialization by emphasizing the need for stronger institutions that recognized their dignity and knowledge, allowing them to shape their own futures. These residents—often fitting the profile of 'active' citizens (i.e. educated and available) envisioned by official energy policies—used their technical and place-based knowledge to mobilize the wider community and propose alternatives (see República Portuguesa 2019a).<sup>8</sup> While maintaining a position of opposition, they are also increasingly advocating for alternatives such as energy democracy, decentralization, and the development of solar parks in degraded areas, demonstrating their capacity to envision and articulate viable solutions.

<sup>8</sup> "Participation by consumers will also play a significant role, where they will be more active as consumers/producers of energy and as agents for changes in behavior which will have considerable impact. A more informed consumer represents better, more efficient and sustainable choices and a consumer at the center of decision-making is a more active consumer in the transition to a carbon neutral society, who is available to participate in the structural changes required to meet this challenge." (República Portuguesa 2019a, p. 14).

## Conclusion

Research on the social acceptance of renewable energy infrastructure has repeatedly shown that opposition tends to be caused by a lack of early community engagement or local benefits (Wüstenhagen et al. 2007). In addition, it has identified that oppositional arguments tend to emphasize the negative environmental, cultural and economic impacts of projects on a place (Batel 2020). In the context of the rapid acceleration and upscaling of solar energy deployment in rural Portugal, this case study has illustrated how these well-established arguments are increasingly being accompanied by more radical discourses, such as 'sacrifice zone.' Whereas recent research in Portugal has shown how those living in rural areas often represent their life choices as involving certain 'sacrifices' (Batel et al. 2024), in our case study, it was clear how sacrifices were represented as externally imposed and that the notion of *being sacrificed* was used, both by the local protest group and other residents, to understand and contest what was happening to them.

Furthermore, while much of the research on 'new social movements' emphasizes that they emerge in opposition to the encroachment of the state and the market into social life (Della Porta and Caiani 2007), our case study indicates that opposition to large-scale renewable energy infrastructure in rural areas may be generated also by a demand for a certain type of relationship between state and society (Salais 2023). The basis of this demand is the argument that the state is not even attempting to include rural communities in its vision of the future.

Drawing on the pragmatic sociology of critique and the political ecological deconstruction of the concept of 'sacrifice zone' (Andreucci and Zografos 2022; Juskus 2023),

we have shown how the latter has been increasingly used by affected communities to perform several discursive functions, such as reflexively mobilizing an abstract conception of the common good to critique others, expressing a collective feeling of powerlessness, revealing links between sites of extraction, and forming a new collective subject. One of the key contributions of this study then is its insight into how the concept of ‘sacrifice zone’ functions to co-produce new knowledge and how it is used to both explain and cope with change. From the perspective of pragmatic sociology, we can also say that it is used as a *critical strategy of self-vulnerabilization* to resist change, demand recognition, delegitimize the authority of the state, and construct new territorial movements.

In sum, focusing on how justifications and critiques were made in relation not only between self and other, but between self and the ‘generalized other’, which indicates a representation of the common good, leads us to the conclusion that the discourse of sacrifice zone not only facilitates a critique of projects on the basis of an alternative order of worth, but also questions the viability of the common good in the context of neoliberal energy transitions. From a pragmatic sociological perspective, this suggests that paying attention to discourse can reveal potential political cultural changes and cross-national divergences (Boltanski and Chiapello 2018; Lamont and Thevenot 2000). Indeed, our analysis of the ‘sacrifice zone’ discourse in Portugal already suggests divergences from its use in the USA, where there is a heightened emphasis on cultural impacts—especially on Indigenous peoples—which lead to activist re-signification of ‘sacrifice zones’ as ‘sacred’ places (Juskus 2023).

In line with the ‘third wave’ of social acceptance research, our case study shows how analysing the discourse of local residents in relation to the discourses and representations that were deployed by project proponents and critical discourse moments, such as the APA public information session or the resignation of the Prime Minister, reveals that responses to renewable energy projects are *situational* social constructions that are *contingent* upon social relations and events, rather than predictable on the basis of proximity to infrastructure or group membership. Moreover, it illustrates how the efforts of project proponents to engage the community after the fact only make matters worse if they do not address the original claims of injustice, for instance through direct and equitable dialogue rather than mediating systems such as the press and expert intermediaries.

Lastly, two main practical recommendations can be drawn from this case study. On the one hand, it is further evidence that opposition to renewable energy is taking new forms that require policymakers to take seriously the demands for recognition that are accompanying claims of procedural and distributive injustice. Residents in rural communities such as Cercal clearly feel that current legal and

governance frameworks are ill-equipped to recognize the specificity of their situation, based as it is on the enduring legacy of past injustices. On the other hand, the links forged by the local protest movement in Cercal with other regional causes under the concept of a ‘sacrifice zone’ offer a valuable lesson for those fighting environmental injustice. They underscore the importance of carefully considering symbolic resources in communicating their plight and highlight the potential for diverse local movements to build new forms of environmental solidarity.

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**Data availability** Raw data from the interviews described in this article are not publicly available in order to preserve individuals’ privacy in compliance with the ethical clearance for this research.

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