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Contested justice

Climate justice activists' and coal workers' interpretations of a just transition in the Rhinish lignite phase out

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Abstract:

The combustion of lignite coal for energy production significantly contributes to Germany's greenhouse gas emissions, leading climate justice activists to advocate for an immediate coal exit. Workers of the lignite industry strongly oppose this as they worry about the structural decline of mining regions and their financial security. The concept of Just Transition is increasingly employed to bridge jobs-versus-environment narratives by including justice as a key factor in decisions around the restructuring of environmentally harming industries. Looking at the Rhineland region, which has become a key site of the struggle around the future of the lignite industry, this thesis investigates workers' and climate justice activists' perceptions of justice in the transition process. The data gathered through semi-structured interviews with both groups and subjected to qualitative content structuring analysis shows that there is some agreement, e.g. on procedural justice, but also disagreement, e.g. on the depth of change envisioned. It becomes clear that what justice means in a transition context is contested as actors form alliances to either defend or topple the hegemony of the fossil fuel regime. Insights from the interviews form the grounding for an elaboration of hurdles and potential for labour and climate justice movements to unite under a shared vision of a just transition.

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1. Introduction

"Now!" shouts someone and suddenly several hundred people break away from the demonstration moving along its pre-approved route. Mounted police notice and immediately spur on their horses to stop the group from running towards a forest. Behind it train tracks lie that transport lignite coal from the open-cast mines to the power plants. A few hours later these train tracks are blocked by some 2.500 climate justice activists that have converged in the Rhinish lignite mining region as part of the campaign "Ende Gelände" to demand an immediate coal exit (*Aktivisten besetzen Gleise am Tagebau Hambach*, 2018). Same region, just a few days earlier: with the motto "We make noise for our jobs" employees of the lignite sector take to the streets (Delhaes-Guenther, 2018). They protest against a quick coal exit. One of their banners reads: "When eco-terrorists storm our open cast mines […] this is backstabbing us coal miners and not climate protection!" (ibid.).

It's 2018 and tensions between coal workers and climate justice activists in the Rhineland region are running high. The federal government has just convened a multiple stakeholder commission that is tasked with negotiating the future of the German coal industry. Much is at stake for both sides. Climate justice activists argue that the urgency of climate change demands an immediate decommissioning of all lignite infrastructure. Workers on the other hand fear structural decline of the mining region and losing their jobs. Even after the coal exit has been set to 2038 climate justice activists and coal workers have remained on opposing sides of the continuing conflict (ende-gelaende.org, 2020; IG BCE, n.d.a).

But must a transition away from unsustainable industries inevitably cause a trade-off between environmental protection and the well-being of those affect by it? "No" argue proponents of the Just Transition concept. The idea of just transitions has increasingly been mobilized to counter the jobs-versus-environment binary, by incorporating considerations of justice into transition discourses (Just Transition Research Collaborative, 2018). As different actors in the transition process are likely to have diverging conceptions of what "justice" encompasses, attention to the contested nature of justice is needed in order to negotiate a just transition for all (Newell and Mulvaney, 2013). Crucially these conceptions of justice are intimately entwined with the power relations at play, as actors like, e.g. grassroots movements, corporations, unions or governments[1], form alliances to either defend or topple the status quo (ibid.). In light of this, this thesis sets out to answer the following research questions:

    a. How do coal workers and climate justice activists in the Rhineland region conceive justice in the context of the German coal phase out?

    b. Is the concept of Just Transitions applicable to frame their answers and if so how do the derived just transition approaches compare?

    c. What can the understandings of different groups inform us about creating a common and shared goal for just transitions?

Detailed engagement with coalition building has been identified as a knowledge gap in just transition literature (Snell, 2018). So by analysing the conflict between climate justice activists and coal workers from a justice perspective and applying just transition theory to the Rhinish case, this thesis contributes to a better understanding of the hurdles and paths to a shared vision of a sustainable and just future.

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[1] This thesis focuses on the dynamics between climate justice activists and workers and also considers corporations and unions. It is acknowledged that the state is a pivotal actor in transition processes (see Routledge, Cumbers and Derickson, 2018), but the elaboration of its relation to the transition and the different actors can't be done justice in the scope of this thesis.

This thesis is structured as follows: Chapter two provides the essential background information on the context of this thesis. The theoretical framework in which this work is embedded is then introduced in chapter three. Chapter four outlines methodology and methods applied. By presenting the findings form the interview, research question a. is answered in chapter five. As the findings are contextualized with prior literature and the chosen theoretical framework is applied, research question b. is answered in chapter six. Finally, research question c. is discussed in chapter seven and conclusions are drawn in chapter eight.

2. Background

2.1. The coal phase out in Germany

Lignite coal has long been one of the main energy sources in Germany. Although it has been replaced by gas and oil in household heating lignite-fired power plants still contributed to 22.5% of the electricity supply in 2018. Whilst hard coal mining within Germany ceased in 2018, being outcompeted by significantly cheaper hard coal imports, Germany was the biggest producer of lignite coal worldwide in the same year. (Umweltbundesamt, 2021)

Of all energy sources used in Germany, lignite coal has the worst emission factor, meaning that it causes most carbon dioxide (CO_2) per gained unit of energy (Umweltbundesamt, 2016). This leads to its disproportionate role in Germany's total greenhouse gas emissions: 18.5% of those were caused alone by lignite fired power plants in 2018 (Umweltbundesamt, 2021). With an increasing concern about climate change, phasing out coal started being discussed in wide sections of German public and politics in the 2010's (Umweltbundesamt, 2021).

To settle the widely diverging demands on a potential coal phase out a multi stakeholder commission was launched by the federal government in 2018. The Commission for Growth, Structural Change and Employment (commonly referred to as coal commission) brought together, amongst others, representatives of the mining regions' population, energy companies, labour unions and environmental NGOs. It reached an agreement in 2019 which set a gradual reduction of coal fired energy production and lignite mining to be finalized by 2038. Other key points included significant financial support dedicated to structural reforms in the mining regions, social security measures for workers and compensation payments for the companies operating in the coal industry. (Kommission „Wachstum, Strukturwandel und Beschäftigung", 2019)

Whilst unions and industry representatives were largely satisfied with the results, environmentalists criticised the plan to be far too unambitious, pointing out it is irreconcilable with Germany's commitment to the Paris agreement and they continued advocating for an earlier phase out (Gürtler, Löw Beer and Herberg, 2021). A law based on the commission's recommendations had just come into force by August 2020 (*Kohleverstromungsbeendigungsgesetz* 2020), when the federal elections of 2021 saw the conservative party CDU, that had been part of the German government for sixteen years, replaced by a coalition of social democrats (SPD), greens (Bündnis 90/Die Grüne) and liberals (FDP). The new government announced to antedate the coal phase out to 2030 (FDP, 2021), details of this plan remain to be released to date[2].

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[2] Note: The war in Ukraine that erupted on 25th February 2022 has had an impact on how the energy transition in Germany is discussed (see Polansky, 2022) but as data collection for this work was already finished at this point this issue will not be expanded upon further.

2.2. The Rhinish lignite sector

The largest lignite deposits in Germany are found in the Rhineland, a region in Western Germany (Figure 1). Its three open-cast mines accounted for about half of the German production in 2018. Beginning with the large scale industrial mining in the 19th century, the lignite coal industry has strongly impacted the region since decades. (Umweltbundesamt, 2021)
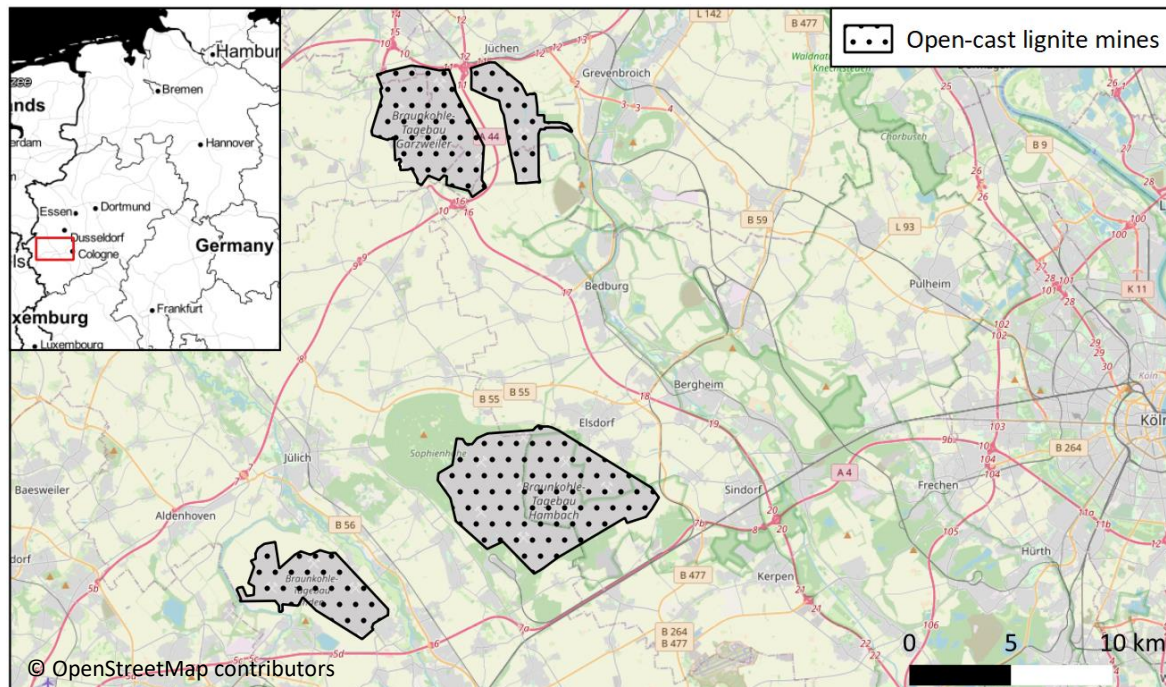
Figure 1: Open-cast lignite mines in the Rhineland region

Lignite mining has been one foundation of the Rhineland's wealth, not only through the coal industry itself, but also by supporting energy intensive industries aggregating in the region. The mining industry has also shaped the social life and is part of the regional identity. (Kommission „Wachstum, Strukturwandel und Beschäftigung", 2019)

Today about 9,000 people are directly employed in the Rhinish lignite sector, more than in the other two German mining regions taken together (Statistik der Kohlenwirtschaft e.V., 2021) . This makes up for 1.2% of all jobs in the Rhineland region (Kommission „Wachstum, Strukturwandel und Beschäftigung", 2019). Aside from direct employment there are also jobs generated through supply firms or subcontractors (indirect employment) and through increased spending on consumer goods and services (induced). The number of jobs in indirect and induced employment can be estimated, however, these estimates vary widely, e.g. between 5,000 (RWI - Leibnitz Institut für Wirtschaftsforschung, 2018) and 50,000 (IG BCE, n.d.b).

But lignite coal also causes environmental and social harm for people on a local level, both through its mining and its combustion in power plants.

Open-cast mines need a lot of space. In Germany 1,780 square kilometres, an area twice as large as Berlin, had been transformed in the course of lignite excavation by the end of 2020 (Öko-Institut, 2022). Making space for the migrating mines, whole villages are demolished and rebuilt in another place. More than 45,000 people have been resettled in the Rhineland region (Kommission „Wachstum, Strukturwandel und Beschäftigung", 2019). Whilst some residents accept this, others resist, pointing out that resettlements are always socially disruptive (ibid.).

To facilitate the surface mining the groundwater level of the whole region has to be lowered. Some landscapes and villages in the Rhineland region now depend on an artificial water-supply. Even after the mining will have ended, restoring groundwater levels will take up to 40 years. Through geochemical processes induced by the surface mining sulphuric acid, heavy metals and other pollutants are released into the groundwater and adjacent surface waters. Finally, besides CO_2 the combustion of lignite coal also releases other pollutants, contributing, e.g. to half of Germany's total quicksilver and a quarter of its sulphuric oxide emissions in 2016. (Öko-Institut, 2022)

2.3. Relevant regional actors and their relationship

In Rhineland all lignite mining and lignite power plants are operated by one corporation named RWE which has been spearheading the corporatist lobbying effort to avoid the coal exit (Brock and Dunlap, 2018). Although historically coal has been its core business, more recently RWE has been diversifying and now also holds assets in the renewable energy sector (RWE, 2021). RWE workers are mainly organised in the union for mining, chemical and energy industry (IG BCE) and to a lesser extend in the service union (ver.di), both firmly stood with RWE in opposing the coal exit (Herberg *et al.*, 2020). Recently though internal critique from within ver.di has accused the Rhinish branch of ver.di to be instrumentalized in the sake of RWE's profit interests and expressed support for the coal exit (Kalt, 2021).

The struggle against lignite mining in the Rhineland became the focal point of the German climate justice movement when in 2015 the alliance "Ende Gelände" brought together several climate justice grassroots groups that had until then separately developed since the mid 2000's (Sander, 2016). Ever since, Ende Gelände campaigns have repeatedly shut down lignite infrastructure as activists blocked excavators, conveyer belts and train tracks in mass actions of civil disobedience (Ende Gelände, n.d.). There is close cooperation between Ende Gelände and the occupants of the Hambacher Forst (an ancient beech forest that was to be cleared for one of the open cast mines), the climate camps organised regularly in the Rhineland and locals that resist the resettlements (Ende Gelände, n.d.).

The relationship between those in favour of and those opposing the Rhinish lignite sector, although always conflictual, escalated especially in the context of the Hambacher Forst occupation (Herberg *et al.*, 2020). RWE called the occupants "criminals" accusing them of sabotaging infrastructure and attacking their workers, whilst the occupants said they had been threatened and attacked by RWE security personal (Brock and Dunlap, 2018).

3. Theory

3.1. Political economy & political ecology

This work is placed within the fields of political economy and political ecology, acknowledging that both the economy and the ecology of today's world are all but "apolitical" – they must be viewed as inseparable from politics (Bridge, McCarthy and Perreault, 2015; Cardinale and Scazzieri, 2018; Ravenhill, 2017). Both fields call to attention the crucial influence that social relations of power have on their subject of study (Bridge, McCarthy and Perreault, 2015; Ravenhill, 2017). It is with these presuppositions that this thesis seeks to explore the issue of justice in the lignite coal exit, a case which is another example for the deeply entwined nature of politics, economy and ecology as will be later discussed.

Political economy also informs this thesis' take on power in the context of the lignite phase out. The political economy of the energy sector has been described by Newell (2019) as dominated by a hegemony of the incumbent fossil fuel regime. This hegemony manifests as fossil fuel actors' interests are accepted broadly as public interest and governance and markets are structured accordingly (Evans

and Phelan, 2016). Actors like governments, industries, unions, NGOs and grassroots movements wield their power and form alliances to either maintain or counter this hegemony (Herberg *et al.*, 2020). Discussing an industry's phase out will have to bear in mind the tremendous resistance that any challenge to the hegemony of the incumbent actors is likely to face (Newell and Mulvaney, 2013). This is especially true for energy transitions, as energy is not just another resource when it comes to questions of political power (Huber, 2015). As it is the basis of the industrial economy there are especially powerful interests at stake (Newell, 2019; Newell and Mulvaney, 2013).

3.2. Jobs versus environment binary

Kalt (2021) identifies the job versus environment binary as a key issue in the discussion around the lignite coal exit in Germany. This binary builds on a "widespread perception of an inherent opposition between jobs and environmental protection" (Kalt, 2021, p. 2). From Australian coal mining (Evans and Phelan, 2016) to the forestry sector in the USA (Foster, 1993) or the automotive industry in Austria (Pichler *et al.*, 2021) the job-versus-environment binary is a significant factor in the pursuit of environmental protection goals across several sectors and regions. This kind of framing has been found to be a significant obstacle to a more sustainable future as it is utilized "[…] to justify environmental destruction and to prevent unsustainable sectors of the economy from being transformed" (Hoffmann and Paulsen, 2020, p. 1).

3.3. Just Transition

Proponents of the Just Transition concept argue that transitions away from environmentally harming industries don't necessarily have to be to the detriment of those affected by these transitions and propose measures how justice can be ensured during the transition process (Snell, 2018). For this research Just Transition will be defined as "[…] the idea that justice and equity must form an integral part of the transition towards a low-carbon world […]" (Just Transition Research Collaborative, 2018, p. 4). This broad definition is explicitly chosen because stakeholders have different opinions about "[…] what a just transition should look like, or how, for whom and by whom it should be accomplished" (Just Transition Research Collaborative, 2018, p. 4) and it is exactly these differences that this thesis seeks to explore.

Since its perception in the 1980' by global trade unions demanding the creation of green jobs as a necessary component of transitions away from fossil energy sources (McCauley and Heffron, 2018), the Just Transition concept has gained traction not only in theory (Snell, 2018), but also in policy making (Krawchenko and Gordon, 2021). With its increasing popularity the Just Transition concept has evolved to encompass wide-ranging uses of the term (Healy and Barry, 2017). In the USA a fundamental change to power structures and the economic system, enabling a sustainable future has been suggested as a just transition (Just Transition Alliance, n.d.), just as in Poland reliance on fossil fuels and conservative politics has been justified by commitment to the very same concept (Stevis and Felli, 2020).

To analyze the various just transition approaches frameworks have been suggested. One has been proposed by Stevis and Felli (2020). They "[…] employ scale to address their spatial and temporal inclusiveness and scope to address their social and ecological inclusiveness" (Stevis and Felli, 2020, p. 1), their combination results in the approaches' breadth. The second measure, depth, is determined by the two scales "Anthropocentrism to Ecocentrism" and "Inegalitarianism to Egalitarianism" (Stevis and Felli, 2020). In this thesis only "scale" as part of the first measure was applied. "Scope" wasn't applicable as it is derived from the range of stakeholders, processes and products considered (e.g. as sectors of the economy), but the given focus of the interview questions here was the coal sector. The second measure "depth" is not very clearly defined and didn't capture the relevant differences between the approaches.

Another framework derived by the Just Transition Research Collaborative (2018) categorizes different just transition approaches in a coordinate system. The x-axis is a scale of the approach's scope that ranges from exclusive (benefiting a specific group) to inclusive (benefiting society as a whole). The y-axis ranges from "Status quo" over "Managerial reform" and "Structural reform" to "Transformation", "[t]hese are not distinct categories, but rather form part of a continuum ranging from those approaches that preserve the existing political economy to those that envision significantly different futures […]" (Just Transition Research Collaborative, 2018, p. 12). Whilst the latter analysis of the kind of change envisioned instructively supplements this work's analysis, the measure of scope isn't applied, because stating that an approach supports "society as a whole" or listing countless groups to be considers doesn't necessarily translate into justice for all of them. If the ways in which these groups need support in face of a transition aren't understood, it is unlikely they will actually benefit from this transition.

3.4. Justice

In analyzing the different just transition approaches attention to the contested nature of justice is needed as the definition of what is just will be subject to power struggles in each transition's particular contexts (Newell and Mulvaney, 2013). Having the power to decide what is just is of relevance because hegemony is in part established (and can be challenged) by gaining ideological leadership (Winkler, 2020). A helpful tool in the analysis of justice demands is their categorization into dimensions of justice.

The most commonly used dimensions of justice claims in socio-ecological conflicts are distributional and procedural justice (McCauley and Heffron, 2018). Distributional justice refers to "[…] fairness in the distribution of benefits and harms of decisions and actions to different groups across space and time" (Bennett *et al.*, 2019), whilst procedural justice is concerned with "[…] the level of participation and inclusiveness of decision making and the quality of governance processes" (Bennett *et al.*, 2019). It has been found though that more analytical dimensions are needed to cover the diverse and often interconnected justice claims made in practice (McCauley and Heffron, 2018; Schlosberg, 2004).

A third dimension used in this thesis will thus be recognition justice, which roots in social status equality (Gürtler and Herberg, 2021). It refers to the respect for the values, knowledge systems and cultural identities of all groups involved in a socio-environmental struggle (Bennett *et al.*, 2019). A lack of recognition "[…] demonstrated by various forms of insults, degradation, and devaluation at both the individual and cultural level […]" (Schlosberg, 2004, p. 3) does not only harm people by itself. Without recognition justice neither distributional nor procedural justice can be reached (Bennett *et al.*, 2019; Schlosberg, 2004).

Finally, restorative justice is also employed in this thesis. It conceptualises the necessity for the redress of harm done (Gürtler and Herberg, 2021; McCauley and Heffron, 2018). McCauley and Heffron (2018) consider restorative justice a pivotal supplement to the other justice dimensions as they "[…] can sometimes not go far enough in ensuring that perpetrators are brought to justice and affected individuals find solace" (McCauley and Heffron, 2018, p. 5).

4. Methods and Methodology

4.1. Philosophy of science and positionality

My stand on philosophy of science can be summarized as critical realism, combining "[…] a realist ontology (the belief that a real world exists independently of our beliefs and constructions) and a constructivist epistemology (knowledge of the world is inevitably our own construction)" (Creswell, 2013). I believe that no contribution to research is ever "apolitical", thus the author's socio-political background should be openly communicated so it can be considered when reading the research.

In the context of this research I see my background from a working class family as relevant. This being part of my identity, social justice has always been an issue close to me and influenced my political stance that might be framed as far-left. I have been active in the climate justice movement for several years. As part of this I have also worked with Ende Gelände on several occasions.

4.2. Study design

Exploring workers' and activists' relations to justice in the context of the coal phase out requires a detailed understanding of the subject, especially as notions regarding justice are seldom straightforward, but rather multi-facetted and interrelated (Schlosberg, 2004). Such a detailed understanding can best be provided by a qualitative research design, which enables the researcher to "[…] develop a complex picture of the problem or issue under study" (Creswell, 2013).

As the Rhineland region is not only Germany's major lignite mining area in terms of production and employment, but was also the central site of the anti-coal movement (see chapter 2.3.) it is well fit to serve as a case to investigate different justice claims in a transition away from fossil energy systems. Informed by the research questions stratified sub-groups were defined within this single case study (Bryman, 2016).

For the first subgroup "climate justice activists" (henceforth "activists"), I decided to focus on people involved with the Ende Gelände movement, as those were likely to be familiar with the Rhinish context. Investigating the justice demands from the coal workers' perspective, I decided to speak to workers directly, rather than to union representatives as previous studies have done (see Kalt, 2021; Kolde and Wagner, 2022). This was because I was interested in personal accounts of justice and expected union representatives to more or less reproduce the unions' official communication.

4.3. Sampling

Within each group I used a purposive sampling approach to acquire interviewees. In purposive sampling participants are chosen strategically on a set of criteria, making sure those sampled will be relevant for the research questions posed (Bryman, 2016).

When people said they identified themselves as part of the EG movement, interviewees qualified for the group "activists". But for them to helpfully inform my research question it was important that they had engaged with strategic considerations over the course of EG in the last years. Selection criteria for this group were thus that they had been involved with Ende Gelände for some years and that they either regularly participated in supra-regional plenaries or were an active part of regional groups and discussed movement strategy with other activists.

The selection criteria for the group "workers" was that interviewees were among those workers most affected by the coal exit. Whilst everyone employed at RWE could be said to work in the coal industry, I only selected those whose jobs were coal-specific, e.g. operating the excavators. Of those I excluded everyone above sixty years of age, as they would reach retirement before 2030.

Whilst I reached out to activists via my personal network, as well as pertinent mailing lists, I could only establish contact to workers through a gate keeper, a former member of the IGBCE with good connection to the local work councils. Further participants were acquired in both groups through snowball-sampling, where initial participants establish contact to others (Bryman, 2016). For both groups I aimed for a sample size of ten participants, the final number of participants was indeed ten in the group "activists" but only four in the group "workers".

On average activists were younger and had higher educational qualifications than workers. Whilst all of the workers lived in the Rhineland region, only one of the activists did. An overview of the

demographics of the interviewees is depicted in table 2 in the appendix. All workers were union members and a few also members of the works council, but none held any higher position in the union.

4.4. Interviews

The interviews conducted for this thesis were semi-structured, meaning that the interview was structured by an interview guide that outlined the topics to be covered and listed corresponding questions (Kvale, 2007). This ensures that the more specific issues are addressed during the interview, which is important when the researcher has a clear theoretical focus from the beginning of the study (Bryman, 2016), as it was the case here. Although providing a certain degree of structure, this type of interviewing still allowed me to follow the narrative of the interviewee by spontaneously changing sequence or wording of the questions or to add questions to follow interesting leads (Kvale, 2007).

The questions included in the interview guide were derived from the research questions as described in (Kvale, 2007). Additional questions were included if needed to apply the theoretical frameworks of (Just Transition Research Collaborative, 2018; Stevis and Felli, 2020) in the subsequent analysis. Examples or a rephrased version of the question were added to use as further prompts if needed. Follow up questions are central to ensuring interview depth and quality (Kvale, 2007) and were frequently asked during the interviews. Before conducting the interviews, interview questions and procedures were refined through pilot testing (Creswell, 2013). For each group one pilot case was chosen. As in both cases only minor adjustments were necessary, these interviews were included in the analysis.

The interviews were conducted via Zoom and audio recorded. They lasted between thirty and fifty minutes. I spoke German with all of the interviewees. The interviews started with a briefing on the procedure, which also gave the interviewees the option to ask questions or address insecurities about the interview before the audio recording was started. They ended with a debriefing, allowing the interviewees to give feedback. Directly after the interview I took notes on the general impression of the interview, the atmosphere of the conservation, as well as on the relationship between me and the interviewee. Although I covered most questions from the interview guide in each interview, I often didn't ask all of them, as the participants had either already touched the issue without my prompt or because the participants' time was limited. Therefor I constantly monitored which questions were asked how often in each group and prioritized questions accordingly in the next interviews.

4.5. Analysis

As it is in the nature of transcription, i.e. the reproduction of spoken words as a written text, that the content will be reduced and restructured in line with the purpose of the investigation, transcription is to be considered as the first step of analysis (Kvale, 2007). Kvale (2007) writes that a range of ways to transcribe might be appropriate in different settings, as long as the researcher is explicit on how the transcripts were produced. As the purpose of my research was focused on what was said rather than how it was said, I didn't consider verbatim transcription as necessary but opted for a more written style transcription. I transcribed the interviews within a day or two. This was beneficial as listening to the interviews made me note interesting themes emerging and questions I missed, which I could then incorporate into the next interviews (see Bryman, 2016).

I employed a qualitative content structuring analysis as described by Kuckartz (2018). This method of analysis is appropriate where the researcher is interested in a detailed understanding of what themes emerge and how they relate to each other and to academic concepts (Kuckartz, 2018). This is in line with this thesis' focus on interpretations of just transitions, how they compare and whether they can be summarized as just transition approaches.

Qualitative content structuring analysis combines an inductive and deductive approach. The main categories are derived deductively from the research questions, interview guide and analytical framework. Pertinent parts of the transcripts are labelled with these main categories in a first round of coding. If it becomes evident that the main categories are missing themes central to the interviews these might be added. Subcategories are then inductively developed from the material. All parts of the transcripts assigned to the respective main categories are then coded using the developed subcategories. Categories and subcategories are central to the subsequent evaluation and discussion. (Kuckartz, 2018)

Main categories for this thesis were derived from the interview guide with consideration of the analytical frame and research questions (table 3 in the appendix). All coding was done with the programme NVivo 12. Following the coding with the main categories, the second round of coding produced about thirty subcategories. Finally, the resulting main categories and subcategories, as well as some selected quotes were put into context of the theoretical frame and compared to answer the research questions. Quotes were translated by me and in times smoothened to ensure readability, but it was made sure that the message wasn't distorted.

4.6. Limitations

Both groups interviewed in this thesis are difficult to sample for different reasons. Speaking from my own experience I know that activists tend to be very cautious about revealing information regarding their involvement with Ende Gelände. There are good reasons for that as Ende Gelände has been targeted by the intelligence service before (Peter, 2021). Adding to this, there are reasonable concerns about the effects that studies conducted about the movement have for the movement (anonymous, 2021). I still managed to reach my targeted sample size as I could navigate these issues from an insider perspective (see also chapter 4.7.) and because of my personal connections within the movement - as one of my interview partners put it: "I wouldn't have talked to you if I hadn't known you". As a result, six of the ten interviewees were people I knew more or less well, but as I knew them from different contexts it's unlikely that this caused an overrepresentation of a certain sub-section of the climate justice movement.

With workers on the other hand I assume that it was exactly me not being an insider that hampered my sampling efforts. With tensions running high between workers and climate justice activists, it was foreseeable that there might be hesitance to speak to a young, female academic that wants to investigate justice issues in the coal exit. Although the interviews I conducted seemed to be a positive experience for the workers I couldn't manage to find more than four interviewees. Also, having to rely on a gatekeeper might have brought a bias into my sample: the gatekeeper, seemingly in support of dialog, is unlikely to suggest those for an interview that they know to be strongly opposed to any sort of climate protection. As I considered it ethically important to reveal my support for climate protection, I might have produced another bias: on a few occasions I felt workers hesitated to convey the full scale of their disagreement with the climate movements' actions because they didn't want to alienate me. Especially comparing to the activists were my positionality and acquaintance with some of them is likely to have positive effects on interviewees openness (Weinreb, Sana and Stecklov, 2018) this possible bias in the quality of the data between the groups, as well as the other biases mentioned above should be considered when reading this thesis.

The relatively small sample size, especially in the group "workers", is a limitation of this work. In the group "activists" data saturation was reached, i.e. although issues were worded and prioritised differently no new sub-categories came up after the sixth interview. This wasn't the case in the group "workers", thus it is possible that I missed out on perspectives that further interviews would have

added. In general, this thesis' data for both groups should be seen as representing a grounded, but still only one of several possible approaches to justice in this context and a sample of other individuals might produce a somewhat different outcome. Still, as it is in the nature of qualitative studies not to aim for generalizability, but rather contribution to theory building and testing (Bryman, 2016) this study is able to fulfil its purpose in spite of its limited sample size.

4.7. Ethical considerations

In accordance with the guidance on research ethics issued by Lund University (staff.lu.se, 2022) participants were explicitly asked for their consent to partake in the thesis after being informed about who is behind it, the purpose of the investigation and how their data will be handled (see document 2 in the appendix). Especially when I spoke to workers I made sure that they understood my positionality by telling them about my working class background and my ties to the climate justice movement.

In this politically contested field I considered confidentiality and anonymity as crucially important. Workers might suffer negative consequences at their work place or from their peer group for their opinion, activists might be targeted by the police. To protect the identities of both groups I tried to limit the demographic data recorded to a minimum and only revealed those as a description for my sample, disconnected from the individual quotes. As an additional safety measure quotes were not assigned to an individual as, even though this individual is anonymized, connecting the information from the different quotes might reveal something about their identity.

Taking the concerns expressed in a blog article (anonymous, 2021) criticising studies about the climate justice movement into account, I also made sure not to reveal any information about the movement's organisational structure that aren't publicly available anyway. I also gave consideration to how this work could be used against the interest of the movement. As I, firstly, focus on content-related opinions that could be found (although less detailed) similarly in press releases by Ende Gelände and, secondly, convey only individual standpoints from a few activists and not Ende Gelände internal communication, I consider the damaging potential of this thesis as very limited. Instead I hope to provide the movement with a new perspective, that might be beneficial in future struggles around energy transitions.

5. Findings from the interviews

5.1. Workers

5.1.1. "I know we have to end coal, but…" - Feasibility of and factors in the coal exit

There was general agreement between the coal workers, that the coal exit was necessary at some point to protect the climate. They also stressed that they weren't against the coal exit as such, but some said it 2038 would be too early. Disagreement with the current plans for the transition and doubts about the coal exits reasonability were also a key part of the interviews. Some doubted that a transition to renewables would be feasible within the given timeframe, others said the coal exit wouldn't make sense as long as there was not both a global commitment to climate protection as well as a commitment within Germany to reduce CO_2 emissions in all sectors of the economy, not only in energy production. "Why do we force the exit here […] if one, to put it simply, could build one new coal fired power plant less in China and have the same effect?" wondered one.

5.1.2. "The whole region is affected!" - Consequences of and groups affected by the transition

A central part of all of the interviews in this group was how they, as workers, saw themselves and their colleagues affected by the coal exit. Many spoke about the insecurity that, although RWE promised to keep all workers employed, they couldn't really be sure about this. Not being employed in the coal sector anymore was a worrying prospect for them: "We have really good wage agreements from the

past and when I look at the jobs outside the lignite sector, I become scared. What awaits us there in regards of pay and working conditions is very different" said one. Others agreed, adding that alternative jobs in the region were often in sectors that only paid minimum wage (e.g. the logistics sector). There were also doubts whether dismissed workers could even find employment at all. "We have to see that not everyone can be an IT specialist in Berlin. We have many unskilled workers here […] this will be very difficult on the labour market" said one, and questioned whether the retraining programmes could really provide workers with the skills needed. Worrying about whether they might not lose their job after all, they spoke about what that would mean for them personally: "We still get comparatively good pay and you adapt your living standards to that. If I as the provider for my family suddenly earn 1000 Euro less and I have a loan to pay for the house … that is a very worrying situation". Another was concerned about uprooting his family, including his old mother, if he had to move to get another job. One said that he was unsure about building a house and starting a family because he didn't know where he would be in ten years and whether he would have a job then. On another note some mentioned their long family tradition of coal mining and that it was painful to them to see the mines closing. They also saw the decline of recognition for them as coal workers as a direct consequence of the discussions around the coal exit.

The workers worried others in region that worked for subcontractors of RWE or in related sectors will lose their job in the course of the coal exit. This would have a knock on effect on the whole region. They described how they already felt the effect of the shrinking lignite sector, as villages and towns are dying out and they worried that the decline of tax income would become a problem for their local infrastructure. "The biggest issue are the regions that will sufferer from the coal exit, shops closing, that whole domino effect that comes with it" said one. There was disagreement among workers whether the coal exit would be something positive for those affected by resettlements. Whilst one said he had uttermost sympathy for those having to give up their homes, another said that a majority all those resettled were happy to receive more modern houses.

All workers thought that the coal exit would lead to rising electricity prices, which would be an incentive for energy intensive industries to go abroad, leading to further job losses. They also worried that people with low income wouldn't be able to afford electricity anymore. One told me how he was shocked to learn that RWE stopped supplying electricity to some 3.000 households last year because they couldn't pay their bills.

There were divided opinions among coal workers about the coal exits' effect on coming generations. Two said those would be positively affected by it, because the coal exit would reduce CO_2 emissions, one of them arguing that the next generations were the reason that we should stop everything that harms the environment or the climate as quickly as possible. Another though, when asked about the effect on the next generation, spoke about how he heavy-heartedly advised his son against working in the lignite sector and that this son now had to move away to the city were rents were high and living standards low.

5.1.3. "Quality jobs with good pay" - Distributional justice
The workers' main distributional justice demand was that they and the lignite mining regions' population shouldn't suffer from the coal exit. This could be reached they said, by ensuring well paid jobs with good working conditions for the region and compensating the lost employment created directly, indirectly as well as induced by the lignite sector. Specific demands were only laid out in regards to justice for workers directly employed at RWE though. They supported the early retirement scheme as greatly contributing to justice for RWE workers. Some argued though that younger workers got the short end of the deal and demanded more support for them. One gave as an example that the period in which young workers received compensation payments after being laid off should be

extended from one to five years. "I've always said, although it's hard for me because I really have passion for working in the lignite sector, I would leave the lignite sector tomorrow, but give me a comparable job" summarized one. This was supported by another who also expressed he would prefer to work in a sustainable job if only conditions were comparable. Another distributional justice concern expressed by one of the workers was whether the structural support money paid to the regions is spent in a way that actually benefits those that are affected by the transition. Additionally, the demand that "energy must be affordable" for low income households was important to many.

5.1.4. "No one can tell me where I could submit my ideas" - Procedural justice

Most expressed how they felt they as workers, but also people in the region in general, weren't included in decisions around the coal phase out, e.g. on how the money granted to the regions by the coal commission was spent. In general, they demanded a greater say in the transition process: "What I would have liked best […] is a panel of politics, companies and regional population where the next steps in the transition are discussed, instead of decisions being made behind closed doors" one said. Another complained that he had ideas how to facilitate a good transition process but that there was no institutionalized way to submit these. Many stressed that they wanted more long term planning and reliability in the transition process.

5.1.5. "Recognition is very, very important to me" - Recognition justice

As mentioned above, workers also saw the change in the perception of the coal industry but also of them as coal workers as a result of the discussions around the coal exit and demands on recognition justice were derived from that: "It should be recognized that the lignite industry has brought us somewhere in terms of wealth. But that is not mentioned anymore. Now we are only that bad bruise that no one wants anymore" said one. "First and foremost justice means recognition to me" another stressed. They spoke about how, in the past, people were proud to be working to secure Germany's energy supply, how they were reputable members of the community and that that had changed. One spoke about how workers didn't even want to go to the stores wearing their working clothes anymore in fear of being shamed for their job. Workers felt misrecognized by the general public, media and politics, as one said: "I wish these politicians that are against coal would have said 'It's not your fault'". But one also felt misrecognized by RWE itself: "RWE's advertisement doesn't show excavators anymore, but wind turbines. […] one has to say that leaves you with the feeling that recognition of us is even lacking in our own company".

5.1.6. "The main problem is politics" - Hurdles to justice

The majority of workers saw the unreliability or self-interest of politics as a main hurdle to justice. But two also spoke about how it wasn't in the interest of RWE to support justice for workers. They complained about how RWE firstly, increasingly outsourced jobs to subcontractors, that it had secondly, already managed to undermine wage agreements also for core workers and that it thirdly, shied away from communicating young workers' future job options in order to keep them from applying elsewhere. One thought that RWE might use the money granted by the coal commission to make its renewables branch profitable instead of supporting its lignite workers with it. Some worried that the declining force of the unions was a problem in securing justice in the transition process.

5.1.7. "All of them are responsible: the government, the corporations, the unions" - Paths to justice

The workers saw the government, the lignite corporations and the unions responsible for bringing about justice in the transition process. One said he hoped the government would put pressure on the corporations in support of workers' interests. None of them really elaborated on the means they would see as promising or appropriate to reach justice in the transition process, but one agreed when I asked him whether he considered changing laws as a way to justice and another spoke about how they had established a round table with the union and local politicians and how he saw this as a good first step.

5.1.8. "But if it becomes too radical one has to go separate ways and that's what they decided for" - The other group

Most workers thought their and climate activists' interests stand opposed to each other. One said that environmental protection was something at least a proportion of the workers could agree with, although he thought a majority of workers still opposed the climate activists' demands. Workers said they thought climate activists had a bad opinion about them as workers. One described how he had engaged in discussions with activists: "[…] they said we are murderers because the CO_2 we emit kills people elsewhere and that jobs don't matter" and added that the disrespectful treatment and misrecognition of workers by the general public was the climate activists' achievement. Another also said that he didn't think activists care about jobs at all.

Many said that they supported everyone's right to freedom of expression as long as the protest was peaceful and all of them agreed that the climate activists weren't peaceful but attacked and injured workers. One said that on every climate camp workers were spat upon. Another said his children worried for his safety because they knew he sometimes came into contact with activists. Two workers also mentioned that they thought the activists were unauthentic as they questioned whether their intention was really climate protection.

Aside from the shared condemnation for the alleged violence there was disagreement on the activists' tactics. Some disapproved of the occupations of excavators and conveyer belts, another said he somehow understood that this was an efficient way to get the media's attention. One disapproved of the sabotage of infrastructure, but another argued "I always disapproved of violence against people. But when they destroy infrastructure the company pays, if that is the company's contribution to climate protection (laughs) … I don't really mind that".

5.2. Activists

5.2.1. "The coal exit is too late" - Feasibility of and factors in the coal exit

There was general agreement among the activists that the coal exit in 2038 would be too late. The activists were optimistic that a transition towards renewable energies would be possible within this timeframe, but also stated that some conditions needed to be met for the exit to be sensible. The condition mentioned by most was that a reduction in energy consumption had to accompany the transition in order to be able to cover the electricity demand with renewables only. A majority also pointed to the fact that a coal exit wouldn't be sensible if coal was then replaced by other fossil energy sources. There were also a few mentions that to ensure the positive effect of the coal exit it would have to be accompanied by emission reductions in other sectors of the economy as well as globally coordinated action to address climate change. Despite uncertainties about the overall impact of the coal exit, many activists mentioned that it would most likely lead to a reduction in CO_2 emissions that would, even if only in a small way, still contribute to climate protection. "I think it simply makes sense to start at our own door step" summarized one.

5.2.2. "It's a global issue" - Consequences of and groups affected by the transition

All of the activists considered people affected by climate change a relevant group in the lignite phase out. This included people all over the world, although there was a focus on people in the Global South[3] as those were said to bear the brunt of climate change. A consequence of a quick transition could be that it mitigates extreme weather events, desertification, and rising sea levels, and by that avoid more people dying or losing their home due to climate change. The next generations were also to be

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[3] Global South and Global North, rather than being set geographic designations, describe whether groups or regions hold marginalized or respectively dominant positions in a geopolitical and economic sense (Kothari *et al.*, 2019).

considered in this regard some activists added, as, although caused now, climate change will only develop its full destructive potential in the decades to come.

The second group that all of the activists mentioned were workers directly employed in the coal sector. There was disagreement on the effect that the coal exit would have for workers. Most activists stressed that there were only very few people still employed in the lignite sector and thought with the proper support (e.g. training programmes) workers would easily find new jobs. Still many activists mentioned that the coal exit might make workers worry about their financial security. A few also thought that workers might refuse to work in other jobs, because their identity was tied to the lignite sector. Half of the activists also named workers employed at subcontractors or coal related industries as a group affected by the coal exit.

As a timely coal exit would prevent further villages from being destroyed, a majority of the activist also considered those affected by resettlements as a relevant group in the transition. Half of them said, that the regional population in general would be affected by the coal exit as well, either because the coal industry contributed to the regional wealth or because public projects were often directly funded by the coal industry, which would stop. Many of them also mentioned that the coal exit would alleviate the local environmental harm caused by the lignite industry, such as air and water pollution and land loss. This would also have a positive impact on the regional populations' health a few noted. Two added that nature was also an entity to be considered by itself, as one of them put it: "Lignite mining is something we can't afford in regards to nature, that is we are doing injustice to nature".

5.2.3. "A good life for all" - Distributional justice

All of the activists agreed that climate change by itself is unjust, as those that are affected by it are mostly not the ones that cause it or that enjoy the benefits of the lignite industry. As one said: "We're not calling this the climate justice movement instead of climate movement for no reason, after all the climatic changes trigger a justice crisis". Some then also referred to the environmental and social injustices caused on a local scale by lignite mining. The most central demand in the interviews was a quick coal exit because a prolonged use of coal would further worsen these distributional injustices.

Subsequently, a majority pointed out that coal workers shouldn't have to carry the burdens that come with this quick coal exit. This included workers at RWE, but also at related industries, as some stressed. They expressed empathy for the social and financial insecurities arising from the transition and many supported the social security measures set by the coal commission, such as retraining schemes, compensation payments after workers are laid off and early retirement. Others went further by suggesting that the money spent on the coal exit could also be used to continue paying workers' full salary for reduced or even no working hours. There was some disagreement about which priority workers needs should take in the transition process though. While some stressed that "Everyone in the climate movement really cares that workers can continue to live well!" there was also a different narrative present in many interviews. As one put it: "It's important that you consider justice on a global scale and not only in regards to employees of the lignite sector, I think the latter is subordinate here". Another backed up that narrative by arguing: "Looking at the suffering that lignite coal causes globally, the suffering of those who lose their jobs, especially with the social security system here, is much smaller".

Another injustice of the coal exit, as perceived by a majority of the activists, was that lignite companies, namely RWE, massively benefit not only from the use of coal but also from the coal exit through the billions of Euros paid in compensation to them as settled by the coal commission. They demanded lower compensation, no compensation at all or even RWE to pay a compensation for the harm done (see restorative justice).

Aside from the concrete measures mentioned above, calls for much more fundamental change were a key part of all of the interviews. One argued that the costs for electricity were unjustly distributed between industries and households. Some saw distributive injustice arising from the privatisation of the energy sector, demanding its remunicipalisation, another envisioned the future energy grid as decentralised and sustainable. There were also wider demands on redistribution of wealth in the society as a whole, e.g. through stronger taxation of the rich or unconditional basic income. Their demands were summarized by some as "a good life for all".

5.2.4. "We have to negotiate with everyone who is affected" - Procedural justice

Besides distributional justice, calls for procedural justice were a pivotal theme in the interviews with the activists. Some spoke about how both people in villages that were to be resettled as well as workers deserved long term planning and more reliability in the transition process. Many expressed that they thought decisions on the coal exit should be made through participatory processes that involve everyone who is affected by it, including people form the mining regions and workers but also those affected by climate change. "As the whole society we have to engage in discussions and develop a shared vision" summarized one. Some envisioned bottom up processes with plenaries as the decision making bodies instead of a representative democracy. A few others argued though that if one managed to restrain the influence of economic interests, representative democracy could deliver just outcomes and saw citizens' councils as a valuable tool there. In general ideas about a system change were very present, which included a rethinking of the values and priorities that prevail in society. One described their utopia as a world where "[…] we've abolished capitalism and the aim of society is instead the greatest possible happiness for everyone".

5.2.5. "There are historical injustices that we have to make up for" - Restorative justice

The third dimension of justice that came up in the interviews with activists was restorative justice, where claims mainly related to the distributional injustices of climate change. A common demand was that due to its historical responsibility for climate change the Global North had to be the first to drastically cut emissions in order to allow the Global South a bigger CO_2 budget with which to raise living standards. One activist also said that the Global South needed to be paid compensations for the harm done by climate change, another that RWE should pay for the harm it did in terms of the local and global environmental impact.

5.2.6. "A fair coal exit is not possible within a capitalist system" - Hurdles to justice

Capitalism was the issue most often mentioned by activists as a hurdle to justice in the transition. "I think all this [a fair coal exit] won't work anyway without fundamentally restructuring the economic system" said one. They criticised that a capitalist system would always favour profit over the well-being of humans and nature and that the growth imperative that comes with capitalism would be per se unsustainable. That justice demands weren't met was also explained with failures of the political system, e.g. that it relies on voluntary commitments of the free market to solve injustices, that big industries have substantial influence on political decisions or that the way that power is distributed in society is unjust to start with. Some also pointed to the specific problems in the lignite case. They said that companies used workplaces as pretext to continue reaping profits in the lignite sector. One described the considerable influence that the coal workers' union IG BCE has in German politics. Some mentioned that RWE manages to exert pressure over regional politics because it finances local public infrastructure, it has good personal connections to local politicians and also because local municipalities hold RWE shares.

5.2.7. "It's all of us that are responsible for a just coal exit" - Paths to justice

Asked about who was responsible for bringing about justice in the transition process one replied: "Well I'm looking to us [the climate justice movement] there of course… actually it should be the

government's job but it seems like we need that strong bottom up movement". Many agreed and added other actors within the civil society like NGOs or other grassroots movements. One activist also considered militant guerrilla-groups responsible, another coal workers. Arguing that a fundamental change of the political systems was unlikely to happen soon, many said that these groups could achieve more justice now by putting pressure on politicians to make the right decisions. Protest and civil disobedience were mentioned as means for this by many, the person that also saw workers in the responsibility said those could go on strike.

5.2.8. "I guess we could agree on some things … theoretically" - The other group

A majority of the activists thought that their own and workers' demands didn't stand opposed to each other and that there were some demands that both groups could agree on. Many stressed that workers weren't to blame and that their critique targeted RWE instead of the individual worker. A few named issues of distributional justice for workers as a shared demand, others said the that both them and workers wanted a good life for all. Still, many also saw opposing intentions, as one put it: "I think in theory we aren't too far apart in what we want, so I can imagine that we could also agree on some things. The problem is of course that Ende Gelände, or the climate movement, fights to shut down certain branches of the industry and that is of course not in the interest of the people employed there". Two activists even saw significant differences between the groups and couldn't think of any common demands, although, interestingly, both had before demanded distributional and procedural justice also for workers. Some mentioned that they didn't know for sure what workers actually demanded.

Half of the activists doubted that it would be beneficial for Ende Gelände or the climate justice movement in general to have closer ties to the workers or said it might be beneficial but without further specifying. The other half thought a closer cooperation would be very important. A few reasoned that this would enlarge the proportion of the general population supporting climate justice. "I think if we want a socially just society in the end, we should already start practicing this social justice now and somehow take ourselves serious in that regard" argued another. Two other reasons that were named once were that unions had a powerful position in German politics and that workers held a key position in the fight against fossil energy sources.

There was general agreement that there is currently no cooperation between workers and activists and activists thought there was little enthusiasm among both activists and unions to change that. Some pointed out that the climate movement had tried to establish cooperation at the beginning of the coal struggle in Rhineland but had failed. As to the reasons there were many different opinions. Some said that the problem was that workers disregarded the global perspective that was so central to the activists understanding of the transition needed. Others said that the fact that workers' identity was so much tied to coal was problematic. Another though didn't see this a problem, arguing it was more the social security that came with a job in coal rather than the self-image as a coal worker that they cared about. Many of the activists thought that their demands were misperceived by workers: "That we're actually against lobbyism and the management of RWE and not against every worker, that we don't want to put the blame on them and theoretically want to collaborate with them, is maybe not what they understand from our communication". This misperception was explained by some with Ende Gelände having to focus on a few and simple messages (e.g. "coal exit now") in their media strategy. A few also thought prejudices from both sides, as well as classism on the activists' side, hampered cooperation. One argued that Ende Gelände with its radical demands and tactics wasn't the right actor within the climate justice movement to cooperate with workers. Finally, many said that it was either not their personal focus or that the climate justice movement lacked capacities to also fight for workers' rights and considered other actors, mostly unions, responsible for this.

6. Derived just transition approaches

6.1. Applicability of the Just Transition concept

Is the concept of Just Transition applicable to frame workers' and activists' demands and concerns in regards to the Rhinish lignite phase out? Of all interviewees only four activists were familiar with the Just Transition as a concept. Still, all interviewees used justice as an argument to justify their demands. Additionally, interviewees of both groups explicitly stated that they thought it was important to consider justice in decisions regarding the lignite coal phase out. Thus I conclude that in both groups "[…] the idea that justice and equity must form an integral part of the transition towards a low-carbon world […]" (Just Transition Research Collaborative, 2018, p. 4) prevailed and their answers can thus be framed as different interpretations of a just transition.

I derived just transition approaches by abstracting relevant information form the interview material and applying a just transition frame to it. The derived just transition approaches only draw on the key issues of each group. A key issue for a group was present in almost all of the interviews and played a central role in the individual interviews. Other issues that were only mentioned by some or only in passing in the individual interviews are not included in the approaches described below.

6.2. Coal workers' just transition approach

The workers employed at RWE, the mining region's population (including people employed in lignite related industries) and low income households were mainly referred to as groups to be considered for a just transition by coal workers.

The focus of their distributional justice demands were concrete measures to alleviate the economic and social burden caused for these groups by the coal exit. In terms of procedural justice, the main objective was to ensure reliable long term planning and participatory transition processes. Recognition justice was another key issue in the workers' interpretation of a just transition, as the misrecognition and devaluation of coal workers was denounced as a severe injustice. (see table 1)

Workers saw unions, the state and RWE as responsible to bring about a just transition. Acknowledging that this wasn't necessarily in the interest of RWE they demanded the state provide the legal framework to hold RWE accountable. There was in part a realization of systemic problems that stood in the way of a just transition. Still the envisioned path to a just transition largely remained within the current structure of the economic and political system, although in parts suggesting adjustments (e.g. a more participatory decision making processes through better dialogue between the relevant actors).

6.3. Activists' just transition approach

The groups that most activists referred to as relevant in the context of a just transition were people affected by climate change (especially in the Global South and coming generations), workers in the lignite sector and related industries, the mining region's population, the population of resettled villages, but also society as a whole.

Activists demanded distributional justice in regards to all these groups, but most emphasis was put on the unjust nature of climate change. Additionally, activists perceived RWE as unjustly benefitting from the coal exit. Participatory decision making processes with all those impacted by the lignite industry and its phase out were of central concern in regards to procedural justice, but there were also calls for a reliable long term planning. The prevailing restorative justice claim was that the Global North had to drastically cut emissions in acknowledgment of its historical responsibility for climate change. (see table 1)

They envisioned a just transition to be brought about by a broad collaboration of actors from civil society through different means of political participation. A just transition for them went hand in hand with a restructuring of the economic and political system.

Table 1: Workers' and activists' justice claims

Dimension of justice	Group	Affected group	Concerns/Demands
distributional justice	workers	workers at RWE	well paid jobs with good working conditions, social security measures
		region's population, workers in related industries	financial support in the transition process to prevent economic downturn and further job losses
		low income households	affordable energy
	activists	people affected by climate change	burdens (impact of climate change) and benefits (energy, wealth) of lignite as an energy source unjustly distributed, quick coal exit to not worsen this injustice
		region, villages	environmental and social burden of lignite mining, quick coal exit to not worsen this injustice
		workers at RWE & related industries	social security measures
		RWE	unjustly benefits from the coal exit
		society	"a good life for all"
procedural justice	workers	workers, region	reliable long term planning, participation in decision making process
	activists	workers, region, villages to be resettled	reliable long term planning, participation in decision making process
		people affected by climate change	participation in decision making process
recognition justice	workers	workers	misrecognition, loss of appreciation for their work, being devalued for their work/identity as coal workers
	activists	-	-
restorative justice	workers	-	-
	activists	Global North	historical responsibility for climate change, thus needs to quickly cut emissions

6.4. Comparing the approaches

In comparing the two just transition approaches firstly the justice claims will be considered. An apparent difference is that whilst activists focus on advocating justice for those affected by climate change, this group is completely missing from justice claims in the workers' approach. Accordingly, only activists made explicit references to restorative justice, which they relate to the historical responsibility of climate change. Unlike the activists' the workers' approach doesn't acknowledge the environmental and social injustices caused locally by the mining process, nor does it consider RWE as unjustly benefiting from the coal exit. Unique to the activists' approach is also that justice in the transition process must go along with justice for society as a whole. On the other hand, the activists' approach doesn't consider low-income households affected by rising electricity prices, and some ways in which workers are affected, e.g. the precarious working conditions that await them outside the coal sector. Their approach also doesn't include recognition justice for workers, which is of central importance to those. Still there is also agreement on some core issue. Both approaches share the notion that workers and the mining region's population shouldn't have to carry the burden of the lignite exit and that a coal exit as such is necessary. They also align in their calls for more participatory processes as well as reliable long term planning in the phase out.

To sum up, there is a degree of overlap between the workers' and activists' justice claims as part of their just transition approaches, but there are also differences on specific issues. The most important

difference between the groups though is their prioritization of different justice claims, which can be described by drawing on Stevis and Felli's (2020) conception of scale (see chapter 3.3.): The workers' just transition approach prioritizes justice issues of local and in part national scale. As they focus on the immediate effects of the coal phase out, the timescale of their approach is comparatively short. The activists' approach on the other hand, considers both the local and global scale, although prioritizing the global scale as concerns about climate change take a central role. Considering, e.g. the long term effects of climate change, the timescale of their approach is longer compared to the workers'.

This is supported by McCauley and Heffron (2018) which find climate justice to provide an understanding of just transitions where climate change concerns dominate. This corresponds with the larger climate justice theory. As they put it, in contrast to environmental justice, which has a focus on the local injustices of resource extraction, it's a core attribute of climate justice to consider injustices on a global scale (ibid.). McCauley and Heffron (2018) also conclude: "Climate justice provides a long-term temporal aspect to just transitions […]" (McCauley & Heffron, 2018, p. 3).

Kalt (2021) has found similar conflicts "[…] around competing claims for distributional, restorative, procedural and recognition justice" (Kalt, 2021, p. 12) between the wider climate justice movement and unions in the Rhinish lignite case. And, crucially "[w]hile neither denies that both job and climate concerns are valid, the dominant response is the prioritization of one's own and the delegitimization of competing justice claims" (Kalt, 2021, pp. 13–14).

Secondly an comparison of the kind of change envisioned in the two just transition approaches, as well as the hurdles and paths to a just transition can be summarized by applying the Just Transition Research Collaborative's (2018) four ideal-typical categories placed of the y-axis of their framework (see chapter 3.3.). The activists' just transition approach clearly falls into the category "Transformation", as it demands "an overhaul of the existing economic and political system" (Just Transition Research Collaborative, 2018, p. 14) and builds on "[…] a process that entails grassroots empowerment, everyday resistance and struggle, and the power of movements—rather than elites and policy makers" (Just Transition Research Collaborative, 2018, p. 15). The transformative character of the climate justice movement's demands is also found by Kalt (2021) and Sander (2016).

Unlike a "Status Quo" just transition, envisioning change "[…] through voluntary, bottom-up, corporate and market-driven changes" (Just Transition Research Collaborative, 2018, p. 12), the workers' just transition approach claims that market pressures must be counter-balanced by government regulation to ensure justice in a transition process, which is why it is better described by the category "Managerial Reform". Typical for this is also a "[p]articular emphasis […] on social dialogue and tripartite negotiations between governments, unions and employers as the process through which rights and benefits can be secured" (Just Transition Research Collaborative, 2018, p. 13), which seems to resonate with the workers' approach. However, it doesn't go further than that, as the "[…] belief that current power relations must be challenged and changed, and that this can only be achieved through public/social ownership and democratic control over key sectors (and in particular energy)" (Just Transition Research Collaborative, 2018, p. 14), typical for a "Structural Reform", isn't present in the workers' just transition approach. While there is little work that directly compares with this thesis, Evans and Phelan (2016) find that the "[…] labour movement is likely to rely heavily on government-led initiatives […]" (Evans and Phelan, 2016, p. 337) and the work of Pichler *et al.* (2021) points to unions' hesitancy to adopt transformative approaches in transition processes.

7. Creating a shared goal for a just transition

What can the above analysis of different understandings of justice between coal workers and climate justice activist inform us about creating a common and shared goal for just transitions?

To answer this question let us first contextualize the two groups current positions concerning the hegemony of the incumbent fossil fuel regime (Newell, 2019). Described more theoretically by Newell (2019) this hegemony has also been documented in particular contexts, e.g. by Evans and Phelan (2016), which find a "hegemonic dominance of the coal industry over the Hunter region" (Evans and Phelan, 2016, p. 332) in Australia. Is the same true for the Rhinish context?

I would argue so. To recapitulate: an actor's hegemony becomes apparent as its interest is accepted as common interest and markets and governance are structured accordingly (see chapter 3). Firstly, RWE has repeatedly stated that public interest is promoted by fostering RWE's interest (Brock and Dunlap, 2018), seemingly with some success as, secondly, Kungl (2015) finds the four dominant German electricity companies' interests, RWE being one of them, to be heavily reflected in German energy governance and markets. Likewise Kalt (2021) has pointed to a hegemonic dominance of the coal industry in the Rhineland. As industry representatives have declared to be largely satisfied with the coal commission's results (Gürtler, Löw Beer and Herberg, 2021), I would argue that their hegemony hasn't been disrupted by the decision for a coal exit.

Clearly the energy companies wouldn't be able to exert this dominance without support, and the setting is better described as a "hegemonic coal alliance of fossil capital, provincial governments in the mining regions and significant forces in the federal state" (Kalt, 2021, p. 10). And even though German labour unions "[…] have partly begun to participate rather than obstruct the transition" (Just Transition Research Collaborative, 2018, p. 21), as illustrated by the example of ver.di, (Kalt, 2021) shows how the IG BCE, representing a majority of workers, firmly remains part of this hegemonic coal alliance. This sort of alliance is not unusual for the German context "[…] carbon-intensive economies involve a close and often collaborative relationship between state institutions, industry representatives, and trade unions. Germany has a long tradition of this tripartite concertation of interests […]" (Herberg *et al.*, 2020). The climate justice movement on the other hand has been described as an a critical force in challenging dominant power relations in energy politics (Routledge, Cumbers and Derickson, 2018).

Does that mean activists and workers take opposing positions, one challenging, the other trying to reinforce the hegemony of coal?

Indeed, this thesis underlines the counter-hegemonic stance of climate justice activists: with their persistent calls for a transformative just transition, existing power structures are challenged. This is also found by Kalt (2021). But placing workers in the power nexus around the hegemony of coal is more complex. While the unions' relation to energy transitions (see e.g. Abraham, 2017; Evans and Phelan, 2016; Hampton, 2018; Kolde and Wagner, 2022; Pichler *et al.*, 2021) is well studied, equating workers' with unions' or even companies' interests is imprecise. But more on the potential fissures in workers' association with the hegemonic coal alliance uncovered by this thesis later.

First of all, it is important to see, that a clear vision of shared goals for a just transition is certainly lacking in both activists and workers. Quite on the contrary, both groups reinforce the jobs-versus-environment binary, as I will show below.

Although there was the conviction that workers shouldn't carry the coal exit's burden among activists, many also felt they had to weigh up justice claims, stressing how workers' justice claims were subordinate to global justice claims arising from climate change, because of the number of people affected and severity of their suffering. This was also seen in how some expressed that their own or

the climate justice movement's limited capacities shouldn't be spent on fighting for workers' rights. Although there were some notable ideas on how to avoid a trade-off between climate justice and justice for workers (e.g. continuing full pay of workers after they've been made redundant) the conviction that shutting down the lignite industry has to be, at least to a certain degree, to the workers' detriment prevailed. This becomes even more apparent, as Ende Gelände's website points to missing concepts for a Just Transition and calls the need for a quick coal exit, which risks jobs, a "justice dilemma" (ende-gelaende.org, n.d.).

Workers also foresaw negative consequences for them and their regions as a seemingly unavoidable consequence of the coal exit, despite social security measures and structural support money assured by the government to counteract the economic and social decline. And even more tellingly, although they expressed support for environmental protection, they still unanimously perceived climate justice activists' intent as directly opposing their interests. Workers prioritized a slow exit that would ensure local justice, whilst the global injustices arising from climate change weren't of concern.

Even though there is potential to create a different type of narrative, after all workers support climate protection and activists support workers' social security, both groups construct a jobs-versus-environment-binary by the conviction that these aims had to be weighed off against each other. This is also what Kalt (2021) finds in his work on unions and the wider climate justice movement in the Rhineland: "Both movements' prioritization strategies construct a jobs versus climate divide that reinforces the inevitability of trade-offs and locates labor and environmentalists on opposing sides of the conflict" (Kalt, 2021, p. 14).

Interestingly RWE actively exacerbates this dichotomy, as exemplified by a recent quote of one of RWE's chairmen, declaring that a quick coal exit would lead to "[…] zillions of jobs and prosperity being lost" (Cwiertnia and Heuser, 2022). That it is in the interest of extractive industries to have debates about their regulation framed as a case of a jobs-versus-environment-binary has been extensively covered (Barton and Román, 2012; Evans and Phelan, 2016; Healy and Barry, 2017).

Not only does putting forward the jobs argument enable RWE to strengthen the hegemonic coal alliance that secures the company its dominant position by binding unions and state actors to it. The job-versus-environment-binary also isolates counter-hegemonic movements. The most striking example for this is a case from the late twentieth century regarding the forestry sector in North America's Pacific Northwest where "[…] the battle to save the last stands of ancient forest has left forest product workers and single-issue environmentalists at each other's throats" (Foster, 1993). Here "[t]imber firms have generally sought to reinforce this rage of the workers against environmentalists, adding fuel to the fire at every possible opportunity, with sawmill owners actually sponsoring anti-preservationist lectures during working hours at the mills" (Foster, 1993). Brock and Dunlap (2018) also observe RWE to employ "strategies of stigmatisation and criminalisation" (Brock and Dunlap, 2018, p. 41) in the Rhineland to delegitimize opposition groups, e.g. by questioning their intent or denouncing them as violent criminals[4].

This "divide and conquer strategy" (Foster, 1993) has successfully inhibited a coalition of environmentalists and workers in the forestry case, although their goals are compatible and they have a shared interest in opposing the timber industry in their respective issues (Foster, 1993). As a result, extractive industries' dominance remain largely intact, for as Barton and Román (2012) show,

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[4] RWE CEO Peter Terium is quoted in (Brock & Dunlap, 2018) saying about the occupants of the Hambacher Forst: "'They have no ideology, they are sheer criminals and are only interested in excessive violence'" (Brock & Dunlap, 2018, p. 41)

managing each movement's challenge separately allows them to "[…] concede the minimum to avoid damage to productive interests and social unrest" (Barton and Román, 2012).

Following Kalt (2021) RWE's strategy has also largely been successful in the Rhineland as the prevalence of the jobs-versus-environment-binary has hindered an alliance of unions and activists, thereby weakening the counterhegemonic challenge to the coal alliance. This seems to be a more general trend as Pichler *et al.* (2021) find that "[…] trade unions tend to reinforce the jobs-versus-environment dilemma […]" (Pichler *et al.*, 2021, p. 7), which might also be due to the fact that a transformation of their sector could potentially result in a power loss for the union as an institution (ibid.). But here is where we get back to the idea that workers' and unions' positions aren't necessarily the same.

Indeed, workers keep to the dominant coal alliance's narrative in large parts, e.g. in sharing the view that this transition is a case of a jobs-versus-environment-binary. But also questioning the feasibility of the phase out and most striking their view of the activists as violent, unauthentic and holding a bad opinion of workers resembles much of the narratives pushed by RWE and the IGBCE (Brock and Dunlap, 2018). But, importantly, they also diverge from this narrative. One point is especially relevant for creating a common and shared vision of just transitions.

This point is the workers' worry about the increasingly precarious working conditions[5] both on the labour market, but also within the lignite sector. Fighting this increasing precarity within or even outside the lignite sector as part of a just transition hasn't been on the agenda of the IG BCE (IG BCE, n.d.a). But the workers' worry is indeed reasonable. Ever since the global restructuring of capital under the neoliberal dogma beginning in the 1970's levels of precarious working conditions have increased (Antunes, 2016). If current trends continue only a minority of the workforce here in the EU will have standard contracts by the end of this decade (European Parliament, 2016). This even applies to sectors like the lignite industry that used to profit from strong unionization rated and collective wage agreements as the workers pointed out, reporting how RWE undermined wage agreements and externalized work to subcontractors. A similar situation has been found by Evans and Phelan (2016) in their case study in the Australian coal mining region Hunter region: "Coal miners' well-paid jobs are becoming increasingly precarious in a deregulated market facing structural decline" (Evans and Phelan, 2016, p. 335). There is no official data on this issue, but a statement by RWE that it works with about 10.000 sub-contractors in Germany alone (DGUV, 2014) hints to the extent of on the levels of precarity in the lignite sector. This feeds into workers' awareness that their interest isn't necessarily best served by simply enforcing energy companies' interest in the transition process.

I argue that it is this fissure between workers and the hegemonic coal alliance that could be a starting point for a counter hegemonic movement that unites labour and climate activists. From my interviews there seems to be a more critical stand towards the way capital interests dominate the economic system among workers than currently expressed by their union. This is something that the climate justice movement could pick up on. Doing so could be part of a narrative that shows that even though workers' and activists' justice claims aren't the same, they aren't contradictory and solutions can be found that achieve both climate justice and justice for workers.

One possible argument would be that the deregulated market does not only lead to increasing precarity as shown above. It also has a poor history of nurturing corporate social responsibility (Just Transition Research Collaborative, 2018). Thus workers shouldn't rely on receiving their fair share of

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[5] Precarious working conditions are characterized by high employment insecurity, low wages and low regulatory control over working conditions, which are mostly, but not exclusively, found in non-standard jobs (Campbell and Price (2016).

the 2.6 billion Euros paid to RWE by the state in compensation to allow for a socially equitable decommissioning of lignite infrastructure (*Kohleverstromungsbeendigungsgesetz* 2020). It is the same extractive nature of capitalism, always striving to minimize costs, that activists see as the most severe hurdle to climate justice. As Huber (2019) puts it, winning labour support for environmental protection "[…] could start by simply making the connection between the ways bosses exploit workers and the environment" (Huber, 2019, p. 23). Foster (1993) lays out a similar line of argumentation: "[…] once the narrow profit-making goals of corporations are no longer seen as the primary constraint in working out solutions to problems of the environment and employment, all sorts of new rational possibilities open up, allowing for the development of common ground between workers and environmentalists" (Foster, 1993). Forcing RWE to take over its financial responsibility towards workers and the climate could be a core demand of an inclusive just transition approach that would finally overcome the jobs-versus-environment binary. Other lines of argumentation could be laid out, e.g. on inclusive decision making processes, but elaborating them exceeds the scope of this thesis.

A necessary prerequisite would be that the climate justice movement lets go of the assumption that workers wouldn't be willing to leave the lignite industry one way or the other because their identity is tied to coal, as expressed by some activists in the interviews. Although it seems to be true and workers told me that they enjoy and used to take pride in working in lignite (see also Buchholz, 2021), some explicitly said they would prefer working in a sustainable job if only the conditions were similar. I assume this is partly founded in suffering caused by the lignite sector's increasingly negative public image (see also Kalt, 2021). A cooperation will only be possible if the climate movement finds a way to communicate with workers that respects workers' identities. As Gürtler and Herberg (2021) find in their study on a different German lignite mining region, disrespect, stigmatization and othering exercised against employees of the old, fossil based energy providers must be carefully considered in a transition process and recognition justice is often underestimated.

Surely, there would still be disagreements between workers and activists, e.g. specific justice claims or the depth of the change envisioned. But as Winkler (2020) argues, the Just Transition concept could serve as a unifying principle for a new counterhegemonic alliance. In that alliance some actors "[…] may also support other objectives, not shared by other members of the alliance. […] As long as the actors find a common interest in the just transition, this is sufficient" (Winkler, 2020, p. 8).

If such a counterhegemonic alliance of labour and climate justice movements could be achieved much would be won for both sides. The workers on the one hand rightly worry about the declining unionization rate, i.e. the percentage of workforce organized in unions. Their political power stemming from uniting a considerable part of the workforce has allowed unions to counter the exploitation of workers and establish socially equitable working conditions (Boeri, Brugiavini and Calmfors, 2001). But already in 2001 Boeri, Brugiavini and Calmfors (2001) found unionization rates to be at the lowest since the Second World War across Europe as well as in Germany and their prediction that this trend would continue proved true as the unionization rate in Germany kept falling to 16,3% in 2019 (OECD, n.d.). In light of this declining political power of unions, the unions might look for new alliances or workers as individuals might use support from the climate justice movement that, unlike the unions, seems to gain traction in Germany's political landscape.

For the climate justice movement on the other hand, winning broad support among workers would be a significant gain. This is not only because it would increase the share of the general population supporting climate justice as some activists in the interviews have argued. The workers' key position in the fossil energy system that one activist hinted to is, in my view, a pivotal point. Huber (2019) has elaborated it: he describes how environmental activists, by putting their bodies in the way of ecological destruction, have rightly recognized the power of disrupting the extractive capital system. But: "[…]

activists only possess limited disruptive capacity. They succeed in blocking a pipeline here, an oil train there, but fail to put much of a dent in the mass fossil fuel complex at the center of the reproduction of capitalism" (Huber, 2019, p. 22). Workers on the other hand possess a significant disruptive capacity as with simply withdrawing their labour, that underpins the entire economic system they have "[…] the strategic leverage to shut down capital's profits from the inside" (Huber, 2019, p. 2). Tapping into workers' disruptive potential would of course mean that the climate justice movement would have to be willing to allocate resources to actively supporting workers fights for a safe, reliable and financially secure future[6]. I argue it would be worth it.

It might be surprising that despite laying out this argumentation I'm very aware that a cooperation between workers and activist is highly unlikely in the Rhinish lignite context. Coal workers' aversion to activists is indeed strong, Ende Gelände might not be the right actor to cooperate with workers, building an alliance would need much effort and the climate justice movement's focus is shifting to other topics (e.g. fossil gas, see (ende-gelaende.org, 2021)). Still I am convinced that the analysis of this case provides valuable insights on problems and potentials in collaboration between labour and climate justice movements in transition processes. Rising social inequality and the urgency of climate change dictate the transformation of large swaths of the economy. As "[i]t is clearly too early to call time on the current fossil fuel energy regime […]" (Newell, 2019, p. 18) strong counter hegemonic alliances are needed. Whether those will manifest will be decided by actors' capacity to overcome diverging justice claims and unite under a shared vision of a just transition.

8. Conclusion

As the world's political economy is locked in a fossil fuel hegemony, strong counter-hegemonic alliances are needed. This thesis has investigated the hurdles and potential for labour and climate justice movements to unite under a shared vision of a just transition by looking at the example of the Rhinish lignite phase out.

The semi-structured interviews conducted with coal workers and climate justice activists illuminated in detail what coal workers and climate justice activists conceive as justice in the transition process. For the important role that justice played for both groups I concluded that their answers can be framed as approaches to a just transition. This thesis revealed significant differences between the approaches. They diverge in the temporal and geographical scale of their justice demands, the types of justice demanded and the depth of change envisioned. But I was also able to show that there is agreement on some issues, e.g. relating to procedural justice, and that there are potential narratives that could reconcile workers' and climate activists' just transition approaches.

Even though the conditions of the transition in the Rhineland are largely settled and fixed by now, there is much to learn from looking back at the different interests, power relations, alliances and narratives at play here. A key insight is that it is in the interest of fossil fuel corporations to have discussions about their industry's transition framed around a jobs-versus-environment binary, as this strengthens their hegemonic alliance preserving the status quo. Overcoming this binary will be decisive for the possibility of a climate-labour alliance. To build such an alliance, climate justice activists would have to be willing to commit resources in support of workers needs and find a way of communication that respects workers' identities, while workers would have to acknowledge the justice claims of those negatively impacted by their industry. While in the Rhinish case this seems unlikely, these lessons might prove valuable for actors impelling future transitions. Those actors might also find hope in this

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[6] Note that activists "'that's not our problem' attitude" Foster (1993) towards workers' worries, was a focal part of the divisions between workers and activist in the forestry case.

thesis finding that there is support for climate protection among workers and support for workers' needs among climate justice activists. Finally, with the increasing precarization of the labour market, unions' declining power and the climate movement's limited disruptive capacity there are strong arguments to invest energy in creating a new counter-hegemonic alliance that unites under a shared goal for a just transition.

As this work has shown, a holistic view on energy transitions must consider questions of justice and acknowledge the deeply entwined nature of economy, ecology and politics. Work on understanding the role of the state in transition processes, establishing novel narratives or on forming counter-hegemonic movements is strongly encouraged - be it in academia or on the streets.

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Appendix

1. What is your opinion on the German coal exit?
2. What are the consequences, positive and negative, global and local of Germany's coal exit? Who is affected?
3. What are factors that should be considered in decisions regarding the transitions away from fossil energy sources?
    a. What must be taken into account when deciding when and how to transition away from fossil energy sources?
4. Is "justice" (or "fairness") one of these factors?
    a. if so: How important is it?
5. If a transition away from fossil energy sources is meant to be just – who needs to be considered? For whom must justice be reached?
6. What does "justice" mean to you? What makes a decision or a process just?
7. *relate to the answers of question 2 & 6* What then would a just coal exit in the Rhineland look like?
    a. What would need to happen for it not to be unjust?
8. What stands in the way of a just coal exit in Germany? What would need to change so this transition can be just?
9. Whom do you see as responsible for facilitating a just coal exit in Germany?
    a. Which institutions?
    b. Do you yourself carry responsibility?
10. Who currently has influence in decisions on the German coal exit? How is this influence exercised? Who does not have influence?
11. Who should have influence on decisions regarding the transition away from fossil energy sources? How should this influence be exercised? Who should not have influence?
12. What are the means that should be employed to reach a just transition?
    a. Do you know examples for just processes? How was that justice facilitated?
13. Do you think in regards on justice question there is an overlap between the demands of you as *own group* and *other group*?
14. Have you heard of the concept "Just Transition" or "Gerechte Übergänge" before?
    a. If so what does that mean to you? Is that concept useful in your context? If so why and how?
15. What is the worth of nature to you? Or: With which of the following sentences would you agree?
    a. Nature and natural resources can be used until their depletion.
    b. In the future technological innovation will make humanity more independent from nature.
    c. Nature should be protected as it is the basis for our human existence.
    d. Nature is worthy of protection, regardless of its usefulness for humanity.
    e. Conserving nature is more important than human needs.
16. Is there anything you want to add before we end the interview?

Document 1: Interview guide

Table 2: Overview group demographics

		Activists (total=10)	Workers (total=4)
Age	20-30	5	2
	30-40	4	1
	40-50	1	1
	50-60	-	-
resident in Rhineland region	yes	1	4
	no	9	-
highest educational qualification	Abitur	3	-
	vocational training	1	4
	Bachelor's degree	2	-
	Master's degree / Diploma	4	-

Table 3: Main categories for content structuring analysis

main category	derived from interview guide question number	description
consequences and feasibility of transition	1	effects of the transitions away from fossil energy sources, opinions on the feasibility of the German lignite coal phase out
groups affected by transition	2	groups affected by transition away from fossil energy sources, ways in which they are affected
factors in transition	3, 4	factors relevant for decisions concerning transitions away from fossil energy sources
definition of justice	6	interviewees' definition of justice
demanded justice	5, 7	specific demands to make a transition just, perceived justices and injustices in the German lignite coal phase out
hurdles to justice	8, 10	circumstances, systems, institutions, groups (…) that stand in the way of a just transition
paths to justice	9, 11, 12	institutions, groups, individuals (…) responsible for bringing about a just transition, means to bring about a just transition
the other group	13	perception of activists' goals, methods, (…) by coal workers and vice versa
concept "Just Transition"	14	familiarity with and relation to the concept of "Just Transition"
attitude towards nature	15	worth of nature, relationship between humans and nature

LUND UNIVERSITY

Participant Consent Form

Preliminary title of research study: Contested justice – climate justice activists' and workers' interpretations of a just transition in context of the lignite phase out in Rhineland

Researcher: Anna Weinrich, Masters student in Culture, Power and Sustainability,
Lund University Division of Human Ecology

Contact: an3326we-s@student.lu.se

The researcher has informed me about the following:
1. The purpose of the study[1].
2. I can withdraw from the study at any time. If so, I don't have to give a reason for that.
3. The audio-recording of the interview. These data will be stored on an encrypted hard-drive and deleted after use for this particular thesis.
4. All information the researcher gets from me is kept confidential. My name is anonymized.

Date and signature

_____
Name in block letters

_____

[1]This thesis aims to deepen the understanding of conceptions of a justice in the context in energy transitions in the Rhineland region. It seeks to analyse differences and similarities between the workers' and the climate justice perspective. This work will thereby contribute to the discussions around the concept of "Just Transition".

Document 2: Participant consent form