Anticipating lithium extraction in northern Portugal: A Sacrifice Zone in the making?

Leonie Alena Saleth[1]

Ingrid Varov

University of Copenhagen, Denmark

Stockholm Environment Institute Tallinn Centre, Estonia

Abstract

Despite increasing calls for the development of a circular economy, extractive industries are gaining renewed relevance in Europe. The European Commission's plan to expand domestic sourcing of lithium to scale up the production and use of electric vehicles has been met with social resistance from affected communities who mobilize to protect their livelihoods, and nature. The growing conflicts emerging around global battery supply chains highlight the importance of examining justice-related concerns around current decarbonization strategies. This article takes a political ecology approach that combines the concepts of place and anticipation to examine negotiations around a proposed lithium mine in the Barroso region in northern Portugal. Drawing on 27 qualitative semi-structured interviews and ethnographic research in August 2021, we explore how local residents engage in the politics of anticipation around the mine. The study has two main findings: (1) While local supporters hope to benefit from the project economically, opponents expect it to undermine agricultural traditions, counteract plans for expanding tourism services, and as known from mining areas in the past, drive displacement and rural injustices. (2) As opponents feel restricted in their ability to participate in decision-making around the project, they act upon the future through defensive resistance, connecting across multiple scales and drawing on place-based symbols to mark differences from dominant ideas on extractive development. The study suggests that local activists' experiences of being disregarded in their concerns and demands indicate that plans to expand resource extraction in the name of the green economy are giving rise to new sacrifice zones.

Keywords: Lithium mining, Ecological Distribution Conflicts, anticipation, place identity, Sacrifice Zones

Résumé

Malgré les appels de plus en plus nombreux en faveur du développement d'une économie circulaire, les industries extractives connaissent un regain d'intérêt en Europe. Le plan de la Commission Européenne visant à développer l'approvisionnement national en lithium pour augmenter la production et l'utilisation des véhicules électriques s'est heurté à la résistance sociale des communautés affectées par l'exploitation minière, qui se mobilisent pour protéger leurs moyens de subsistance et la nature. Les conflits croissants qui émergent autour des chaînes d'approvisionnement mondiales en batteries soulignent l'importance d'examiner les préoccupations liées à la justice dans le cadre des stratégies actuelles de décarbonisation. Cet article adopte une approche 'political ecology' qui combine les concepts de lieu et d'anticipation pour examiner les négociations autour d'une mine de lithium proposée dans la région de Barroso, dans le nord du Portugal. À partir de 27 entretiens qualitatifs semi-structurés et d'un travail ethnographique sur le terrain en août 2021, nous explorons la manière dont les résidents locaux s'engagent dans la politique d'anticipation autour de la mine. L'étude aboutit à deux conclusions principales : (1) Alors que les partisans locaux de la mine espèrent bénéficier du projet sur le plan

---

[1] Leonie Alena Saleth, PhD at the Department of Food and Resource Economics, University of Copenhagen, Denmark. Email: ls@ifro.ku.dk. Ingrid Varov, Junior Researcher, Stockholm Environment Institute Tallinn Center, Estonia. Email: ingrid.varov@sei.org. Acknowledgments: We would like to thank Inge-Merete Hougaard who offered valuable support and encouragement throughout the writing process. This project would not have been possible without the hospitality and openness of our research participants. We would like to express our sincere gratitude for your generosity and trust. Our thanks also go to Pedro Alves who provided great assistance in translating interviews. Lastly, we thank the anonymous reviewer and journal editor at *JPE* for their comments and suggestions.

économique, les opposants s'attendent à ce qu'il porte atteinte à la tradition agricole, affecte le tourisme et, comme on l'a vu dans les zones minières par le passé, provoque des déplacements et des injustices en milieu rural. (2) Comme les opposants se sentent limités dans leur capacité à participer à la prise de décision concernant le projet, ils pratiquent une résistance défensive, en se connectant à plusieurs échelles et en s'appuyant sur des symboles locaux pour marquer leurs différences par rapport aux idées dominantes sur le développement extractif. L'étude suggère que les expériences des activistes locaux, qui ont été ignorés dans leurs préoccupations et leurs demandes, indiquent que les plans d'expansion de l'extraction des ressources au nom de l'économie verte donnent lieu à de nouvelles "zones de sacrifice."

Mots-clés: Exploitation minière du lithium, conflits de répartition écologique, anticipation, identité du lieu, zones de sacrifice

Resumen

A pesar de las crecientes llamadas para el desarrollo de una economía circular, las industrias extractivas están ganando relevancia renovada en Europa. El plan de la Comisión Europea para ampliar el abastecimiento interno de litio para aumentar la producción y el uso de vehículos eléctricos se ha encontrado con resistencia social de las comunidades afectadas que se movilizan para proteger su modo de vida y la naturaleza. Los crecientes conflictos que surgen en torno a las cadenas de suministro global de baterías globales destacan la importancia de examinar las preocupaciones relacionadas con la justicia en torno a las estrategias actuales de descarbonización. Este artículo adopta un enfoque de ecología política que combina los conceptos de lugar y anticipación para examinar las negociaciones en torno a una propuesta de mina de litio en la región de Barroso en el norte de Portugal. Basándonos en 27 entrevistas cualitativas semi-estructuradas y en el trabajo de campo etnográfico en agosto de 2021, exploramos cómo los residentes locales participan en la política de anticipación en torno a la mina. El estudio identifica dos hallazgos principales: (1) Mientras que los defensores locales esperan obtener los beneficios económicos del proyecto, los oponentes temen que este socave las tradiciones agrícolas, contradiga los planes para expandir los servicios turísticos, genere dinámicas de desplazamiento conocidas de las zonas mineras del pasado y, por lo tanto, aumente las injusticias rurales. (2) Como los oponentes se sienten limitados en su capacidad para participar en la toma de decisiones en torno al proyecto, actúan sobre el futuro a través de la resistencia defensiva, conectándose a través de múltiples niveles y utilizando símbolos basados en el sentido del lugar para marcar diferencias con las ideas dominantes sobre el desarrollo extractivista. El estudio sugiere que las experiencias de los activistas locales de ser ignorados en sus preocupaciones y demandas indican que los planes para expandir la extracción de recursos en nombre de la economía verde están dando lugar a nuevas zonas sacrificadas.

Palabras clave: minería de litio, Conflictos de Distribución Ecológica, anticipación, identidad de lugar, Zonas de Sacrificio

Resumo

Apesar dos apelos crescentes para o desenvolvimento de uma economia circular, as indústrias extractivas estão a ganhar uma relevância renovada na Europa. O plano da Comissão Europeia de expandir o abastecimento doméstico de lítio para aumentar a produção e utilização de veículos eléctricos foi recebido com resistência social das comunidades afectadas que se mobilizam para proteger a sua subsistência e natureza. Os crescentes conflitos que emergem em torno das cadeias globais de abastecimento de baterias salientam a importância de examinar as preocupações relacionadas com a justiça em torno das actuais estratégias de descarbonização. Este artigo adopta uma abordagem ecológica política que combina os conceitos de lugar e antecipação para examinar negociações em torno de uma proposta de mina de lítio na região de Barroso, no norte de Portugal. Com base em 27 entrevistas qualitativas semi-estruturadas e trabalho de campo etnográfico em Agosto de 2021, exploramos a forma como os residentes locais se envolvem na política de antecipação em torno da mina. O estudo identifica duas conclusões principais: (1) Enquanto os apoiantes locais esperam beneficiar economicamente do projecto, os opositores esperam que este mine as tradições agrícolas, contrarie os planos de expansão dos serviços turísticos, impulsione dinâmicas de deslocação conhecidas das áreas mineiras no passado e, assim, aumente as injustiças rurais. (2) Como os oponentes se sentem restringidos na sua capacidade de participar na tomada de decisões em torno do projecto, agem no futuro através da resistência defensiva, ligando-se através de múltiplas escalas e recorrendo a símbolos baseados no local para marcar diferenças em relação às ideias dominantes sobre o desenvolvimento extractivo. O estudo sugere que as experiências dos activistas locais de serem ignorados nas suas preocupações e exigências indicam que os planos para expandir a extracção de recursos em nome da economia verde estão a dar origem a novas zonas de sacrifício.

Palavras-chave: Extracção de lítio, Distribuição Ecológica Conflitos, antecipação, identidade do local, Zonas de Sacrifício

1. Introduction

A red and white sign saying "Não às Minas, Sim à Vida" ("No to Mines, Yes to Life") catches the eye when driving down the winding roads to Covas do Barroso, a small village in northern Portugal, located a few hundred meters away from where the British company Savannah Resources is planning to set up the biggest lithium spodumene mine in Western Europe (Carballo-Cruz & Cerejeira, 2020). Passing green fields of corn, herds of cows, and farmers sitting in front of old stone houses, the traces of an ongoing conflict become increasingly visible when reaching the center of the village. A big protest banner is attached to the fence of a football pitch, depicting two images: a green, flourishing landscape on one side and a gray, polluted, and empty place on the other, signaling the protester's fearful anticipation of a future life in a mining area. Just opposite the fence, on the other side of the main square, Savannah Resources has opened an information center about the mine. Its entry sign saying, "Mina do Barroso" (mine of Barroso) has been taken apart: The letters of the region's name "Barroso" have been removed by protesters who want to prevent the region from being associated with the mining project.

What is happening in this village can only be understood within the broader context of a changing European policy framework that has emerged with new Ecological Distribution Conflicts (EDC) over natural resources. As part of the European Green Deal (EGD) launched in 2019, the European Commission (EC) (2020a) aims to scale up the use of electric vehicles (EVs) from 1.8 million to 30 million by 2030 and ensure that by 2050, nearly all cars will be "zero-emission." With these targets, the European Union (EU) is one of the key players promoting a mobility transition that is expected to trigger a skyrocketing demand for minerals required to produce batteries, especially lithium (Herrington, 2021). According to the European Environmental Bureau (Bolger *et al*., 2021), the demand for lithium is predicted to increase by almost 60 times by 2050. At the same time, only 1% of the current demand is recycled (Herrington, 2021). These plans are part of the numerous climate mitigation strategies set out in the EGD that are promoted through an "inclusive and just transition" paradigm towards a low-carbon economy where "no person and no place" is left behind (EC, n.d.).

The increasing global need for lithium has already led to the expansion of mining projects, mainly in the 'Lithium Triangle' between Chile, Bolivia, and Argentina, where indigenous groups protest to protect their lands and livelihoods (Ahmad, 2020; Giglio, 2021; Liu & Agusdinata, 2020). Given the growing evidence of community marginalization and environmental degradation in these places, researchers have raised concerns that the green economy might come with the creation of new sacrifice zones (Rivera Andía & Vindal Ødegaard, 2019; Scott & Smith, 2017; Sovacool *et al.*, 2021; Valenzuela-Fuentes *et al.*, 2021; Zografos & Robbins, 2020). While critical voices concerning the EU's material footprint are getting louder, the European Commission (2020b) launched an Action Plan on Critical Raw Materials in 2020 that aims to reduce dependency on third countries by insourcing raw material extraction. Explorations for lithium deposits have mushroomed across the continent in the past years, with Portugal having the most significant known reserves of 'white gold' (Chaves *et al.*, 2021). Like in other countries, the Portuguese government's plans of converting mountainous grass- and forestlands into open-pit mines have been met with protests from villagers and activists (*ibid*.).

While there are numerous studies on lithium mining in Latin America, little research has examined the emerging plans for extraction and resistance within Europe (Del Mármol & Vaccaro, 2020). Adding to this gap, this article explores **how local residents engage in the politics of anticipation around the mining project in Barroso that has been termed as 'green' by state and corporate actors.** Conceptualizing anticipation as a social practice (Bennike, 2020), we use it as an analytical entry point to examine how residents act upon the expected mining future and mobilize perceptions on place identity. By zooming into these interconnections between anticipation and place, we add to a growing research field that investigates the nexus between spatiality and temporality in negotiations around extractive projects (D'Angelo & Pijpers, 2018; Fent & Kojola, 2020; Luning, 2018). The analysis provided in this article is structured along two sub-questions: (1) How does the identity of place shape the way the future is anticipated by local residents in Barroso? (2) How do local actors mobilize their anticipatory capabilities to prevent or secure an imagined future? Based on our empirical insights, we argue that the energy and mobility policies mapped out in the EGD reinforce capitalist and extractivist

modes of production that come with environmental degradation, and reproduce rural injustices in the name of the green economy (Dunlap & Larette, 2022).

This article is divided into six sections. The following section presents the theoretical background of our study, attending to sacrifice zones in the green economy and the interconnection between the politics of anticipation and place around resource extraction, from a political ecology lens. The case study on the proposed lithium mine in Barroso is introduced in Section 3. A brief description of the methodology is given in Section 4. The penultimate section presents the analysis of our empirical data. The final section concludes.

2. Theoretical framework

The extraction of natural resources, specifically in Latin America and Africa, has been heavily studied in different disciplines, including political ecology, where the concept of Ecological Distribution Conflicts (EDC), coined by Martinez-Alier and O'Connor (1996), has become an essential tool to investigate the unequal distribution of environmental and ecological benefits and costs (Bebbington *et al.*, 2008; Castillo & Brereton, 2018; Conde & Le Billon, 2017; Pérez-Escobar *et al.*, 2018). In addition to analyses of global inequalities that generate EDCs, studies of the political ecology of the Global North have demonstrated the unequal distribution of environmental 'goods' and 'bads' within industrialized regions such as within the EU. Regions where human health, social life, land and water are polluted or destroyed in the name of something "bigger" – for instance, economic progress or military advantage – are being analyzed through the concept of 'sacrifice zones' (De Souza, 2021; Valenzuela-Fuentes *et al.*, 2021; Holifield & Day, 2017; Mkutu & Mdee, 2020; Quist, 2019). According to Reinert (2017), hegemonic actors employ sacrificial logics long before an extractive project is materially established. These logics are embedded in the communication, praxis and governance involved in the planning of a project. They are shaped by power hierarchies that give authority to some actors to define what can be sacrificed, and to what extent. By analyzing a projected copper mine in Norway as a sacrifice zone in the making, Reinert (2018) illustrates the multi-temporal, anticipatory character of sacrifice as a "form of hopeful destructive action" (p. 598). This includes the discourses, statistical calculations and material infrastructure imbued with sacrificial logics that are oriented towards an uncertain, promised future of prosperity. Emphasizing that "a sacrifice does not happen by accident" (p. 599), the author understands the concept as a "modality of destructive spatial violence" (*ibid*.) that challenges narratives of uninterrupted, frictionless transformations.

Investigating such patterns of spatial violence in the Global North, Dunlap (2020) uses the concept of infrastructural colonization to analyze the proliferation of energy infrastructure in a village in Southern France. The author shows how the ideology of progress under the guise of "green" development is enforcing techno-capitalist development that is enabled through state repression and "bureaucratic land grabbing" (*ibid*., p. 109). This form of spatial violence is further enabled through a discourse that regards rural places as "backwards" – a narrative that is found in several studies on sacrifice zones. Del Mármol and Vaccaro (2020) stress that state and corporate actors who promote the new wave of resource extraction in rural Europe reproduce imaginaries of development and modernity that associate rurality with depopulation and primitive economies in need of industrial progress. According to Kelly-Reif and Wing (2016), this rural-urban divide in the context of extractive industries is marked by environmental injustices that require further academic scrutiny. Rural environmental injustices emerge through "relationships in which populations benefit from practices that harm other populations" (*ibid*., p. 350).

In the context of lithium, an emerging paradigm of 'green mining' frames large-scale extraction as a vehicle for growth and as necessary for sustainable development (Bolger *et al.*, 2021). While the green mining narrative can be understood as a reflection of growing efforts for the creation of 'responsible' supply chains, Diemel and Hilhorst (2019, p. 453) argue that such solutions are often more about "giving buyers a clear conscience […] than addressing the root problems that first gave impetus to these initiatives." According to Deberdt and Le Billon (2021, p. 9) this particularly holds true for the green transition metals field, where responsible mining initiatives are criticized for their neglect of "on-the-ground impacts." In this vein, Zografos & Robbins (2020, p. 1) stress that increasing pressure on land occupied by marginalized communities in the name of the green economy signals the creation of "green sacrifice zones." In a context where the transition

towards a green economy is intended to be implemented in a just and inclusive way (European Commission, n.d.), concerns about the emergence of new sacrifice zones deserve further empirical investigations of conflicts around 'green' extraction projects. Rather than looking at sacrifice zones as existing phenomena, we look at the politics of anticipation around proposed mines through which the creation of such zones is enabled.

Temporal dynamics around extractive industries: the role of anticipation

Anticipation is a concept that appeared in a particular form in the 1980s, when the biologist Rosen (1985) introduced the notion of "anticipatory systems" to the natural sciences. Since then, it has been studied in various disciplines, including future studies, political science and anthropology; and has become a hot topic in current debates about global challenges such as climate change and pandemics (Beck & Mahony, 2018; Kendig & Bauchspies, 2021; Miller, 2018). Its active character distinguishes anticipation from other temporal mechanisms like adaptation or forecasts: "to anticipate is not simply to expect; it is to realize that something is about to happen and, importantly, to act on that premonition" (Weszkalnys, 2014, p. 212). Hence, to anticipate means being in a state of preparedness that invokes "anticipatory actions" to alter the course of the future (Granjou *et al.*, 2017, p. 9). Through anticipation, the future intersects with the present as a part of everyday life (Bennike, 2020) and as a site of political contestation.

Within political ecology analyses, calls for more thorough investigations of such temporal dynamics around natural resource conflicts are increasing (D'Angelo & Pijpers, 2018; Fent & Kojola, 2020; Luning, 2018; Nustad, 2020). A growing number of case studies illustrate the myriad ways that actors anticipate resource extraction impacts (Braun, 2020; Fent, 2020; Morosin, 2020; Weszkalnys, 2014). Groves argues that anticipation in this context encompasses both acts of representing the future, and material aspects, including infrastructures to "draw virtual futures into the present" (2017, p. 29). Based on a case study on negotiations around a gas pipeline in England, Groves stresses that the politics of anticipation are constituted by inequalities, as the capabilities to influence and control the future are unequally distributed. Hence, restricted abilities for local communities to participate in the 'making' of the future might indicate the temporal processes through which sacrifice zones are being produced.

Place identity and communities' engagement in anticipation

While state and corporate actors often engage in formalized anticipatory practices that rely on technical predictions of benefits and risks, Groves (2017, p. 35) argues that for local residents, "the future is dependent on place", namely their understanding and attachment to the area they live in. In recent years, a growing research field has started to link the spatial with the temporal dimensions around emerging mining sites (Boudewijn, 2020; D'Angelo & Pijpers, 2018; Luning, 2018). Our research contributes to this field and demonstrates how perceptions on place identity can provide a nuanced understanding of why and how residents living close to proposed mines engage in the politics of anticipation.

We follow an understanding of place commonly used in human geography and political ecology not as a fixed physical entity, but rather as the set of experiences and meanings connected to a geographical site (Duarte, 2017). Correspondingly, place identity describes the ways that people interpret it and distinguish it from other places – for instance by emphasizing the specificities of its nature, culture, or through lifestyles (Peng *et al.*, 2020). Perceptions on the identity of a place hence reflect the cultural meanings of a geographical site in relation to its physical environment (Chann, 2020; Chapin & Knapp, 2015; Pierce *et al.*, 2011).

An insightful example of the role of place identity in the context of extractive industries is Kojola's study on opposition and support towards proposed copper mines in rural Minnesota in the USA, in which he analyzes the affective dimensions of anticipation and illustrates how these intersect with local understandings of place (Kojola, 2020). His study demonstrates that places are deeply embedded in temporalities, namely individual or collective interpretations of the past and future, which the author analyzes as "place-based timescapes" (*ibid*., p. 911). Wheeler (2014) has a similar finding, showing how remnants of mining are embodied in the collective memories of residents and play an important role in the construction of place identity in a post-extraction site in Cumbria, UK. Both examples show the significant role of temporalities in the construction of place identity, which might in turn shape expectations towards proposed mines and the ways residents anticipate the future.

As demonstrated by Escobar (2001), place identity can be expressed and reinforced through social movements. If mining is perceived as a disruption or threat to a place, anticipatory action can become a form of defensive resistance that is motivated by the desire to "protect a place that is culturally and emotionally important" (Kojola, 2020, p. 907). Such contestations are enacted through various counter-strategies including campaigns, workshops, reports, or protests (Conde, 2017). While some grassroot mobilizations focus on preventing the proliferation of specific projects, research in the field of environmental justice has shown that many resistance movements question the underlying system of production and consumption itself, and call for radical socio-political transformations (Scheidel *et al.*, 2018). According to Groves (2017) alternative visions for the future promoted by anti-mining campaigners are often being constrained or excluded by dominant anticipatory technologies and narratives of economic growth and development. In this sense, both place-based and broader visions for the future of human-nature relationships can form a central dimension of the politics of anticipation. The way authority over the meaning of a place and its future is enacted through anticipation ultimately sheds light on the cultural component of EDCs (Escobar, 2006).

Exploring the politics of anticipation in northern Portugal: analytical approach

On an analytical level, we now examine how residents in Barroso engage in anticipation by distinguishing between *anticipated impacts*, namely the set of expectations and emotions towards the potential consequences of the mine, and *anticipatory actions*, which we define as the strategies employed to secure or contest the imagined future (Anderson, 2010; Granjou *et al.*, 2017). We analyze these actions against the backdrop of residents' *anticipatory capabilities*, namely their ability to participate in decision-making over the future of the place they inhabit (Groves, 2017). As our empirical data reveals, analyzing these dimensions of anticipation as interconnected with place identity can enhance our understanding of why opponents of the mine imagine the future so profoundly differently to the imaginaries of development and progress promoted by state and corporate actors. Before diving deeper into this analysis, the following case description provides a brief overview of the geographical, economic and political background of the struggles around the future of Barroso.

3. Case study: Plans for lithium extraction in Barroso

We explore the politics of anticipation around a proposed lithium mine in the Barroso region in northern Portugal, which covers two municipalities: Boticas and Montalegre. Barroso is a mountainous region with abundant biodiversity, including endangered species, and unique social, economic and cultural qualities (FAO, 2018). The region has an interrelationship established over the centuries between the communities and their territorial context and "a rural subsistence economy" with low levels of consumption (Campos, 2020, p. 54; FAO, 2018). In 2018, Barroso was added to the list of Globally Important Agricultural Heritage Systems (GIAHS) by the Food and Agriculture Organization of the United Nations (FAO, 2018). Despite the region's notable characteristics, the FAO report outlines that over the past decades, many people have left due to a scarcity of employment opportunities. As a result, there are fewer younger people, while incentives to invest in the region are limited (*ibid*.).

As the area has been identified as holding large reserves of lithium, national and international interest has been sparked over the resource that is gaining increasing market value. Among the many Portuguese regions where requests for extraction and exploration have been made (Figure 1), the reserves found in Barroso are considered particularly promising for exploitation and production due to their comparatively high concentration of lithium (Chaves *et al.*, 2021).

Our research focuses on the municipality of Boticas where the Mina do Barroso project is being promoted by the British mining company Savannah Resources. The proposed project is planned to take place for 12 years (a total of 16 years with the construction and deactivation phases) and to be conducted via four open-pits, using explosives (VISA Consultores, 2021). The focus of the project is the production of lithium spodumene concentrate, extracting 27 million tons of rock, including feldspar and quartz as by-products for the ceramic and glass industry (Fundação Montescola, 2021). The concession area crosses the parishes of Covas do Barroso and Dornelas, with a direct impact on the villages of Covas do Barroso, Dornelas, Muro and

Romainho (Figure 2). The nearest village to the planned mining area is located 200 meters from the site (VISA Consultores, 2021). The proposed mining site is 593 hectares and covers private and common lands (*ibid*.).

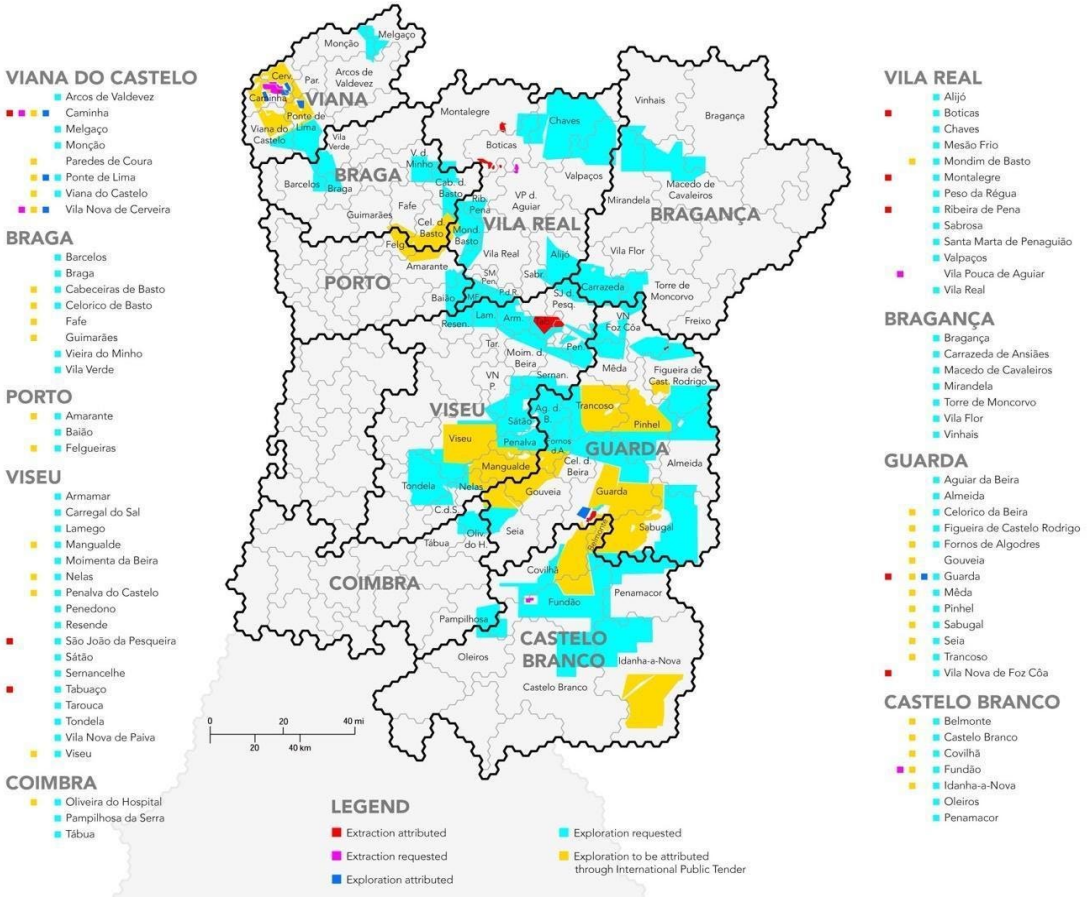

Figure 1: Areas in Northern and Central Portugal requested, attributed, and foreseen for lithium exploration or extraction between 2016 and 2021. Source: MiningWatch Portugal, 2021

While the private holdings are being negotiated with landowners, Article 57 in the Portuguese Decree-Law number 30/2021 made available by the Presidency of the Council of Ministers (2021) states that land can be expropriated if no agreements are made between landlords and the company. The Portuguese government decides upon the use of common lands (known as *baldios*) covering most of the Barroso region (FAO, n.d.). The government can revoke local residents' rights to manage common lands in the collective interest and grant them to mining companies if extraction is expected to serve the national interest (Assembly of the Republic, 2015). At the time of writing, the results of the public consultation process for the revised Environmental Impact Assessment (EIA) presented by Savannah Resources (2023) are being reviewed by the Portuguese Environment Agency (APA), after which the final decision over the mining license will be made.

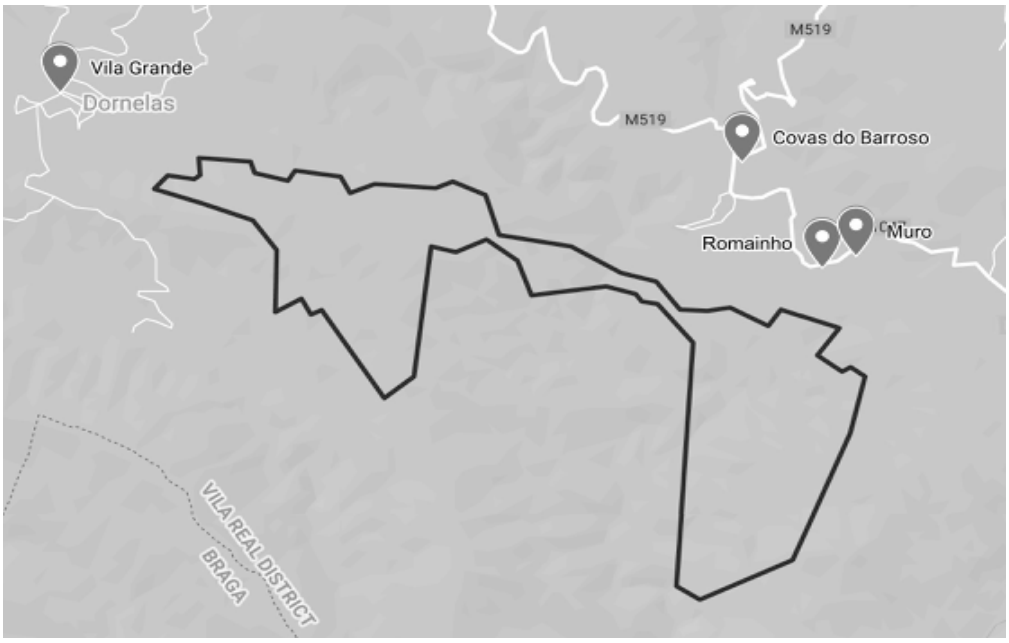

Figure 2: The Barroso mine concession boundary and villages surrounding it. Own elaboration based on Savannah Resources EIA 2021. Google Maps, 2021

The potential mine operates in a context in which lithium is considered essential for both the national and EU's economy, which was reaffirmed by both state and corporate actors at the Green Mining conference held in May 2021 in Lisbon. The company argues that the project will bring economic growth and improve "living conditions for millions of Europeans via reductions in harmful air pollution" (Savannah Resources, 2021a, p. 2). Regarding the Barroso region, Savannah Resources stressed that the project's "long-term economic, social and demographic benefits" will be "transformative for the region" (Ministry for the Environment and Climate Action, 2021). The most noteworthy promise is the creation of 215 direct and 500-600 indirect jobs in the region for the years to come (Savannah Resources, 2021a). The company argues that these jobs will attract young families to the area and incentivize the return of those who have left the Boticas region. Furthermore, the Mina do Barroso development plan is promoted through a "Green and Smart Mining" narrative which asserts "the elimination or mitigation of any adverse environmental and social impacts at all stages of the operation" (Savannah Resources, 2021b, p. 3).

Despite these promises, the mining plans have elicited resistance, including from representatives of the municipality of Boticas, local communities in the close-by villages and grassroot movements that initially emerged in response to other mining projects, for instance in Montalegre. The struggle over the future of Barroso in the context of the proposed mine is gaining increasing national and international media attention (Balch, 2020; Demony & Goncalves, 2021; Faget, 2021; Agência Lusa, 2021) and has advanced debates over the relationships between extractive industries, rural development and the inclusion of local populations in decision-making over natural resources.

4. Methodological approach

We draw on ethnographic research conducted in August 2021 in the two municipalities of Boticas and Montalegre, including participant observation, numerous informal conversations, iconographic observations of protest symbols, textual analysis and 27 semi-structured interviews. The textual analysis included documents issued by the mining company Savannah Resources, legal documents of the Portuguese government and policy-targeted documents drafted by protesters. These sources were used as background information and

complementary data to enrich our understanding of the role of legal frameworks, PR material and translocal alliances in the politics of anticipation. Interviewees were selected through snowball sampling and included opponents and proponents of the mine who either live in Barroso or support the anti-mining movement but reside in other areas of Portugal. First contacts with research participants were established via email after a meeting with a journalist who had shared the contacts of his informants. In the municipality of Boticas, most interviews were conducted with residents living closest to the proposed mining site, including the villages in the parish of Covas do Barroso and Dornelas. The interviews took on average 50 minutes and were conducted in English or Portuguese. An interpreter was present to translate questions and answers during interviews that could not be conducted in English. The interviews were audio recorded and along with our notes transcribed for coding. All sources are treated with confidentiality and research participants are kept anonymous. Participant observation entailed attending protest events, including a five-day protest camp in Covas do Barroso that brought together anti-mining activists across Europe.

5. Analysis: Place identity and the anticipation of the future in Barroso

The following empirical findings are structured around two questions: (1) How do perceptions of place identity shape the way local residents anticipate the impacts of the mine? And (2) How do residents mobilize their anticipatory capabilities to secure or contest the mining future?

Anticipated impacts and the role of place identity

Perceptions of place identity in Barroso are inextricably linked to the ways residents anticipate the future in the context of the proposed lithium mine. Residents of Barroso perceive its agricultural heritage and natural richness as key qualities that distinguish it as a 'rural' place from others in Portugal, especially cities along the coastline. Its accreditation as a GIAHS is understood as a quality stamp that reflects precious traditional knowledge and many years of hard work. Walking along small weirs and water channels built with stone by his ancestors, a local farmer from Romainho village proudly explained the traditional irrigation system that provides villagers with water: "the techniques we use are the same my father and grandfather used" (Interview 8). Many residents expressed the pride that resonated from his description. Most of them grew up in Barroso and were taught traditional farming techniques by their parents at an early age. Two products are of particular importance for the region: honey and beef. Both are perceived as having high or exceptional quality, hence a significant income source and a symbolic representation of the place. The custom of using common land for collective farming and animal grazing is seen as another key element of its agricultural traditions. According to a farmer from Romainho, the common land covered by the proposed mining area is, among others, used to grow pine trees which are sold to finance community projects.

In addition to its agricultural heritage, residents talk with pride about the region's biodiversity. Respondents expressed a strong connection and attachment to nature and stressed that this green 'richness' comes with a high quality of life, attracting tourists from the cities who come to recharge their batteries. Many highlighted that, especially during the COVID-19 pandemic, more people came to value the silence and wide space of rural areas. Hence, plans to expand rural tourism services in the future are increasing, as exemplified by a nature and biodiversity park close to Boticas that has just recently been renovated with subsidies from the municipality.

This rural way of living, marked by a strong connection to land and nature, was also described by several residents as a 'sustainable' way of living that differs from urban areas. A widely shared association that characterizes perceptions of the rural-urban distinction is the contrast between the preservation of natural resources and waste-intensive consumerism in cities. 'Sustainability' is understood in this context as the maintenance of healthy human-nature relationships that stands in stark contrast with the urban lifestyle: "Recycling or reusing is not a fashion for us. We have always done it. We don't live that crazy consumerist lifestyle" (Interview 1, farmer from Covas do Barroso). Despite these positive associations with rurality, Barroso is also seen by its residents as embedded in a broader Portuguese rural-urban disparity that is shaped by patterns of rural marginalization and inequality. A lack of state investments, development policies and job

opportunities has resulted in a widely held feeling of being left behind by the central government. The patterns of out-migration are perceived as a direct impact of the lack of state initiatives.

Given the scarcity of non-agricultural job opportunities, one might expect the promises for employment and "revitalization" made by Savannah Resources (2021b, p. 2) to be met with enthusiasm by local residents. According to the municipality's mayor, however, almost all residents living in the villages around the mining site oppose the project.[2] All our research participants, including proponents, confirmed that local voices supporting the mine are rare. On the one hand, a common expectation is that jobs will only be created for specialized experts from outside the region, who would commute and return to cities on the weekends. Perhaps more importantly, most farmers were unwilling to give up their lands and work in the mining industry instead. Opponents stressed the need for other, more sustainable opportunities for the region such as investments in rural tourism, better infrastructure, or agricultural subsidies. The potential new jobs are seen as a disruption to existing jobs, as the mine is expected to decrease soil and water quality, thereby undermining agricultural ways of living and traditions. A woman who lived her whole life in Romainho expressed a feeling of being robbed by the company and stated:

> If you take my lands, you take my life. The lands are my means of living. I feed my animals through my lands and I get my money through my lands, so if you take my lands, you take everything from me. (Interview 9)

According to Conde (2017, p. 685), such strong "place-based livelihood ties" to land increase the likelihood that communities resist mining projects compared to communities who do not rely heavily on land and natural resources and might hence emphasize economic benefits. In the interviews we conducted, expectations of economic benefits have been expressed by some residents in favor of the Mina do Barroso project, mainly business owners in Boticas, who hope that it will create jobs and trigger a multiplier effect that might increase the demand for local services and products. Expressing anticipatory hopes towards the future, a café owner from Boticas argued:

> Of course the water will be a little polluted and not as crystal clear as today, but we have to do it. Nature is beautiful, yes, but we cannot live by looking at nature. We need to create job opportunities." (Interview 7)

Like him, all supporters of the mine we interviewed argued that potential economic benefits would outweigh environmental impacts. While their descriptions and interpretations of the Barroso region often resembled those expressed by opponents, supporters emphasized the lack of economic opportunities as the most constitutive characteristic of the place and stressed insufficient income sources in their personal lives. These diverging expectations correspond to Conde's (2017) findings, who demonstrated that heterogeneous perceptions of mining can be explained by different individual realities and interpretations of place as well as people's location, as residents living further away from the proposed mining site might not be directly affected by environmental impacts.

In the municipality of Boticas, most farmers living close to the Barroso mining site contested the proponents' hopes for a multiplier effect and instead feared that their products would lose their image and value on the market. The mayor of the municipality shares these concerns: "We will still be Barroso, but the honey will be associated with dust, and the beef with lithium. It will affect our image" (Interview 6). Perceptions of Barroso's agricultural heritage and traditional preservation methods in relation to anticipated impacts illustrate how the construction of place identity is deeply embedded in timescapes (Kojola, 2020): Barroso is understood in the context of its history, with an evident sense of responsibility towards ancestors to carry on sustainable agricultural practices that have been established over past centuries. Life in Barroso was described in several

[2] In a newspaper article published on April 24, 2021 on *Euronews*, the mayor of Boticas municipality argued that 95% of the population are against the mine (Carter, 2021).

interviews through nostalgic memories that signal strong affective connections to the region, a finding that shows the emotional and cultural significance of place and has commonly been reported in the literature on 'place attachment' (Conde & Le Billon, 2017; Svobodova *et al.*, 2021).

When showing us his favorite place, a hidden waterfall close to Romainho, a farmer recalled how he used to spend warm summer days in his childhood swimming with his friends. Given his special and emotional connection to it, Savannah's plans have caused him anger and frustration: "They claim that it will be a 'green mine' but they will just destroy these beautiful waterfalls and nature" (Interview 8). By walking his sheep around the mountains every morning, the farmer has gained extensive knowledge of native plants and animals. Stressing that first drillings for lithium exploration have already caused the displacement of eagles who used to nest behind the waterfall, he shares the widely held expectation that the mine will contribute to further biodiversity loss, including the extinction of the endangered Iberian wolf. His concerns show how expectations towards the future can be informed by experiences of physical changes to a place in the present that indicate the 'mining future' (Bebbington & Humphreys Bebbington, 2018). This finding was evident in many interviews with opponents of the mine who experienced the first signals of the future, including the sounds of exploration or a change in streams.

For opponents, Savannah's plans not only clash with understandings of the place's heritage, but also with hopes and plans for its future. An employee of the Boticas nature and biodiversity park emphasized how the proposed mine has raised serious concerns about its future: "Our slogan is "Nature Is Close." How can you promote this place for its nature, if there will be so much pollution, so much water damage?" (Interview 25). In some cases, expectations and fears related to the mine have caused a condition of 'pausing life' in light of an uncertain future. The farmer from Romainho for instance was planning to use his vast knowledge of his natural surroundings by working as a tour guide before he learned about Savannah's project. Since the negotiations over the mine started, the 47 year old has put these plans on hold. In this sense, the mining plans disrupted preceding orientations towards the future that were deeply connected to daily practices and experiences (Groves, 2017). While anticipation is understood in the literature as an inherently *active* state, these findings show how expectations towards the future can also cause a state of inaction, where people await the future and pause their plans considering its uncertainty.

Beyond that, the proposed mine disrupted imagined futures for future generations, as stressed by the farmer: "I have a son and I don't see a great future for him if the mine gets set up." (Interview 8). Related to this, many research participants expect the mine to become another factor pushing out-migration, ultimately causing the villages to die out. This expectation is shared by the 24 year old park employee who stressed that the mining proposal has made her reconsider plans to settle down in Barroso. Her expectations were shared by several opponents who argued that even if the company's claims for increased in-migration held true for Boticas, potential impacts on the environment would outweigh these benefits.

Barroso's mining heritage: memories of short-term benefits and long-term destruction

On their project website, Savannah Resources (n.d.) describes Barroso as "an area with a long mining history." When asking residents about the Barroso region, its mining heritage was never referred to directly. However, experiences with mining were frequently mentioned in connection to expectations towards the Savannah mine, which is why we started to inquire more about these memories. In the nearby town of Borralha, a wolfram mine was closed in 1986, leaving the area with contaminated soil as well as in the surrounding ecosystems, posing health risks to the few residents who decided to stay (Ávila *et al.*, 2015). The 'Barroso Ecomuseum – Interpretive Center of Borralha Mines' gives insights into how the place looked while the mine was operating. According to testimonies, Borralha used to be a 'boom-town' in the region with many restaurants and cultural attractions.

Despite these memories of economic benefits, many anti-mining activists remember the hardship and suffering from arduous work: "Those mines brought death to the region. Lots of people were killed. Whenever the bell rang, that was the sign that another man died in the mine" (Interview 15, Morgade). Concerning more recent mines, the employee in the nature park in Boticas noted that she often heard the noise of explosions

during her time at school. Such alarming sounds associated with mining have been engraved into the memories of many residents in Barroso.

When we inquired about the mining heritage in Barroso from an anti-mining activist in Covas do Barroso, he emphasized how these memories shape the way he anticipates the future: "We are aware of our mining heritage and that is exactly why we are fighting against the mines" (Interview 27). This link between past experiences with mining and communities' expectations towards extractive futures has been invoked in several other studies, where memories are understood as an affective, temporal dimension of place which is mobilized towards political controversies (Kojola, 2020; Morosin, 2020). While many interviewees associated Barroso's mining heritage with destruction, the memories of improved living conditions expressed by a supporter illustrate how perceptions on place identity – specifically interpretations of its past – can differ tremendously based on individual timescapes (Kojola, 2020).

The most essential concern expressed by opponents of the Mina do Barroso mine stem from Borralha's condition since the mine has been closed. When mining wolfram was no longer economically viable, workers were left without jobs and future prospects. The ruins of the former mine range from an abandoned school to rusty infrastructure and tunnel entrances in the mountains. As a site of historical evidence, the Borralha ruins inform the widely held expectation that mines might bring short-term economic benefits but leave communities without prospects after closing down. While Savannah Resources claims that 'green mining' is inherently different from past technology and introduced "238 individual mitigation initiatives" (Savannah Resources, 2020a, p. 4) to reduce negative impacts during and after the operation, residents have already experienced grievances between the company's promises and reality. Not too far from the new exploration site in Barroso, a mine started operating in 2006 and was bought by Savannah in 2017, mainly supplying the Portuguese and Spanish ceramic industry with quartz and feldspar. A resident from Covas do Barroso expressed his disappointment in the company: "This mine did not create jobs and revitalize the region. But the claims were the same" (Interview 2). A woman living close to the active mine described how she experiences its impacts: "There used to be a pack of wolves living here, but because the mine was set up, they left. We also observed water pollution" (Interview 13). Similar findings have been presented in other studies that illustrated how unfulfilled corporate promises could cause mistrust and inform expectations towards mining impacts (Braun, 2020).

Feeling sacrificed in the name of 'green' cities

Taken together, few research participants expressed anticipatory hopes towards potential economic benefits. The majority, however, expect the mine to become an all-encompassing disruption that threatens not only income sources but life in Barroso, a fear that is also reflected in the protest slogan "Yes to Life, No to Mining." The project is expected to undermine the quality of life connected to the place, which depends on agricultural land and nature:

> We have to fight back against this destruction because lithium can or cannot be the new oil. But in the end, we have to protect nature, because it is the thing that distinguishes us. The mine will destroy everything we have achieved so far." (Interview 23, woman from Carvalhelhos)

This fear comes with feelings of injustice and being sacrificed for the benefit of others. Activists expect the mine to intensify injustices between urban and rural areas: "They are going to make people in the cities live better, but they are going to sacrifice us. That is not fair." (Interview 3, woman from Covas do Barroso). These perceptions on rural environmental injustice go beyond the specific context of Barroso, as the region is also perceived as part of a bigger picture where life in cities is seen as enabled through the exploitation of natural resources in the countryside. A recurrent pattern in interviews with mining opponents was the perception that lithium extraction is a way of environmental problem-shifting, a political strategy with the effect of 'greening' the cities while expanding polluting industries in the countryside. The perception that green cities are enabled through environmental destruction elsewhere was strongly connected to critical examinations of the green mining narrative (Voskoboynik & Andreucci, 2022), which, according to opponents, obscures destructive

impacts and patterns of exploitation: "The mines destroy the mountains to feed devices in the cities." (Interview 27, anti-mining activist from Sierra Da Estrela).

Many research participants further argued that richer city residents will benefit from electric vehicles, while access to those will be limited for residents in rural areas with lower incomes, a perceived socio-economic inequality that is amplified by the expected environmental costs for rural communities. This argument is part of a broader controversial academic and political discussion around access to 'green' mobility: on the one hand, it is expected that rural areas in particular will have to rely on the electrification of cars as the dependency on private vehicles is often higher and the expansion of public transportation more easily implemented in cities (Bobeth & Matthies, 2018; Soder & Peer, 2018). On the other hand, studies have shown that there are already major rural-urban differences in the uptake of electric cars, partly explained by poor charging infrastructure in rural places (Wappelhorst, 2021). While Portugal is one of the European countries with the lowest rural-urban divide in electric car uptake, the registration of EVs was still twice as high in urban areas than rural places in 2019 (*ibid*.).

This divide is certainly part of the different layers of inequality that may increase with the green transition. However, most of our research participants' concerns center around rural environmental injustices, namely the expected burden of extraction that is perceived as involuntarily placed on rural communities. Activists further expressed perceptions on broader dynamics of exploitation, where Portugal is seen as "the new Africa of the EU" (Interview 15, anti-mining activists from Morgade), indicating that 'insourcing' extraction will come with similar patterns of rural marginalization as the ones known from many African countries.

Mobilizing anticipatory capabilities towards an uncertain future

State, corporate, and local actors engage in the politics of anticipation around the proposed mine, and they realize or contest the project by adopting different anticipatory actions. Similar to several cases reported in the literature (Braun, 2020; Fent, 2020; Groves, 2017), the Portuguese state and the mining company rely on technical calculations and predictions that involve estimates of future demand and economic growth as well as assessments of potential environmental risks. As required under the legal framework for mining in Portugal, Savannah Resources conducted an Environmental Impact Assessment (EIA) which was delivered to the Portuguese Environment Agency (APA) in June 2020. In the submission of the EIA, the CEO of Savannah Resources (2020b) concluded that the environmental study was a proof of potential impacts based on fact, adding that the project can be done with minimal consequences for the environment and residents. In addition, the company has developed a comprehensive PR strategy around the project and presented its mitigation strategies at political events. While these formalized and discursive ways of anticipation provide a crucial context, the following parts of this analysis focus on local attempts to engage in the 'making' of the future in Barroso.

Some residents who are convinced that the mine will bring economic benefits to the region have employed anticipatory actions by integrating the potential mine into their future livelihood strategies. A farmer who has suffered from a drop in market prices, for instance, decided to invest by taking out a loan to supply Savannah Resources with machinery for exploration. Other community members have established first business relationships or taken up 'mediation' jobs offered by Savannah to improve the relationship between the company and residents. In this sense, some supporters of the mine mobilize their social relations within the communities as an anticipatory capability to secure the imagined future. The most evident form of local engagement in anticipation that we found were actually strategies to contest the future that is predicted and promoted by state and corporate actors.

The first resistance movement against the project was initiated after residents realized that they had not been consulted about the exploration activities by the mining company. As a result, concerned farmers in the parish of Covas do Barroso formed the Association United for the Defense of Covas do Barroso (UDCB) in 2018, an organization that gathers and shares information around the planned mine and organizes protest events. Since its creation, the organization has been using a combination of tactics and non-violent strategies in and outside of the Barroso region to fight for territorial sovereignty. As part of these strategies, residents engaged in their formal scope to participate in decisions over the future through a public consultation

mechanism in which concerns around the EIA were raised by community members and reviewed by APA. Opponents have expressed their worries about the validity of Savannah's study and commissioned an alternative report from a geophysics specialist to review the submitted EIA documents. The specialist flagged multiple shortcomings as well as "unjustified assumptions" about environmental impacts and came to a view that without further examination, the project proposal ought to be rejected (Emerman, 2021, p. 31). In addition to this, various Portuguese environmental organizations such as ZERO and GEOTA have supported the local movement by taking a cautious stance on the study, arguing that the project will bring negative and irreversible consequences for Barroso's future (GEOTA, 2021; ZERO, 2021). By providing alternative predictions of mining impacts, the movements and their allies contest Savannah Resources' claims to 'know' the future through their calculations. Similar findings have been presented in studies on mining conflicts elsewhere, showing how such technical estimates of the future are "imbued with power and politics" (Fent & Kojola, 2020, p. 820) and have become sites of contestation (Fent, 2020).

Expressions of place identity in defensive resistance movements

Beyond these formalized forms of engagement in anticipation, the anti-mining movement has deployed other strategies, including street protest, writing complaint letters to policymakers and the development of manifestos against lithium mining to contest the project. The theoretical assumption that place identity can "materialise […] as a component of resistance" (Larsen, 2004, p. 947) is evident in the Barroso movement as opponents echo their inner and physical attachment to the place in various ways to foster the ability of communities to define its future. Activists frequently use agricultural signs at protest events, such as tractors and hoes, a tool that is usually carried on the wearer's shoulder, or the metal blade is scraped along the ground to create noise.

Activists use slogans to convey concrete and tangible messages which indicate what ought to be protected. The use of catchphrases such as "Green is Barroso"; "Covas do Barroso World Agricultural Heritage Says No to the Mine"; "Water Yes, Mines No" at demonstrations illustrate local values connected to the place and its heritage. Another dimension of the politics of place (Escobar, 2001) in Barroso is the activists' use of music and traditional instruments at protest events. A song called "Exploration" by Carlos Libo has become a regional anthem of resistance to mining activities in Barroso, where the feeling of being exploited in the name of the capital is expressed: "Barroso, Barroso, Barroso, the people must listen, they want to wipe out the sierras (mountains), Barroso, we can't allow it. Your land is plentiful […] You can't buy it with money" (Pjrcarneiro, 2021). The joint singing has developed a sentimental and symbolic value for local opponents and is therefore almost always performed when a protest action takes place. These various forms of referencing the identity of place through anticipatory actions demonstrate how opponents of the mine mobilize their understandings of the Barroso region as a strategy to contest the expected mining future that collides with their place-based values such as the conservation of its nature. Engaging in the politics of place appears as a necessary channel to participate in anticipation, as 'formal' platforms for anticipation do not provide sufficient possibilities to demand a different future.

The localized threat of rural places being transformed into industrial zones in the name of 'green mining' has also triggered outbursts of indignation in other areas in Portugal, leading to the emergence of anti-mining initiatives across the country. Research on resistance to mining has demonstrated how the creation of networks with translocal actors enables communities to share information and increase their resources for action (Conde, 2017). Such coalitions can emerge at early stages of mining projects (Walter & Urkidi, 2017) and allow actors to "jump scale" (Conde & Le Billon, 2017, p. 688) by contextualizing place-based demands in the global political economy, thereby raising awareness on the exploitation of affected communities along resource commodity chains. In Barroso, local activists engage in such networks with various organizations and actors in- and outside of the Barroso region in defense of rural livelihood and resources. The movement works alongside organizations in the neighboring municipality of Montalegre as well as protest movements from areas like Serra d'Arga, Serra d'Estrella and Spain's north-western Galicia region which are standing in solidarity against large-scale industrial projects. A local activist from Covas do Barroso stated that "the reason why there are so many different organizations and people protesting is because they have realized that 'green mining' doesn't really exist" (Interview 1).

The different movements have been collaborating through the exchange of visits, information and joint events as well as the development of policy-targeted documents, including a statement against the EU raw material initiative, signed by 180 academics and civil society organizations from all over the world (Yes to Life No to Mining European Working Group, n.d.). In addition, the movement in Barroso has received support from members of the Zapatista Movement that is rooted in indigenous communities fighting unequal power relations in Mexico, including the impacts of the mining industry (Orr-Álvarez, 2017). Within these different networks, local activists exchange ideas on alternatives to extractive development, including discussions on degrowth, community empowerment, land sovereignty, and well-being. The various connections to other movements form a crucial part of local peoples' engagement in the politics of localization in Barroso, which they perceive to be embedded in a bigger political development.

These networks also have important implications on the dynamics of place identity around the proposed mine: while local meanings and values are frequently highlighted in the struggle against the plans of Savannah Resources, the meaning of the Barroso region is also 'shifting scale' through these translocal networks, a dynamic observed in other research contexts which has been termed by Paredes (2016, p. 1) as the "localization of mining conflicts." While local communities have stressed their feeling of being sacrificed for the national government's plans, these findings illustrate perceptions of Barroso being part of a sacrifice zone that goes beyond geographical borders but is constituted by a shared experience of having to give up rural livelihoods in the name of the green transition.

Generally, members of the movement stressed insufficient consultation with local communities in the decision-making around the project, arguing that people who inhabit the territory should have the right to decide upon its future. Many opponents stated their inability to shape their futures in a meaningful way. According to research participants, imbalances in anticipatory capabilities resonate from a lacking legal right to stop extractive projects and the national legal framework which sets expectations on economic growth and development benefits on a higher pedestal than concerns of communities residing in areas that hold resources of national interest.

Presently, the ability of local communities to make demands about the place they inhabit is circumscribed by the existing national mining law (Degree-Law no. 54/2015 of 22nd July) which in 2021, was complemented with a new Degree-Law (no. 30/2021 of 7th May). As one of the three structuring axes, the new Degree-Law postulates "the reinforcement of the availability of information and public participation […], ensuring greater transparency in administrative procedures" (Ministry for the Environment and Climate Action, 2021, p. 5). Article 6 (*ibid*., p. 8) further states that "the right to participate […] comprises the right to access the information available and the possibility of formulating suggestions […]."

While this new law emphasizes public participation and the legal right of everyone to access information, opponents of the mine argued that state institutions in the case of Mina do Barroso have repeatedly failed to guarantee these rights. In solidarity with the local movement in Barroso, the Spanish NGO Montescola Foundation filed a complaint against APA to the Aarhus Compliance Committee, arguing that Portuguese authorities have deliberately undermined these rights by preventing access to critical environmental information on time and withholding crucial information even weeks into the 30-day public consultation process (Fundação Montescola, 2021). Despite the state's commitment to the Aarhus Convention which stipulates access to public participation and environmental information (Fundação Montescola, 2021), research participants argued that it does not hold much value for the actual project implementation. While access to information constitutes a pre-condition to engage in the politics of anticipation, local communities felt deprived of their right to be informed and consulted from the early stages.

Despite Savannah Resources' (2021b, pp. 3,4) promise to work "collaboratively with local authorities and populations", opponents of the project stressed that they continuously felt disregarded by the company, as only one meeting with the communities was held that, according to participants, did not provide room for questions or discussions. Many stressed that they had learned about the project and gained information merely through media reports. A lack of information and possibilities for participation was also stressed by the Boticas municipality, which is planning to mobilize its legal abilities against the mine in case the EIA gets approved. As of May 2023, Savannah Resources is still awaiting APA's response to its newly formulated EIA that the company re-submitted in March 2023, after APA asked for a revision of the report (Savannah Resources, 2023).

Beyond that, the complaint filed to the Aarhus committee also contests the neutrality of the Green Mining Conference, which hosted representatives of Portuguese and international entities, the European Commission, and associations of relevance in the mining sector, including the CEO of Savannah Resources, but excluded representatives or concerns raised by local communities affected by the projects. Anti-mining activists from different Portuguese regions protested in front of the building and stressed feeling stripped of their ability to participate in discussions over their future. Such discussions behind closed doors caused feelings of mistrust and anger towards the state and company, as emphasized by an activist from Covas do Barroso who argued that the conference's format equaled a strategy of "calling the foxes, talking about how to protect the chickens" (Interview 3). The official complaint and the experienced emotions expressed by the protesters show that, in addition to being limited in formal capabilities to be part of the decision-making processes, the informants voiced their feelings of being deliberately neglected from the negotiations on matters that directly affect their ways of life. Beyond that, protesters feel discouraged in making their visions and ideas heard on alternatives to extractive development.

6. Discussion and conclusion

In a time where effective solutions to tackle the impacts of climate change are urgently needed, lithium extraction is understood by many as a pivotal opportunity to produce vehicle batteries and enable the phase-out of fossil fuel vehicles. In this line, European policymakers have promoted a new era of 'green mining', where both the use of end products and technologies for extraction are deemed sustainable. Given the European Commission's pledge (n.d.) to enable a just transition that commits to leaving no one behind on the way toward a green economy, the expectations and fears of Europeans directly affected by new extractive projects are of significant importance. To make an empirical contribution in this context, this article explored how residents perceive and act upon the future in the Portuguese region Barroso, where the biggest known lithium project in Western Europe has been proposed by the British company Savannah Resources.

The results reveal that most villagers living close to the mining site oppose the project and perceive it as a threat to agricultural livelihoods and their plans for expanding rural tourism in the future. Local anti-mining activists engage in the politics of anticipation on different levels, for instance by conducting alternative technical predictions of potential impacts to those put forward by Savannah Resources. Beyond these 'formal' forms of anticipation, the activists' feeling of being restricted in their ability to participate in decision-making has encouraged the formation of defensive resistance movements that mobilize through translocal networks and that reference place-based symbols to echo local meanings and values, reflecting contrasting understandings of sustainability and development to those promoted by state and corporate actors.

Even though village residents are likely going to bear the environmental burdens of the mine, local communities are not granted the Right to Say No to extraction, nor do they feel enabled to exert their demands on a national or EU level for a different development of the place they inhabit. Activists have expressed a feeling of being turned into sacrificial lambs of the government's plan to tap into its lithium resources and supply the European economy with the resource.

Based on these findings, we argue that the politics of anticipation around the Savannah mine illustrates a green sacrifice zone in the making, that seems reminiscent of the numerous studies on EDCs in other places like the Lithium Triangle in Latin America.

Considering the current expansion of mining explorations across Europe, our findings have important implications for EU climate and raw material policies. Following Sovacool *et al.* (2021) and Zografos & Robbins (2020), efforts to restructure our economies in a just and inclusive way should not only consider those who might lose jobs in light of fossil-fuel phase outs, but also those who are exposed to new environmental harms for instance along battery supply chains. In this vein, the limited ability of communities in Barroso to decide the course of their futures illustrates a key pitfall of the European Green Deal's claims for a just and inclusive transition towards a green economy. The presented case study stands as an example of a new era of domestic European resource extraction that is marked by dynamics of exclusion. Irrespective of the question of whether it will be economically viable to commodify Portugal's lithium resources, the case shows how current mining plans reproduce patterns of marginalization by letting rural communities bear the costs for the

dissemination of new technologies like lithium batteries, which are promoted as the ultimate answer to tackling climate change. Rather than representing a deep transformation of the EU's mobility sector – one that is urgently needed – the plan to shift towards a quick and ruthless proliferation of EVs until 2030 constitutes a continuation of an exploitative, capitalist system of production. If the EGD aims for both climate change mitigation and a fair and inclusive transition, policies must reduce rather than deepen existing inequalities and injustices, including those between cities and rural communities.

In contrast to the growth-focused solutions promoted in the EGD, local resistance in Barroso has been strengthened by translocal solidarity and networks that bring together ideas of degrowth, community empowerment and land sovereignty, and can be interpreted as a counter-hegemonic movement to the renewed European plans for large-scale resource extraction. Whether or not such ideas will be taken seriously in the design of EU and national policies is a question of whether a new era of a green *and* just restructuring of the EU's economy will be heralded in the near future. Given the high relevance ascribed to EVs as a climate mitigation tool, we encourage further academic examinations and discussions around equity and fairness along EV battery supply chains, including more research on the impacts of extraction within the EU and in other regions. Comparative studies between different resources, regulations and locations in this field could enrich our understanding of the green transition's local implications and vulnerabilities occurring around current decarbonization strategies. Such comparisons could further shed light on similarities and differences between how communities support or resist extractive industries and render alternative visions of development.

References

Agência Lusa. (2021, August 3). Protesto contra as minas no Barroso com tratores, caminhadas e "acampada." *Observador*. https://observador.pt/2021/08/03/protesto-contra-as-minas-no-barroso-com-tratores-caminhadas-e-acampada/

Ahmad, S. (2020). The Lithium Triangle: Where Chile, Argentina and Bolivia meet. *Harvard International Review, 41*(1), 51-53.

Anderson, B. (2010). Preemption, precaution, preparedness: anticipatory action and future geographies. *Progress in Human Geography, 34*(6), 777-798. https://doi.org/10.1177/0309132510362600

Assembly of the Republic. (2015, June 22). *Act No. 54/2015 of June 22*. Republic Diary No. 54/2015, Series 1 of 2015-06-22. https://dre.pt/dre/detalhe/lei/54-2015-67552498

Ávila, P. F., Vieira, S., Candeias, C., & Ferreira da Silva, E. (2015). Assessing heavy metal/metalloids pollution in soils after eight decades of intense mining exploration – the case study of Borralha mine, Portugal. *Comunicações Geológicas, 102*, 57-61. https://www.lneg.pt/wp-content/uploads/2020/03/9-Avila-et-al_Metais-pesados-solos-Borralha_v2_rede_SM.pdf

Balch, O. (2020, December 8). The curse of 'white oil': electric vehicles' dirty secret. *The Guardian*. https://www.theguardian.com/news/2020/dec/08/the-curse-of-white-oil-electric-vehicles-dirty-secret-lithium

Bebbington, A. J. & Humphreys Bebbington, D. (2018). Mining, movements and sustainable development: Concepts for a framework. *Sustainable Development, 26*(5), 441-449. https://doi.org/10.1002/sd.1888

Bebbington, A. J., Humphreys Bebbington, D., Bury, J., Lingan, J., Muñoz, J. P., & Scurrah, M. (2008). Mining and social movements: Struggles over livelihood and rural territorial development in the Andes. *World Development, 36*(12), 2888-2905. https://doi.org/10.1016/j.worlddev.2007.11.016

Beck, S., & Mahony, M. (2018). The politics of anticipation: The IPCC and the negative emissions technologies experience. *Global Sustainability, 1*. https://doi.org/10.1017/sus.2018.7

Bennike, R. B. (2020). Himalayan futures: Tourism and the anticipation of development. *Canadian Journal of Development Studies/Revue canadienne d'études du développement, 41*(1), 110-126. https://doi.org/10.1080/02255189.2020.1700786

Bobeth, S., & Matthies, E. (2018). New opportunities for electric car adoption: The case of range myths, new forms of subsidies, and social norms. *Energy Efficiency, 11*(7), 1763-1782. https://doi.org/10.1007/s12053-017-9586-4

Bolger, M., Marin, D., Tofighi-Niaki, A., & Seelmann, L. (2021). *'Green mining' is a myth: the case for cutting EU resource consumption*. European Environmental Bureau. https://eeb.org/library/green-mining-is-a-myth/

Boudewijn, I. (2020). Negotiating belonging and place: An exploration of mestiza women's everyday resistance in Cajamarca, Peru. *Human Geography, 13*(1), 40-48. https://doi.org/10.1177/1942778620910897

Braun, Y. (2020). Lesotho's white gold: The political ecology of temporality and the economy of anticipation in resource extraction and large dam infrastructural projects. *Journal of Political Ecology, 27*(1), 853-876. https://doi.org/10.2458/v27i1.23250

Campos, J. C. C. d. (2020). Valores contemporâneos do património: A paisagem cultural das Terras do Barroso. *Cadernos de Geografia,* (42), 43-57. https://doi.org/10.14195/0871-1623_42_3

Carballo-Cruz, F., & Cerejeira, J. (2020). *The Mina do Barroso Project - economic and development impacts*. University of Minho. https://www.savannahresources.com/cms/wp-content/uploads/2020/08/The-Mina-do-Barroso-Project-Economic-Development-Impacts_UniversityofMinho_English_Final.pdf

Carter, B. (2021, April 24). *A Portuguese village pays the high price of low-carbon energy*. *Euronews*. https://www.euronews.com/my-europe/2021/04/23/portuguese-village-suffers-the-high-cost-of-low-carbon-energy

Castillo, G., & Brereton, D. (2018). Large-scale mining, spatial mobility, place-making and development in the Peruvian Andes. *Sustainable Development, 26*(5), 461-470. http://dx.doi.org/10.1002/sd.1891

Chann, S. (2020). Making place and creating frontiers: Examining land and resource struggles in Cambodian post-conflict resource landscapes. *The Geographical Journal, 186*(3), 262-275. https://doi.org/10.1111/geoj.12340

Chapin, F. S., & Knapp, C. N. (2015). Sense of place: A process for identifying and negotiating potentially contested visions of sustainability. *Environmental Science & Policy, 53*, 38-46. https://doi.org/10.1016/j.envsci.2015.04.012

Chaves, C., Pereira, E., Ferreira, P., & Dias, A. G. (2021). Concerns about lithium extraction: A review and application for Portugal. *The Extractive Industries and Society*, *8*(3), 100928. https://doi.org/10.1016/j.exis.2021.100928

Conde, M. (2017). Resistance to mining. A review. *Ecological Economics, 132*, 80-90. https://doi.org/10.1016/j.ecolecon.2016.08.025

Conde, M., & Le Billon, P. (2017). Why do some communities resist mining projects while others do not? *The Extractive Industries and Society, 4*(3), 681-697. https://doi.org/10.1016/j.exis.2017.04.009

D'Angelo, L., & Pijpers, R. J. (2018). Mining temporalities: an overview. *The Extractive Industries and Society, 5*(2), 215-222. https://doi.org/10.1016/j.exis.2018.02.005

De Souza, M. L. (2021). 'Sacrifice zone': The environment–territory–place of disposable lives. *Community Development Journal, 56*(2), 220-243. https://doi.org/10.1093/cdj/bsaa042

Deberdt, R., & Le Billon, P. (2021). Conflict minerals and battery materials supply chains: A mapping review of responsible sourcing initiatives. *The Extractive Industries and Society, 8*(4), 100935. https://doi.org/10.1016/j.exis.2021.100935

Del Mármol, C., & Vaccaro, I. (2020). New extractivism in European rural areas: How twentieth first century mining returned to disturb the rural transition. *Geoforum, 116*, 42-49. https://dx.doi.org/10.1016%2Fj.geoforum.2020.07.012

Demony, C., & Goncalves, S. (2021, May 5). No longer dirty? EU leaders want to challenge perceptions of lithium mining. *Euronews*. https://www.euronews.com/2021/05/05/uk-portugal-environment-mining

Diemel, J. A., & Hilhorst, D. J. (2019). Unintended consequences or ambivalent policy objectives? Conflict minerals and mining reform in the Democratic Republic of Congo. *Development Policy Review, 37*(4), 453-469. https://doi.org/10.1111/dpr.12372

Duarte, F. (2017). *Space, place and territory: A critical review on spatialities*. Routledge.

Dunlap, A., & Laratte, L. (2022). European Green Deal necropolitics: Exploring 'green' energy transition, degrowth & infrastructural colonization. *Political Geography*, 97, 1–17. https://doi.org/10.1016/j.polgeo.2022.102640

Dunlap, A. (2020). Bureaucratic land grabbing for infrastructural colonization: Renewable energy, L'Amassada, and resistance in southern France. *Human Geography*, *13*(2), 109–126. https://doi.org/10.1177/1942778620918041

Emerman, S. H. (2021). *Evaluation of the tailings storage facility for the proposed Savannah Lithium Barroso Mine, Northern Portugal*. United Nations Economic Commission for Europe. https://unece.org/sites/default/files/2021-10/frCommC186_15.10.2021_annex1.pdf

Escobar, A. (2006). Difference and conflict in the struggle over natural resources: a political ecology framework. *Development, 49*, 6–13. https://doi.org/10.1057/palgrave.development.1100267

Escobar, A. (2001). Culture sits in places: reflections on globalism and subaltern strategies of localization. *Political Geography, 20*(2), 139-174. https://doi.org/10.1016/S0962-6298(00)00064-0

European Commission. (2020a, December 9). *A fundamental transport transformation: Commission presents its plan for green, smart and affordable mobility* [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2329

European Commission. (2020b, September 3). *Commission announces actions to make Europe's raw materials supply more secure and sustainable* [Press release]. https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1542

European Commission. (n.d.). *A European Green Deal.* European Commission. Retrieved July 21, 2021, from https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

Faget, J. (2021, September 8). Portugal: war over lithium behind the mountains. *Deutsche Welle*. https://www.dw.com/en/portugal-war-over-lithium-behind-the-mountains/a-59064217

Fent, A. (2020). The anticipatory politics of dispossession in a Senegalese mining negotiation. *Journal of Political Ecology, 27*(1), 877-897. https://doi.org/10.2458/v27i1.23221

Fent, A., & Kojola, E. (2020). Political ecologies of time and temporality in resource extraction. *Journal of Political Ecology, 27*(1), 819-829. https://doi.org/10.2458/v27i1.23252

Food and Agriculture Organization of the United Nations (FAO). (2018). *System of Agriculture, Forestry and Grazing in Barroso*. Development Association of the Alto Tâmega Region (ADRAT). https://adrat.pt/wp-content/uploads/2019/11/Barroso-Agro-Sylvo-Pastoral-System.pdf

Food and Agriculture Organization of the United Nations (FAO). (n.d.). *Barroso agro-sylvo-pastoral system, Portugal: Detailed Information*. FAO. Retrieved October 10, 2021

Fundação Montescola. (2021). *Communication to the Aarhus Convention Compliance Committee*. United Nations Economic Commission for Europe. https://unece.org/sites/default/files/2021-05/Communication_Montescula_Portugal_02-05-2021.pdf

GEOTA. (2021, July 6). *GEOTA chumba Projeto de Ampliação da Mina do Barroso e deixa 5 alertas*. GEOTA. https://www.geota.pt/blogs/geota-chumba-projeto-de-ampliacao-da-mina-do-barroso-e-deixa-5-alertas

Giglio, E. (2021). Extractivism and its socio-environmental impact in South America. Overview of the "lithium triangle." *América Crítica, 5*(1), 47-53. https://doi.org/10.13125/americacritica/4926

Granjou, C., Walker, J., & Salazar, J. F. (2017). The politics of anticipation: On knowing and governing environmental futures. *Futures, 92*, 5-11. https://doi.org/10.1016/j.futures.2017.05.007

Groves, C. (2017). Emptying the future: On the environmental politics of anticipation. *Futures, 92*, 29-38. https://doi.org/10.1016/j.futures.2016.06.003

Herrington, R. (2021). Mining our green future. *Nature Reviews Materials, 6*(6), 456-458. https://doi.org/10.1038/s41578-021-00325-9

Holifield, R., & Day, M. (2017). A framework for a critical physical geography of 'sacrifice zones': Physical landscapes and discursive spaces of frac sand mining in western Wisconsin. *Geoforum, 85*, 269-279. https://doi.org/10.1016/j.geoforum.2017.08.004

Kelly-Reif, K., & Wing, S. (2016). Urban-rural exploitation: An underappreciated dimension of environmental injustice. *Journal of Rural Studies*, *47*, 350-358. https://doi.org/10.1016/j.jrurstud.2016.03.010

Kendig, C., & Bauchspies, W. K. (2021). The ethics of speculative anticipation and the COVID-19 pandemic. *Hypatia, 36*(1), 228-236. https://doi.org/10.1017/hyp.2020.56

Kojola, E. (2020). Divergent memories and visions of the future in conflicts over mining development. *Journal of Political Ecology, 27*(1), 898-916. https://doi.org/10.2458/v27i1.23210

Larsen, S. C. (2004). Place identity in a resource-dependent area of northern British Columbia. *Annals of the Association of American Geographers, 94*(4), 944-960. https://doi.org/10.1111/j.1467-8306.2004.00442.x

Liu, W., & Agusdinata, D. B. (2020). Interdependencies of lithium mining and communities sustainability in Salar de Atacama, Chile. *Journal of Cleaner Production*, *260*(12), 120838. https://doi.org/10.1016/j.jclepro.2020.120838

Luning, S. (2018). Mining temporalities: future perspectives. *The Extractive Industries and Society, 5*(2), 281-286. https://doi.org/10.1016/j.exis.2018.03.009

Martinez-Alier J. & O'Connor M. (1996). Ecological and economic distribution conflicts. In Costanza R., Segura O., & Martinez-Alier J. (Eds.) *Getting down to earth: Practical applications of ecological economics*. (pp. 153–183). Island Press.

MiningWatch Portugal. (2021). Lithium in Portugal [Map]. https://miningwatch.pt/assets/img/Lithium_Mining_in_Northern_Central_Portugal-Municipalities-Districts-rev32-2021-En.jpg

Ministry for the Environment and Climate Action. (2021, May 5). *High-level conference on green mining*. Portuguese Presidency of the Council of the European Union. https://www.2021portugal.eu/en/news/high-level-conference-on-green-mining/

Miller, R. (Ed.). (2018). *Transforming the future: Anticipation in the 21st century*. Routledge.

Mkutu, K., & Mdee, A. (2020). Conservancies, conflict and dispossession: the winners and losers of oil exploration in Turkana, Kenya. *African Studies Review, 63*(4), 831-857. https://doi.org/10.1017/asr.2020.2

Morosin, A. (2020). Comunalidad, Guendaliza'a and anti-mine mobilizations in the Isthmus of Tehuantepec. *Journal of Political Ecology, 27*(1), 917-938. https://doi.org/10.2458/v27i1.23237

Nustad, K. G. (2020). Notes on the political ecology of time: Temporal aspects of nature and conservation in a South African World Heritage Site. *Geoforum, 111*, 94-104. https://doi.org/10.1016/j.geoforum.2020.03.002

Orr-Álvarez, B. (2017). Masking Revolution: Subcomandante Marcos and the contemporary Zapatista movement. In K. Beauchesne & A. Santos (Eds.), *Performing utopias in the contemporary Americas* (pp. 111-129). Palgrave Macmillan. https://doi.org/10.1057/978-1-137-56873-1

Paredes, M. (2016). The glocalization of mining conflict: Cases from Peru. *The Extractive Industries and Society, 3*(4), 1046-1057. https://doi.org/10.1016/j.exis.2016.08.007

Peng, J., Strijker, D., & Wu, Q. (2020). Place Identity: How far have we come in exploring its meanings? *Frontiers in Psychology, 11*(294). https://doi.org/10.3389/fpsyg.2020.00294

Pérez-Escobar, Ó.A., Cámara-Leret, R., Antonelli, A., Bateman, R.M., Bellot, S., Chomicki, G., Cleef, A., Diazgranados, M., Dodsworth, S., Jaramillo, C., Madriñán, S., Olivares, I., Zuluaga, A., & Bernal, R. (2018). Mining threatens Colombian ecosystems. *Science, 359*(6383). https://doi.org/10.1126/science.aat4849

Pierce, J., Martin, D. G., & Murphy, J. T. (2011). Relational place-making: The networked politics of place. *Transactions of the Institute of British Geographers, 36*(1), 54-70. http://dx.doi.org/10.1111/j.1475-5661.2010.00411.x

Pjrcarneiro. (2021, February 20). *Carlos Libo – Exploração* [Video]. YouTube. https://www.youtube.com/watch?v=dg4vaq0df8c&t=10s

Presidency of the Council of Ministers. (2021, May 7). *Decree-Law No. 30/2021.* Republic Diary No. 30/2021, Series 1 of 2021-05-07. https://dre.pt/dre/detalhe/decreto-lei/30-2021-162940682

Quist, L.-M. (2019). Fishers' knowledge and scientific indeterminacy: Contested oil impacts in Mexico's sacrifice zone. *Maritime Studies, 18*(1), 65-76. https://doi.org/10.1007/s40152-018-0123-7

Reinert, H. (2018). Notes from a projected sacrifice zone. *ACME: An International Journal for Critical Geographies, 17*(2), 597-617.

Rivera Andía, J. J., & Vindal Ødegaard, C. (2019). Introduction: indigenous peoples, extractivism, and turbulences in South America. In C. Vindal Ødegaard & J. J. Rivera Andía (Eds.), (pp. 1-50). Springer. https://doi.org/10.1007/978-3-319-93435-8

Rosen, R. (1985). *Anticipatory systems: Philosophical, mathematical and methodological foundations*. Pergamon.

Savannah Resources. (2020a). *Annual report and financial statement*. Savannah Resources. https://www.savannahresources.com/cms/wp-content/uploads/2021/06/Annual-Report-and-Financial-Statements-31_12_2020-1.pdf

Savannah Resources. (2020b, June 1). *Submission of EIA & mine plan for Mina do Barroso.* Savannah Resources. https://www.savannahresources.com/cms/wp-content/uploads/2020/06/Submission-of-EIA-and-MP-for-Mina-do-Barroso.pdf

Savannah Resources. (2021a, April 16). *Mina do Barroso EIA update: Portuguese Environment Agency declares conformity of EIA*. Mina do Barroso https://www.savannahresources.com/cms/wp-content/uploads/2021/04/Mina-do-Barroso-EIA-Update2.pdf

Savannah Resources. (2021b). *A Sustainable and Responsible Mining Industry* [Brochure]. Savannah Resources. https://www.savannahresources.com/cms/wp-content/uploads/2020/10/Green-Smart-Mining-Brochure.pdf

Savannah Resources. (n.d.). *FAQS*. Savannah Resources. Retrieved September 10, 2021, from https://minadobarroso.com/faqs/

Savannah Resources. (2023). *Barroso Lithium Project EIA Update*. Savannah Resources. Retrieved May 9, 2023, from https://www.savannahresources.com/investors/rns-feed/rns-announcements/?rid=4262586

Scheidel, A., Temper, L., Demaria, F. & Martínez-Alier, J. (2018). Ecological distribution conflicts as forces for sustainability: an overview and conceptual framework. *Sustainability Science*, *13*(3), 585–598. https://doi.org/10.1007/s11625-017-0519-0

Scott, D., & Smith, A. (2017). "Sacrifice Zones" in the green energy economy: Toward an environmental justice framework. *McGill Law Journal, 62*(3), 861-898.

Soder, M., & Peer, S. (2018). The potential role of employers in promoting sustainable mobility in rural areas: Evidence from Eastern Austria. *International Journal of Sustainable Transportation, 12*(7), 541-551. https://doi.org/10.1080/15568318.2017.1402974

Sovacool, B. K., Turnheim, B., Hook, A., Brock, A., & Martiskainen, M. (2021). Dispossessed by decarbonisation: Reducing vulnerability, injustice, and inequality in the lived experience of low-carbon pathways. *World Development, 137*, 105116. https://doi.org/10.1016/j.worlddev.2020.105116

Svobodova, K., Owen, J., & Harris, J. (2021). The global energy transition and place attachment in coal mining communities: Implications for heavily industrialized landscapes. *Energy Research & Social Science, 71*, 101831. https://doi.org/10.1016/j.erss.2020.101831

Valenzuela-Fuentes, K., Alarcón-Barrueto, E., & Torres-Salinas, R. (2021). From resistance to creation: Socio-environmental activism in Chile's "Sacrifice Zones." *Sustainability, 13*(6), 3481. https://doi.org/10.3390/su13063481

VISA Consultores. (2021). *Environmental Impact Study: Non-Technical resume*. Savannah Resources. https://www.savannahresources.com/cms/wp-content/uploads/2021/04/NTR-of-MdB-April-2021.pdf

Voskoboynik, D. M., & Andreucci, D. (2022). Greening extractivism: Environmental discourses and resource governance in the 'Lithium Triangle'. *Environment and Planning E: Nature and Space, 5*(2), 787–809. https://doi.org/10.1177/25148486211006345

Walter, M., & Urkidi, L. (2017). Community mining consultations in Latin America (2002–2012): The contested emergence of a hybrid institution for participation. *Geoforum, 84*, 265-279. https://doi.org/10.1016/j.geoforum.2015.09.007

Wappelhorst, S. (2021). *Beyond major cities: Analysis of electric passenger car uptake in European rural regions*. International Council on Clean Transportation. Retrieved December 3, 2021 from https://theicct.org/sites/default/files/publications/Ev-europe-rural-mar2021.pdf

Weszkalnys, G. (2014). Anticipating oil: the temporal politics of a disaster yet to come. *The Sociological Review, 62*, 211-235. https://doi.org/10.1111/1467-954X.12130

Wheeler, R. (2014). Mining memories in a rural community: Landscape, temporality and place identity. *Journal of Rural Studies, 36*, 22-32. http://dx.doi.org/10.1016/j.jrurstud.2014.06.005

ZERO. (2021, July 16). *Mina de lítio do Barroso: Da falta de envolvimento da população à degradação da paisagem, poluição e fim do mexilhão-de-rio*. ZERO. https://zero.ong/mina-de-litio-do-barroso-da-falta-de-envolvimento-da-populacao-a-degradacao-da-paisagem-poluicao-e-fim-do-mexilhao-de-rio/

Zografos, C., & Robbins, P. (2020). Green sacrifice zones, or why a Green New Deal cannot ignore the cost shifts of just transitions. *One Earth, 3*(5), 543-546. https://doi.org/10.1016/j.oneear.2020.10.012

Yes to Life No to Mining European Working Group. (n.d.). *Driving destructive mining: EU Civil Society denounces EU raw materials plans in European Green Deal* [White paper]. Yes to Life, No to Mining network. Retrieved August 15, 2021, from https://yestolifenotomining.org/latest-news/eu-driving-destructive-mining