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Keeping the forest above to phase out the coal below: The discursive politics and contested meaning of the Hambach Forest

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ABSTRACT

The exit from socio-technical regimes enjoys increasing scientific interest. While many studies which cover energy or sustainability transitions focus on system contexts, there is still a lack of research focusing on the locations and arenas of negotiation. The Hambach Forest in Germany is one such opportunity to investigate the discontinuation of coal energy production. Reconnecting the global with the local sides of policy issues, we focus on the local policy arena in the context of the national coal phase out. The question is how the coal discontinuation is negotiated in the context of the Hambach Forest conflict and how actors engage in framing interaction over the course of the conflict, and how the competing framings changed over time. With an analysis of the controversy in the social and mass media about lignite mining in a very specific location, we were able to identify framings along which two groupings clashed in a physical and discursive struggle in 2018–2019, the 'Climate and Landscape Protectors' and the 'Protectors of Public and Economic Order'. We found the framing categories of 'responsibility', 'cost-lose-gain nexus', and 'dependencies' and identified their fluctuation during the period of analysis. Energy transition and environmental protection clash with energy production incumbency, primacy of economy or ecology, and law and order. The Hambach Forest conflict has become a representative struggle about the speed of the coal exit pathway in Germany.

1. Introduction

Energy transitions, as part of sustainability transitions, situate the targeting of emission-intensive sectors, such as coal-based energy production, at the centre of climate politics [1]. International decisions on global problems (e.g., the Paris Agreement) can trigger discontinuation processes on national levels (e.g., GHG emissions reduction targets requiring coal phase outs to be achieved) with resulting consequences on the local level (e.g., employment losses, termination of resettlements due to cancelled enlargement of a coal pit, protests, etc.).

In Germany, the socio-technical regime of coal has come under

substantial pressure, culminating in a discontinuation[1] law in which the government proclaimed the coal exit by 2038 with the possibility to antedate it to 2035 last year. Pressures lead to destabilisation processes [2] and situate the discontinuation of the socio-technical regime as a wicked governance problem [3–5], as part of broader transitions [6]. The abandonment of coal mining and energy production in Germany is a discontinuation process in the making and highly dynamic. It is simultaneously a negotiation or even a struggle, as well as a set of measures [7–12]. It is a governance problem in that, firstly, the discontinuation is to be intentional and planned, secondly, various actors are working to get this discontinuation politically negotiated and economically-legally

regulated, and thirdly, this poses problems of action for all those involved (speed of discontinuation, costs, implementation process, justifications and much more).

The Hambach area is an open coal pit in North-Rhine Westphalia (NRW). Protesters have been occupying the Hambach Forest which is located directly next to the coal pit owned by the energy company RWE AG, to protest against coal extraction. Protests and occupations against this started in 2012 and a law to preserve the forest was passed in 2020. The protest gained immense attention in 2018 when the occupiers were evicted on the order of the NRW Prime Minister.[2] Massive demonstrations of up to 50.000 people occurred in the area and, simultaneously, negotiations on a national coal discontinuation pathway took place in the commission, officially called the Commission on Growth, Structural Change and Employment (CGSCE), also called the "coal commission".[3] The commission was installed by the German government to negotiate a national pathway for the exit from coal in a consensual manner in February 2018 [20]. It was tasked with developing measures for the social and structural development and financing of the German states where lignite is mined. In particular, this required a plan to phase out the use of fossil fuels with a targeted discontinuation date. Published in January 2019, it recommends that the 84 remaining coal-fired power plants in Germany be completely phased out and shut down by 2038 [21].

With this study, we aim to follow the call by Meadowcroft [22] for a more politically sensitive understanding of transitions, the role of conflicts in energy transitions and what this implies for the theoretical lens of the governance of discontinuation. As the field of the governance of discontinuation is still emerging, it is fruitful to 'zoom in' on the local governance sites when controversy arises due to the discontinuation of a socio-technical regime. Reconnecting the global with the local sides of policy issues [23], this study focuses on the local policy arena of the Hambach Forest and coal pit in Germany in the context of the national coal phase out and poses the question, how the coal discontinuation is negotiated in the context of the Hambach Forest conflict and how actors engage in framing interaction over the course of the conflict, and how the competing framings changed over time. The study conducts a framing analysis with an emphasis on policy controversy [24], informed by concepts from the governance of problems approach [25], setting the focus on the construction of meaning within the discursive struggle, as far as it could be observed on electronic mass media sources used by the key actors, about the coal discontinuation in Germany in the Hambach Forest.

This paper is a contribution to understanding strategic framings of issues [25–27] and that "raises the problem of understanding the cognitive orientations shaping protest and movement formation within a social context" ([27]: 361). We focus on how the negotiation process of the coal discontinuation is co-shaped by conflict and coalition dynamics among actors with various interests and their problem definitions by looking into the Hambach Forest conflict as one of the "local energy conflict" zones characterising the German "Energiewende". We will first present the state of research and the theoretical focus (2), then explain the methodology of our approach (3) in order to develop the case study itself in detail (4). Following this, we compile the answers we have found to the research question which encompass the actor constellation, their interactions and three framing categories (5). We conclude the paper by

arguing that looking into local conflicts can illustrate fault lines in discontinuations within energy transitions and give an outlook on what requires further research on the topic (6).

2. State of research and theoretical focus

Research tends to focus on the role and advancement of innovations within transitions on higher aggregate levels of observation, leading to an innovation bias without regarding the possible flipsides of such processes as being part of them as it increasingly becomes clear [2–4,28,29]. This bias is evident in the literature as studies on energy transitions have often focused on either innovation management [30], national dimensions [31], social movements for RETs [32] or on local controversies regarding the implementation of Renewable Energy Technologies (RETs) such as wind power sites [33].

Regarding the discontinuation of coal, some research currently investigates the transition away from coal [34,35], also as more specific coal discontinuation pathways in UK and Germany [8,36] or in Ontario, Canada [37]. If the focus is not so much on the fact that coal is about to be phased out, but on the direction and change in development patterns, then we are talking about destabilisation of existing regimes of coal energy production [2,37] or destabilisation in general [38]. Other studies do not focus on the production of energy, but at the extraction of coal, and investigate how the closure of mines works: for instance, regarding the closure of coal mines in the Netherlands [39] and Germany [9,10,40,41]. Social movement research has investigated mobilisation processes [42] and opposition movements to coal mining in various countries like the Czech Republic, Romania, Chile, Indonesia, or the UK [5,43–46] and has drawn attention to the lived experiences of energy transitions, places of coal extraction and resistance towards it [10]. What remains missing is research that connects the role of local protests with the lens of governance of discontinuation to analyse how contestations of exit pathways take place and how actors interact with each other.

From a policy perspective we understand the Hambach Forest conflict as a crystallisation of the governance of discontinuation of the socio-technical regime of coal. A governance of discontinuation "appears on the political agenda whenever an actor or group of actors (a government, parliament, company or industry association, or group of countries) make a sharp reversal of direction and actively disengage from an on-going policy or governance commitment" ([3]: 112). Discontinuation is a property of a trajectory in which the constituting relations become misaligned to such an extent that its distinctive character is lost [47]. The theoretical lenses of discontinuation governance and governance of discontinuation differ. While the former refers to the discontinuation of a specific way of solving a policy problem to terminate a specific policy linked to changes in governance action and government functions [4,48], the latter is about the governing of the discontinuation of a particular problem, or in the case at hand, a specific socio-technical regime. The governance of discontinuation is the deliberate act of putting an established socio-technical regime under pressure [49] and conceptualised "as a particular way of solving a governance problem which is the result of a changed perception and formulation of a governance problem" ([3]: 115; cf. [50]: 21–27). We distinguish 'discontinuation' as an active governance effort (with iterative discontinuation, abrupt ban, planned dismantling or removal) from 'destabilisation', as a more systemic view at sociotechnical and economic dynamics eventually leading to the decline, erosion, or collapse of an incumbent system and the regime that has been maintaining it so far.

The next key conceptual focus is framing. Frames are conceptualised as thought structures or implicit theories of a situation [51] which are conveyed to others by using specific language and visual imagery [52]. Framing is a way of ordering reality by the means of language which highlights specific features of a situation over others to engage in sense-making (cf. for transition related frame analytic studies see [53,54]. Framing, as a verb, therefore refers to the interactional and

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[2] In the past, it was repeatedly forests around which in Germany extraction and nature conservation conflicts developed in the form of occupations (e.g., the Frankfurt Forest in the 1980s, recently the Dannenröder Forest or Altdorfer Forest [13–15]. There have been over 30 forest occupations in Germany in the last 2 years [16]. The two main causes are construction projects of roads, lime and gravel works and energy infrastructure (high-voltage power lines and open-cast lignite mining). The protest for protecting a forest phenomenon is global, though [17–19].

[3] We will call it short "the Commission".

intersubjective processes in which actors co-construct meanings of the governance problem, identities, and relationships [55]. From this interactional understanding we investigate actors' strategies for defining and framing problems, how they engage in framing struggles and their interaction. Framings thereby act as discursive devices used to negotiate the nature of the problem under discussion [56] undertaken by actors as a means of storytelling, a way of sense-making to order the perceived world by the means of knowledge.

The analysis of the Hambach Forest conflict addresses the discursive manifestations that derive from negotiation processes of the coal discontinuation linked to overarching transition schemes. Previous studies on the Hambach Forest protests have focused on judicial aspects [57] or on the functioning of framings by the occupiers [58]. However, none of these focused on the framing interactions by the opposing actors. The policy-process behind the coal exit is characterised as a wicked problem since the multiplicity of values, fact-constructions and perspectives lead to a conflictive policy disagreement [24,59]. This problem can be understood as a frame conflict [24], which refers to the fact that different frames make different actions more appropriate with the effort to mobilise public opinion [60] as well as political power within certain actor's interests [24,25]. We approach the case with the concept of the governance of problems and a framing analysis, to focus on the construction of meaning with an agency-centric view [25,61,62] within the Hambach area. The concepts of frames and framing have an established history in various research disciplines. In our case, we follow the interactional strand and the framing concept established in political science and policy studies, rooted in the work by [24] and others [63,64]. It is closely linked to discursive traditions in which we follow Hajer who describes discourse as "a specific ensemble of ideas, concepts and categories [...] through which meaning is given to physical and social realities" ([65]: 60) and sees framing as part of discourse-making that provides the tools by which problem definitions are constructed [66]. Consequently, discourse is grounded in the ways people experience the world and specify views that they aim to be legitimately accepted as knowledge [67]. Linking the notion of framing to the co-construction of knowledge about the world, that derives from the perception of actors on what the problem is about and what the issue at stake is [55]. This allows us to shed light on the actors and how they engage with each other in a local policy arena to elucidate the role of conflicts and coalitions in the governance of the discontinuation processes in energy transitions.

3. Materials, methodology, and methods

3.1. Case study selection

The case of the Hambach open coal pit area was selected as it carries several special features that make it exceptionally interesting for a case study. Firstly, the case gained a lot of media attention in 2018, has been perceived as a symbol for the fight against coal [68] and therefore was expected to have easy data accessibility. Radical protesters occupying the forest near the coal pit, which was supposed to be cut down by the energy company for the ongoing mining process, received widespread public support via protest marches organised by various NGOs. Additionally, several actors of the Hambach case appear on the federal level as representatives in the Commission of which some try to use the leverage of this policy forum to transfer the Hambach conflict to the national policy arena, as will be seen in this analysis.

Secondly, the Hambach Forest area has been a place of conflictual policy on the coal discontinuation for several years. The occupiers of the forest are in direct confrontation with their political adversary, the energy company RWE, since they are responsible for physically blocking the expanding coal mining operations of the company, which is not the case for other policy arenas on that topic throughout Germany. The protests around the Hambach coal pit at that time were characterised by ever-growing demonstrations with up to 50.000 participants, large

media coverage and statements by federal ministers who expressed their thoughts on the conflict, which illustrates the significance of the case for the general coal discontinuation. Overall, the case is of exemplary importance for the interaction of civil society and commercial actors in conflict situations for energy transitions—when it occurs (we also take note of the fact that it does not always come to open conflict outbreaks).

We do not speak of actors in an essentialist sense. Such a differentiation (civil society, political, economic, etc.) would be very difficult, as the actors neither always follow only one-dimensional action orientations nor can they do without the fact that they mutually create spaces of possibility or spaces of action. For example, an economic actor can also pursue political strategies and goals, e.g., make socio-economic demands. We therefore classify actors according to which different interests they are directed in their action orientations and which specific, differing, or connecting framing preferences they tend to have. We see their interests through the lens of the framings.

3.2. Data generation

The study is based on a qualitative data analysis based on principles of the Grounded Theory Approach (GTA), which means we use the GTA strategies for categorial sorting, but without the intention to build theory. The research was organised around the demarcation of temporal phases, developed in a chronological assessment of the conflict. So, first, we needed to make sense of what happened and which situations could be regarded as key events and were able to reconstruct six distinct phases of the conflict. Then, we searched for data and statements produced by each actor in each of these phases. The goal, with exploratory intent, was to get a broad overview of the conflicting sides in order to capture the range of expressions and framings of the issues that constitute the conflict. We used data drawn from primary sources found online, such as public statements, public newsletters or blog entries, and published newspaper interviews to generate insights of the actors' accounts of the situations. These comprise very different sources of data, e. g., often one does not know who authored a blog. Texts were produced by individual people, but were, due to reasons of practicality, regarded as a statement by an actor group. Although these texts were treated that way to enable a pragmatic analysis, the arguments stated in such documents might not be representing actors fully. Nevertheless, these statements were published via platforms that are the actors' outlet to the public, suggesting this is how the actors want to portray themselves.

The sources used are primarily statements directly retrieved from sources administered by the actors themselves, such as newsletters or blogs. Sometimes it was necessary to operate with interviews or quotes within newspaper articles. We tried to include such sources as little as possible since media sources are also part of a wider public discourse and seek to influence public perception in their own ways (cf. [69]). Emphasis in these cases was then on the original statements contained in the media materials or, if sources were provided by the newspaper, taken from the original interview.

The framing analysis was conducted using data on key actors statements which evolved to be most prominent for steering the actions throughout the conflict. To achieve an encompassing and balanced overview over the actors, an approximately equal number of statements per interest group (in the analysis we call them "groupings") was collected. The term grouping refers to the researcher's activity of ordering the actors into certain interest communities according to the actors' demands and supportive actions towards each other or their antagonistic players that has materialised during the analysis. With a total of 73 sources, there are 38 statements for grouping 1, 34 for grouping 2, as two sources inhabit quotes by both groupings and 3 sources from courts or additional actors in an intermediary role. The software ATLAS.ti has been used to systematically organise the data and keep a transparent overview over the research process.

3.3. Data analysis

The study follows a qualitative exploratory research approach and reconstructs the context in which the research object is situated historically, to comprehend it in its overall setting (see Appendix A). From this, it identifies actor constellations with their respective framing practices to analyse how they interact and frame the conflict with regard to the coal discontinuation. Within this research, the GTA is seen as a process and not a pre-given method simply applied on the research object and made fit [70]. The grounded theory approach is utilised as a family of methods [70] of reiterative coding and reflective engagement in the data analysis for which the concept of framing is employed. We thereby follow the constructivist-interpretivist research paradigm grounded in the works of Charmaz & Bryant [70–73].

The GTA leaves room for the constant development of possibly changing interpretations by analysing patterns, themes, and categories and seeing interpretations of data that reflect multiple realities and meanings. The framing concept allows us to focus the grounded theorising to the discursive level of public debate which is also reflected in the choice of data material. This allows us to develop an intermediate theory that provides an understanding of the coal discontinuation as a contested governance problem. By looking for concepts and categories we generate an analytical scheme that explains action and interaction within this conflictual process. Combining the two in such a way allows the framing analysis to reflect on the GTA by limiting it towards the discursive level. Vice versa, by broadening the scope of a frame analysis beyond the functionality of frames as being diagnostic, prognostic, or motivational [60] and expanding that towards different conceptualizations of frames and framing interaction that can help to interpret the struggle about the coal discontinuation.

Our focus is to understand how meaning and what meaning is constructed in the conflict, or as Goffman stated, "What is it, that's going on there?" ([64]: 8) communicatively. Here, the strength of the GTA approach is important as we do not assume certain codes we seek to find in the data, but look into the data to code what is there. While collecting and evaluating data, coding is a practice that is an integral element of analysis to systematically capture salient features across the data in the forms of frames and framing practices. We started by applying an open coding strategy along the six temporal phases of the conflict to develop an understanding of how the actors experienced the governance situation throughout these phases (e.g., coding their problem definitions, accusations, use of metaphors, description of emotions, etc.). Then, we applied axial coding to organise the codes developed during the open coding. We reviewed our codes and compared the actors' statements throughout the phases to situate their accounts relative to each other, thereby building code groups from which we were able to construct a set of three categories.

The reiterative coding procedures from the GTA enabled us to find frames and framing interactions between the actors and investigate their dynamics which are strongly linked to the concepts and codes found in the data rather than to pre-defined coding frames. We constructed a detailed analytic overview with framing examples for each phase from which interpretative patterns in the form of framing types were derived. In this analytical step, we suggest how the negotiations and conflicts around the German coal discontinuation as well as the conflict around Hambach can be understood. To assess the prevalence of frames throughout the conflict, we grouped the frames into categories, ordered them along the phases and then counted how often arguments in the form of those categories were brought forward by the actors. The analysis specifically focuses on the arguments about the coal phase-out and the protest, to see who the actors are, how they interact and how they frame the struggling on the coal discontinuation in the local policy arena of Hambach.

4. Case background and governance of discontinuation context

What is called the "Energiewende" (energy transition) in German is the structural change of the entire energy system [74–76]. The energy transition in Germany includes, as a constitutive quality, the switch to renewable energies, partly with the intermediate step from coal and nuclear to gas energy generation, as well as the exit from nuclear energy by 2022 [77,78], coal by 2038 [36,40,79], and gas, date unclear, as an associated and yet highly complex set of sub-tasks. This is reflected by the fact that the so-called coal regions in Germany will be required to undergo a structural transition in addition to the energy transition, as the regional industry is largely based on coal-fired power generation [12,41].

Several energy policies, such as the Feed-In Law for RETs in 1990 (EEG) and its revisions, the EU ETS or stricter and sector-specific target setting, e.g., with the national Climate Action Plan 2050, have put the coal energy-production in Germany under pressure to the point that the German energy transition can be characterised as a regime shift to RETs [80]. With the appointment of the CGSCE in 2018, a collaborative commission was established to create a roadmap report for the coal discontinuation.

This is the timeframe in which the focal conflict took place and gained widespread attention. The Hambach area is an open coal pit in North-Rhine Westphalia (NRW) in which protesters have regularly occupied the Hambach Forest, located directly next to the coal-mine, with tree houses since 2012. The coal mining is operated by the energy company RWE (one of the big four in the German energy market [81]) of which the Hambach Forest is its legal property. The protest unfolded its dynamics when the Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of North-Rhine Westphalia (MRI NRW), which belongs to the government of the Federal State of NRW, ordered an eviction of the occupiers in autumn 2018 due to the fire protection deficiencies of the treehouses. The subsequent forest clearance was eventually halted by the ruling of the Higher Administrative Court Münster in October 2018, serving the claim of the BUND to first assess whether the presence of rare bats in the forest potentially classifies the Hambach Forest as a protected area under the EU Habitats-Directive.[4]

Following the halt of the Hambach conflict, the CGSCE presented its roadmap that served as the basis for the following government negotiations in January 2019. Several actors of the Hambach conflict are represented on the federal level as representatives (president of the trade union, the CEO of RWE, presidents of the NGOs, spokesperson of the citizen initiative). The commission set a timeline for transferring coal-fired power plants into a standby and later into a shutdown mode until 2038, possibly 2035, and included a paragraph on the preservation of the Hambach Forest ([21]: 150), which shows how the local governance level became intertwined with the national one. In July 2020, the Federal Government adopted a coal discontinuation law that deviated from the pathway proposed by the commission. Together with this law, the government also ratified a law to strengthen the coal regions structurally, meaning to provide resources that reduce social repercussions from the discontinuation and provide funds for a structural transition of the coal regions [82].

In the aftermath of the conflict, some instances of political trickery became known, ranging from preliminary talks of the NRW state government with the CEO of RWE that were denied earlier to the non-disclosure of an expert assessment by the Federal Ministry for

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[4] After the police retreated from the forest, the forest was immediately reoccupied by activists. RWE entered an official moratorium with the NRW government to wait with further forest clearances until 2020. By now, the preservation of the Hambach Forest was made a condition by various NGOs and the citizen initiatives' spokesperson in the CGSCE who achieved a guarantee of existence in the Commissions' report to the Federal Government.

Economic Affairs and Energy which stated that some villages in the NRW coal region (though at another coal mining pit) would not need to be resettled. Recently, the Administrative Court of Cologne ruled the eviction of the occupation as illegitimate [83].

5. Results: the clash over the meaning of the Hambach Forest

In this section, we present the results of the analysis through which the conflict and the coal discontinuation are understood by the actors. To do so, we built a detailed timeline of the process along which we could demarcate six phases of the conflict:

1) *Pre-eviction phase* (29 August to 12 September 2018), when eviction was already a decided matter, and several mass protests were launched against it.
2) *Beginning of eviction* (13 to 18 September 2018) as police and RWE security personnel started to evict around 86 treehouses.
3) *Silent period* (19 to 23 September 2019) after the journalist Steffen Meyn had died while filming the eviction from the tree houses.
4) *Resumed eviction* (24 September to 4 October 2018) followed by mass demonstrations.
5) *Clearance stop & aftermath* (5 October 2018 to 24 January 2019) as the Higher Administrative Court in Münster halted the planned forest clearance until 2020. In February, RWE claimed that there will be no forest clearance until 2020.
6) *Political and legal reorientation* (26 January to May 2019) occurred, as the CGSCE presented its final report stating the wish to preserve Hambach Forest. In reaction to that, RWE officially declared a moratorium for forest clearance until 2020 and the government of the Federal State of North Rhine-Westphalia adopted a law for promoting structural transition in May.

With the help of this timeline, we reconstructed which interests actors articulated and which framings they used to mobilise, help, and guide their action. We will first present findings about the actor constellation, show what the actors' perceived as the problem and how they relate the conflict to the discontinuation. Secondly, we will show the interaction dynamics of framing categories we identified throughout the different phases and, thirdly, provide an analysis of how these shift throughout the phases among each actor grouping. The following quotes are our own translations (original quotes can be found in Appendix B).

5.1. Actor constellation: defining what is at stake

The actors can be grouped into two main formations that engage as blocks in conflictive behaviour, as illustrated in Fig. 1. This actor constellation is presented in a simplified overview of the actors and their opposition of interests captured in the analysis.

The occupiers and RWE spearheaded the conflict since their interests directly clashed with regard to their actions, as the occupiers were actively blocking a forest clearance which has been regarded as a necessity for the coal mining by RWE. However, several organisations assist the actors with their respective struggles, though they might have carried only similar but not the same interests (overview of interests provided in Appendix C). Courts played a crucial role as administrative actors who indirectly steered the course of action of the two groupings in terms of how the case could be legally handled. With the governance of problems approach, the interaction dynamics can be characterised as framing-struggles about the definition and structuring of a problem ([25]: 201). During the coding, we looked for how the actors defined what the problem is from their perspective, how it should be governed and what frames they referred to over the course of the six phases (see Table 1).

The two groupings define the problem, i.e., the deviation between an existing state, which is current, and a desirable state, which should be ([25]: 16), differently. Grouping 1, which we categorise as the *climate and*
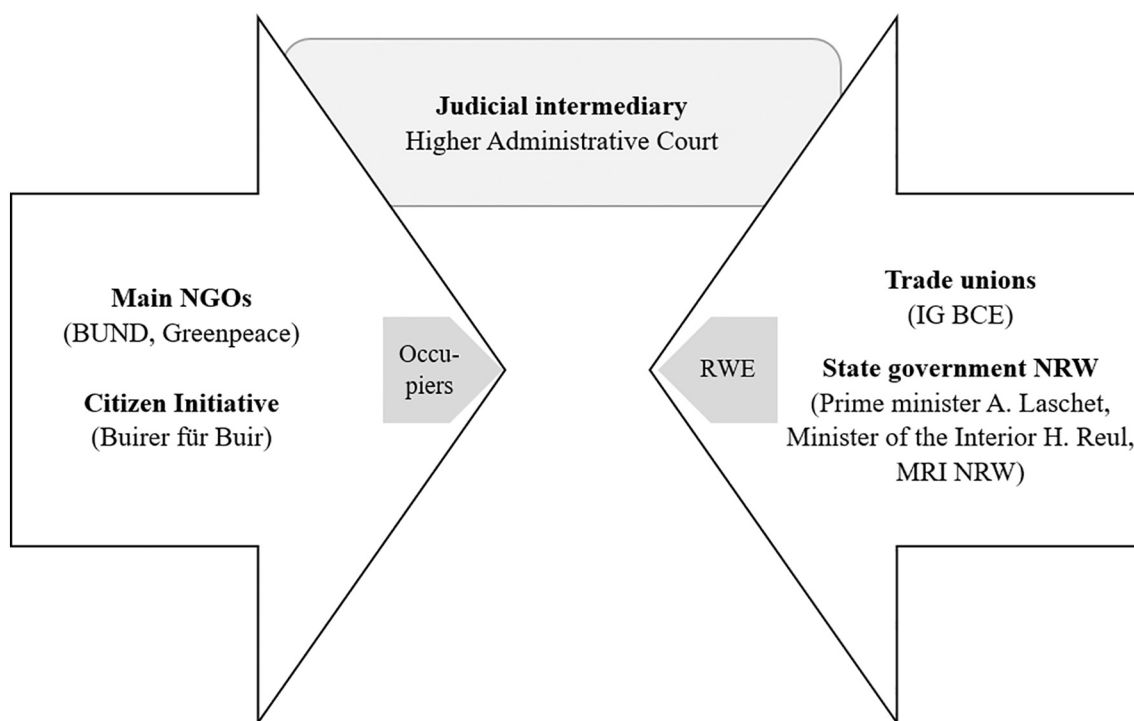
Fig. 1. Actor constellation in the Hambach Forest conflict. The arrows show that the actor groupings stand directly opposed. The conflict was only mediated with the court decision in phase 6 mentioned above.
Note: The numeration does not imply any form of hierarchy or hegemony of one grouping over the other. Between the actors, there are various entanglements and connections that cannot be depicted adequately in this figure, as is the case with the variety of interests represented by the actors. Nevertheless, the figure allows for a broad understanding necessary for the case analysis.

Table 1

Exemplary quotes of each conflict phase by the two actor groupings.

Phase/grouping	Grouping 1: Landscape protectors	Grouping 2: Order protectors
Phase 1: Pre-eviction (29/08–12/09/18)	"RWE escalates the conflict and creates precedents: forced resettlements, forced expropriation and the destruction of the Hambach Forest." (Citizen initiative [84])	"… there is no connection to the work of the Commission on Growth, Structural Change and Employment, which is concerned with the medium- and long-term prospects of coal-fired power generation and with a possible phase-out date." (Energy company [85])
Phase 2: Beginning of eviction (13–18/09/18)	"… will always continue to fight against the injustice of the state and the energy giant RWE and will definitely continue to fight for climate justice …!" (Occupiers [86])	"I am not to decide if we want to have lignite coal or not. That is decided by the courts." (NRW Minister of the Interior [87]) "The forest clearance and the Hambach Forest are not subject for the Commission." (Trade union [88])
Phase 3: Silent period after journalist death (19–23/09/18)	"We are deeply shocked and mourn the young journalist who died in the Hambach Forest."(NGO [89])	"We are shocked and deeply regret this accident." (Energy company [90])
Phase 4: Resumed eviction (24/09–04/10/18)	"As long as RWE continues to clear the forest, we will continue to actively try to protect the forest, to prevent the clearing and to bring the coal phase-out into the public discourse." (Occupiers [91])	"This will only be possible if we have 65% of electricity from renewable energy sources by then." (Energy company [92]) "The coal phase-out will come as it must do." (Energy company [92])
Phase 5: Clearance Stop and aftermath (05/10/18–25/01/19)	"From blocking the forest clearance to the coal-exit." (Occupiers [93])	"Insecurity and fear of job losses and the personal future." (Trade union [94])
Phase 6: Political and legal reorientation (26/01–31/05/19)	"The Hambach Forest is saved." (NGO [95]) "…then the climate and with it all the villages and the forest must be saved." (Citizen initiative [96])	"… will the coal phase-out [..] be closely linked to the monitored progress of the future energy mix, the expansion of Renewables and the grid." (Trade union [97])

landscape protectors, comprises the actors that are involved in safeguarding the forest and the villages, thereby hindering the on-going coal mining operations. From their perspective, an eviction would lead to a forest clearance which would allow for enlarged coal mining operations and obstruct a possible coal discontinuation. These actors primarily perceive the situation in terms of personalised and public damages (homes, social peace, valuable forest) and see the actions of RWE as an attack of the work of the CGSCE, illustrated in the quote of one NGO: "It is not comprehensible for anyone when RWE cuts down an ancient, valuable forest for the coal that lies beneath it while the details of the coal phase-out are being discussed in Berlin." [98]. This grouping applies a variety of protest forms (petitions, demonstrations, lawsuits) and is largely composed of civil society actors. Several NGOs support the occupiers such as Greenpeace and BUND (short for "Bund für Umwelt und Naturschutz Deutschland e.V. (BUND)—Friends of the Earth Germany"), whereby the latter one primarily has driven actions such as lawsuits and small protests in the area. Additionally, there is the local citizen initiative, referring to the town of Buir, called "Buirer für Buir" (what one could translate with "People of Buir for Buir"), which consists of people living in villages which will be demolished for the coal mining operation.

Grouping 2, categorised as the *protectors of public and economic order*, consist of the energy company RWE, a variety of state actors (governmental and executive bodies of the Federal State of NRW and their

representatives) and a civil society actor, the trade union "Industri-egewerkschaft Bergbau, Chemie, Energie" (short: IG BCE) in which many RWE workers are organised. This grouping characterises the problem as the illegal occupation with treehouses of the property owned by RWE that hinders the ongoing coal mining, and they reject assumptions of the Commission's work being affected by the conflict. After the court has halted a possible forest clearance this changes however, and actors reorient their framings towards the topic of a discontinuation, illustrated in the quote of the president of the IG BCE in the aftermath of the court decision: "A point has now been reached where people in the Rheinish mining area are getting a feel for what it would mean if a lignite phase-out were to come too quickly" [99]. At stake for this grouping are values like order, legality, property rights, safety, and consequences for workers as well as costs for the company and its shareholders.

While the *climate and landscape protectors* regard the occupation of the forest as legitimate (though the NGOs and the citizen initiative only when it is peaceful), the *protectors of public and economic order*, claim the eviction as legal and legitimate and thereby delegitimise the occupation, by framing the occupiers as violent and criminals. This, from their point of view, in turn requires state intervention, enforced by the police, to restore the Rule of Law and ensure the enforcement of property rights.

The actors are primarily divided along three main lines of the conflict. The actor groupings radically diverge in their main aims, as the goal achievement of one implies the goal loss of the other and in their problem definition. For grouping 1 the conflict is about the legitimacy to protect the forest with an occupation and the illegitimacy of coal mining while for grouping 1 it is the other way around, the purposefulness of coal mining and the illegitimacy of the occupation. Accordingly, actors apply framings on the situation that put emphasis on certain features and leave out others to create meaning. As an example, for the case of grouping 1, the adopted framings inherently stress the worth of the forest, but do not capture the implications of potential economic and job losses that the forest preservation implies for grouping 2 (see Fig. 2). The forest thereby becomes to symbolise a barrier against the industrial-technical extraction of coal for socio-technical power generation.

The third conflictual aspect is the temporal scale that the actors assess the conflict with. For the *climate and landscape protectors*, the conflict affects the work of the CGSCE in the short-term and has long-term implications on the course of the discontinuation, in particular, and the energy transition, in general. For grouping 2, the *protectors of public and economic order*, the conflict is about the short-term proceedings of mining operations and has nothing to do with the work of the CGSCE which addresses the mid- and long-term decisions on pathways of the coal exit and the energy transition.

This also subtly shows how even the titling of the commission by the actors becomes part of the framing conflict. Whi1e actors of grouping 1 in many instances name it the "Coal Commission", the actors of grouping 2 primarily refer to it as the "Commission on Growth, Structural Change and Employment" (RWE, IG BCE), "the Commission for Structural Change" (IG BCE). Both actors sometimes refer to it as "the Commission", presumably for pragmatic reasons. How the Commission is titled is therefore closely linked to the actors' perception of what its purpose mainly is or should be.

Though at the time of the conflict the negotiations about the discontinuation were ongoing, the Hambach conflict functioned like a proxy conflict of the negotiations which physically showed what is at stake for each actor grouping when it comes to a discontinuation of coal mining in that region by representing a concrete crystallisation of a possible discontinuation process.

5.2. Interaction changes of framing categories

During the analysis, we noticed that the frames and framing interactions we identified had a conjuncture, some being more prevalent throughout certain phases than others. Three main framing categories
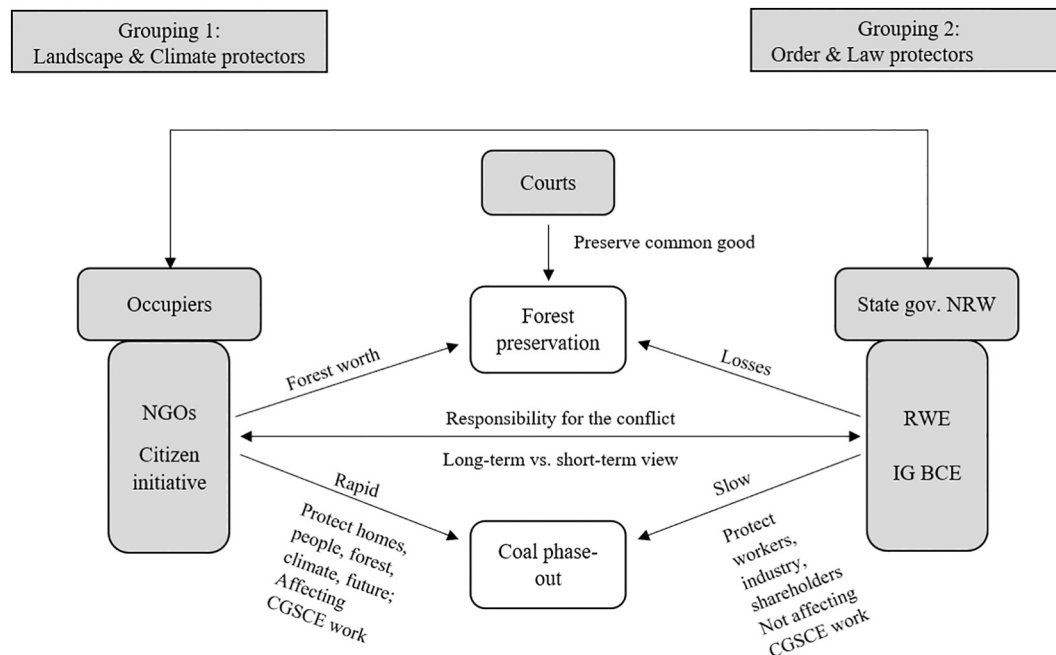
Fig. 2. Overview of the actors' dynamic and interactions. The grey boxes refer to actors, the white ones to topics.

have emerged. The most prevalent one is *responsibility*, secondly, a *cost-lose-gain nexus* and, thirdly, *dependencies*.

5.2.1. Responsibility

Throughout the different phases, several types of framing 'responsibility' emerged. The first type addressed the 'responsibility *for* others' which related to the protection of and from subjects. This type can be differentiated from 'responsibility of actors' in terms of blame. Regarding *the landscape and climate protectors,* the protection of the Hambach Forest was situated as a symbol of a fight—namely, a struggle of forest vs. coal, something of value vs. something that causes destruction and damage, climate protection vs. climate destruction. The forest was thereby constructed as a political symbol and served as a simplification of the matter. While the occupiers viewed it as their responsibility to protect the forest, they also linked their protest to global climate justice, the protection of the planet, and future generations. In phases one (*Pre-eviction phase*) and two (*Beginning of eviction*), the communication of the visual imaginary "forest vs. coal" also prevailed in the rest of grouping 1's framings. From phase four (*Resumed eviction, Clearance stop & aftermath, Political and legal reorientation*) onwards, the protection of nature, homes, the social peace within the region, the climate and future generations were increasingly emphasised, pointing towards the application of a long-term perspective.

For the *protectors of public and economic order*, the 'responsibility to protect others' is shaped by the engagement and disengagement of certain actors throughout the phases. In phase one, all actors of grouping 2 stressed the danger that is ascribed towards the occupiers, as they were framed as criminals and violent. The protection is aimed at the good of public safety and legality.

From phase four onwards, RWE (energy company) and IG BCE (miners' union) started to reorient their framings. While the state institutions largely remained silent, the two actors highlighted the responsibility to protect the jobs of the RWE employees. The costs of stopping coal mining for the company and its shareholders, and emotional framings that referred to the personal fate of workers as they experienced "insecurity and fear for job losses and the personal future" [94] were emphasised. These are related to the protection of the company and individuals. In this phase, when the coal discontinuation became more prevalent on a national level, RWE stressed the importance of the security of energy supply for the regional industry and thereby broadened the scope of potential industries and workplaces that would be affected, and that RWE would have responsibility for.

As the protection of something simultaneously entails its counterpart, the protection from something that is endangering it, the next part will deal with the type 'responsibility of actors in terms of blame', a second type of the 'responsibility *of* others' pattern. This type is related to the perception of actors that other actors had the means and obligation to act or not to act in a certain way. In terms of *blame* this means that actors sought to attribute responsibility for a situation with negative consequences, implying a value-judgement. In terms of *shift* it refers to the shifting of responsibilities from one actor to another, to allocate these to someone else or to draw it to oneself, serving as justification strategy for how a grouping acts. While quite similar patterns were found beforehand among grouping 1, the grouping slightly diverged in this framing type. The occupiers linked the NRW state government to RWE by allocating responsibility for "the protection of interests of the coal giant RWE and the coal lobby" [100], directly from the start. The rest of grouping 1 in the first phase solely blamed RWE and only gradually but increasingly shifted responsibility to the NRW state government, due to its actions or inactions.

The "fight" frame both clearly blamed RWE and those of grouping 2. For instance, blaming the NRW state government for enabling the eviction and having talks with top managers of RWE beforehand [101]. When grouping 1 framed RWE as an "energy giant" [84,100], it created a picture of a strong actor who can suppress interests of smaller ones which is why they had to engage in a fight. With this visual imagery [52], the blame allocation is further simplified. Those who tried to "destroy" the forest are to blame whilst those who protected it are reacting legitimately. As grouping 1 linked the Commission's work to the local conflict, they saw RWE as escalating the situation on the ground and claimed the company to be responsible for endangering negotiations on the discontinuation in the Commission, implying a double blame allocation on the local and the national level.

The trajectory of grouping 2 is especially relevant with regard to the role of the courts. In phase one (*Pre-eviction phase*), the occupiers were directly made responsible for the conflict and as well as for engaging in violence. In phase two (*Beginning of eviction*), the framing struggle slowly shifted from the eviction to the forest clearance. The NRW state actors

particularly shifted the responsibility for decision-making to the courts, away from them. Additionally, grouping 2 averted a responsibility shift for the conflict to the national level, when they actively decoupled the work of the Commission from the conflict by stating that "the Hambach Forest is not a subject for the Commission" (CEO of RWE [88]). Lastly, the intervention of the court legally halted the conflict, though debates about the preservation of the Hambach Forest were part of the Commission and its report in 2019. The court did so without any reference to the coal discontinuation, highlighting the incisive role of administrative decisions that might intervene in conflicts from a legal perspective.

5.2.2. Cost-lose-gain nexus

The two groupings engage in different kinds of frame expression about what we call a *cost-lose-gain nexus,* which captures the perceived losses if one would (not) proceed with the coal mining operation in the Hambach area, what would be gained or preserved and the calculative logics of costs. This is purposely not seen as a simple cost-benefit calculation since it subsumes things that do not get weighed in monetary costs like the loss of a home or a job. We analysed communicatively constructed expressions about what we call with Callon "calculations" [102], which are partly reflected in the protection of the subjects they are responsible for. The losses, for instance, are often framed as "damages to" or "destruction of", while potential gains are often reflected in framings such as "preservation of", "saving", "fight for" or "responsibility for".[5]

For grouping 1, including the occupiers, the cost-lose-gain nexus is generally represented with the dialectic "forest vs. coal" framing, that allows us to simplify the matter and transfer the dialectic logic onto other aspects of the conflict. Those who destroy need to be fought and are to blame, whilst those who protect the forest, which is seen as something valuable to protect, are serving a greater good.

The gains from a coal discontinuation were framed in terms of protecting life on the planet, a climate just future, including the notion of intergenerational justice and intensified climate protection. In the first phases, mainly local subjects were covered (the forest and inhabitants of the villages nearby the coal pit), while in the later phases, protection of the climate, the planet, and future generations widened the scope spatially and temporally, relating back to the long-term perspective of grouping 1. Largely absent from the framing practices of this grouping were the workers in the coal mining industry.

For grouping 2, the expressed weighting of costs-losses-gains of a coal discontinuation present themselves differently. The actors in this grouping had common but differentiated interests over the phases. Beginning with RWE, in the first two phases a cost-benefit calculation was applied by weighing a preservation of the forest to the costs of job losses and company profits. When referring to the coal discontinuation, the different framings applied range from costs for the business operation and the loss of profit to an endangered security of energy supply for the region. Also, the responsibility for regional development and the requirement of a structural transition was stressed.

The framings of the NRW state government and its ministries constantly decoupled the eviction of the occupiers from the forest clearance and the coal discontinuation. In the first two phases therefore, the gains were framed as the enforcement of the Rule of Law, state authority, and order for public safety. After the deadly accident in phase 3, to which the Minister of the Interior positioned himself, the state actors disengaged from the conflict and only reappeared in phase six, in which the discontinuation is highlighted as a good and socially acceptable

solution with a lot of combined gains as a balance was struck between climate protection and the design of a favourable structural transition (statement by the Prime Minister of NRW [103]). Gains were conceived as things that should be preserved, such as workplaces and the coal mining operation, not as additional gains. This constant cost-lose-gain nexus applied by the different actors was structuring the local conflict as well as the national discontinuation. The actors mirrored this by engaging in intersubjective framing dynamics, meaning that the actors understood what is at stake for their opponents, but chose to highlight certain aspects of what is gained or lost over others.

5.2.3. Dependencies

The category of dependencies is characterised by actors who link the conflict dynamics to certain conditionalities. They thereby create an "if … then …" pattern which can be utilised in several different ways. One way would be in the form of legitimising their own cause, such as "if the forest gets destroyed, then the coal mining goes on and villages have to be resettled" (grouping 1). On the contrary it could be used as a delegitimisation strategy, e.g., as if one would say "if violence is used in the protest, then those people are criminals" (grouping 2). Another way was to adopt it by connecting action and reaction in terms of conditionalities, e.g., as if one would say "if there will be enough RETs deployed in 2030, then the coal phase-out will come on its own" (grouping 2).

Generally, grouping 1 utilised a three-fold dependency mechanism, primarily in phase one. It captured the implication that if the occupiers were evicted from the forest, then the forest would be cut down, and the coal mining would go on. The utilisation of the frame of the fight for the forest and against coal thereby legitimised the protest actions. Simultaneously, the grouping located the responsibility for resolving the conflict within the Commission as the national institution. Several members of the Commission were prevalent actors in the Hambach Forest conflict, creating a conditionality in the form that if RWE continued to act against their will, it would endanger the negotiations of the discontinuation as a whole. This stance was reflected as they state that "nobody understands when RWE cuts down an ancient, valuable forest for the coal underneath it, whilst details of the coal phase-out are discussed in Berlin" [98].

The second group put emphasis on different dependency mechanisms which were representing the conflictual nature of interests in contrast to grouping 1. For RWE, the coal mining depended on the forest clearance, sustaining its business depends on profits, and the workplaces of its workers depended on the ongoing coal mining, therefore applying a legitimation strategy. In later phases, such as in phase four, the company increasingly referred to the coal discontinuation as being dependent on the electricity grid expansion and the deployment of RETs, because then "the coal phase-out will come as it must do" (RWE CEO [92]). Here, the company increasingly diverged from its short-term view, primarily adopted in the early phases of the conflict, increasingly endorsed a long-term view and technical reasoning. The union agreed with RWE's ideas on job preservation, and ongoing coal mining.

5.2.4. Phase fluctuation

During the analysis, we noticed that of the frames and framing interactions we observed, some were more salient than others throughout certain phases. As we chose an explorative and qualitative approach to the data, we were reluctant to depict the categories in a quantitative way.

The phases have different lengths and encompass different amounts of statements. We concentrated on depicting the tendency of the framing categories of the utterance we saw in the data which is represented in Figs. 3 and 4 for the conflict of both groupings in a qualitative manner. To show their different levels of intensity, we took several steps: first, we re-coded the data with the framing patterns, then binarily assessed each pattern for if it was present in an actors' statement (present/not present) and then summarised how strong or weak the statements were for each phase, situated in context. The weighting results from the interpretation
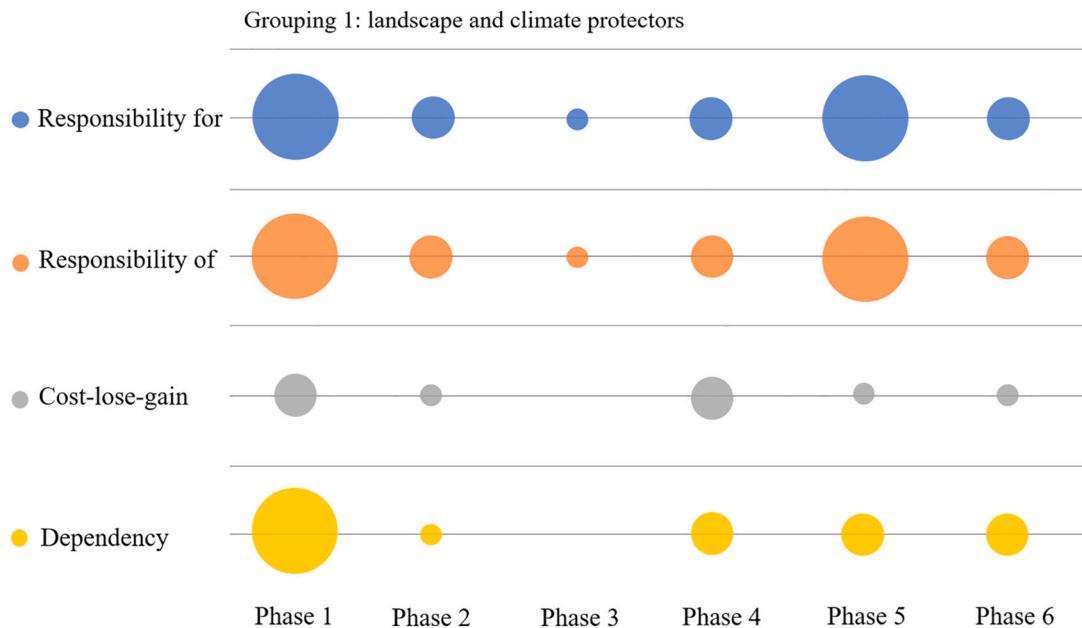
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[5] With Callon we understand calculations as complex collective practices, beyond individual rational choices, that are intrinsically linked to the "material reality … involving figures, writing mediums and inscriptions" ([102]: 4–5), and to cultural frames, socio-cultural context. In particular, the cost-lose-gain calculations of grouping 2 also expresses a fundamental resistance to market oriented calculative rationality.

Grouping 1: landscape and climate protectors

Fig. 3. Phase fluctuation overview grouping 1, the *climate and landscape protectors*. We adopted three main sizes of circles that show non-existent (no dot), small dots symbolising weakest occurrence, middle-ones a stronger, and large ones strongest occurrence. For an overview of the numbers, see Appendix D.
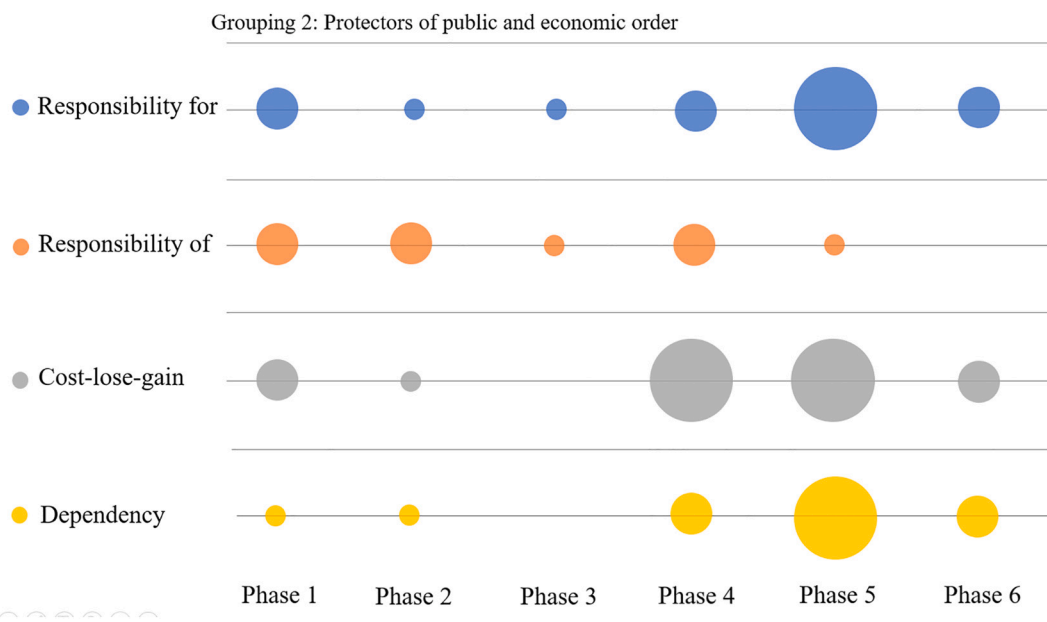
Grouping 2: Protectors of public and economic order

Fig. 4. Phase fluctuation overview grouping 2, the *protectors of public and economic order*. We adopted three main sizes of circles that show non-existent (no dot), small dots symbolising weakest occurrence, middle-ones a stronger, and large ones strongest occurrence. For an overview of the numbers, see Appendix D.

of the utterances themselves and in context, e.g., how strongly they are made by the actors.

The three categories are manifest in different intensities and quantities throughout the process for the respective groupings. The two figures show which patterns are most prevalent in the respective phases for the two groupings. We speak of fluctuations because certain statements were more present in certain time frames than in others, that is, they have changed in weight and attention. To assess the prevalence of the categories throughout the phases, we have coded all the instances of the subsumed codes for each category in every actor statement. Then, we have taken the actor statements as a representation of the grouping and counted how often they were present within each phase. This implies that for this step of the analysis we lose the fine-grained phase-overview

and nuances of how the individual actors might differ in their framings for the benefit of being able to visualise the category fluctuation for both groupings.

We have found that both groupings mainly engage in frames that highlight their responsibility for others, which is dominantly present throughout all phases for the actors. The *climate and landscape protectors* additionally work with the allocation of responsibility in terms of blame and blame shift and, much less with dependency framing. This is related to the fact that they want to name their enemies to show who is responsible for the conflict and the reason why certain subjects need protection from them. They engage in a mutual 'naming and shaming'. The more prevalent dependency framing in the first phase comes from the three-fold dependency mechanism of eviction means clearance

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means mining proceedings. In contrast, the *protectors of public and economic order* mainly operate with a cost-lose-gain nexus as a second predominant category of frames. This also ties back to the creation of dependencies, introducing conditionalities into the conflict which would seek to hinder changes to the prevalent order as disadvantageous to the regime. This pattern becomes especially salient from phase four onwards (*resumed eviction, clearance stop and aftermath, political and legal reorientation*), which is the phase of resumed direct confrontation between the interests of the groupings.

In phase four, grouping 1 highlights why it has to go through with the eviction to start the clearance as the halting by the court situates grouping 2 as directly negatively affected (e.g. in terms of costs and potential loss of jobs) and is affected in its usual operative procedure, in its regime rules, by a legal restriction. To refer to costs, losses and the conditionalities on which a discontinuation should depend in combination with a strong responsibility for pattern signalises a defence strategy. This could also be due to the fact that grouping 2 reasoned its prior action within the frame of legality and therefore sees its legitimation strategy for its actions undermined. Though not all individual actors are equally present in all phases, they nevertheless stay aligned within their groupings and its respective frames. It shows that the two groupings act by divergent assumptions and operating logics with regard to the three categories which align with their overarching interests and how the prevalence of specific framing categories changes throughout the conflict. While grouping 1, the *climate and landscape protectors,* who highlight their responsibility for others, enact climate protection as the primary logic of operation that includes a story of who is to blame. Grouping 2, the *protectors of public and economic order,* highlight their responsibility for others by stressing the costs for workers, shareholders and the region, they adopt a logic of socio-economic consequences. This is reflected in the cost-lose-gain nexus, and in how they frame the conditions a coal discontinuation should depend on.

6. Discussion

What does all this tell us about how the discontinuation of coal mining and energy production is negotiated in the Hambach Forest conflict and the actors' interactions? We showed that the actor groupings build two opposing frame coalitions which remain stable over the course of the conflict, while the antagonism between the two groupings remains intact. Even though the framing patterns change over the phases, the respective discourse coalitions align their framings in such a way that they share an explanation of what is going on [66]. While this dualism of oppositions may not be anything new for controversies within sustainability and energy transitions generally [104–106], this has not been analysed for the issue of coal. Though studies have looked into opposition framings [5,43], incumbent media strategies [107], the meaning of a just transition [108] or storylines of a coal discontinuation on the regional level [37], what remains missing is an analysis of mutually contesting frames on a local level.

These coalitions, in the form of groupings, may not share completely congruent interests, but they make use of mutual frames and frame the interactions with the respective opponents similarly. These dualist coalitions are grounded in the assumptions that the respective actor groupings share a mutual conception about the speed of the discontinuation pathway and what it would entail as personalised (e.g., houses, jobs), private (company profit) or public (ecosystem, energy security, regional perspectives) damages. They build coalitions of actors that exist with various influence levels and share their resources.

While the occupiers are in direct physical confrontation, NGOs amplify statements about what is at stake, and the citizen initiative provides statements of being immediately affected. Similarly, the energy company, RWE, is in direct confrontation, the NRW state actors support it with their actions and align by stressing the role of the regional development perspective of the coal region and the trade union takes the stance of articulating how their workers will be directly affected by a

discontinuation. Thus, they provide a framework for mutual interpretation of what is happening and create shared identities as well as mobilisation and legitimation strategies for their actions. Especially relevant is that, even though the framing categories depicted a certain conjuncture, and even though the two groupings stood opposed, the category of responsibility for others has been dominantly present throughout all phases. This points to the importance of policy processes for a governance of discontinuation, as it needs to be clarified how the affected people from both sides can be taken into account and who is responsible to do so. The case depicts a consistent polarisation of the controversy across policy levels, among the actors and the faultlines created by the clash of ecological and economic sense-making. Direct confrontations might increasingly become a strategy for actors to openly display societal conflicts in places where the material entities like forests, mines, construction sites, or national parks easily come to symbolise value conflicts.

In the Hambach case, the conflict around the energy transition is about far more than just "Not In My Back Yard" attitudes. It is also about "Don't pull the rug out from under us" on the part of miners and mining companies versus "Don't take away my house and home soil" on the part of the owners of the houses proposed to be dismantled for the open coal pit. Then there are those who strive to protect the forest as a symbol for intact nature and environment [33,109]. State institutions have aligned discursively with regime actors, which corresponds to observations that "policymakers and incumbent business actors tend to form close alliances because of mutual dependencies" ([110]: 26) such as mutually stabilising governance and market structures. Incumbents of the energy system use this to slow or prevent low-carbon energy transitions classified as 'regime resistance' (cf. [110]). This calls for a dedicated and encompassing transition governance that involves close scrutiny of policy actors who might obstruct the potential for creating arenas of frame convergence to mediate between opposing framing coalitions, hinder the acceleration of transition governance processes and slow discontinuation processes (cf. [111]).

It is important to see what this might imply in the context of the theoretical lens of governance of discontinuation. The different or even opposite interpretation of the question of responsibility (see section 5.2.2) could be due to the basic conflict between the assertion of the primacy of economy or ecology. To clarify this, further discourse analyses would have to be carried out. That the formations of actors and framings remained so stable may, firstly, have to do with the fact that the conflict was very acute and thus a clear mutual exclusion ("them against us") as well as the respective cohesion (having an opposing side brings actors together) into a kind of "positional community", from which it was difficult to escape on either side. Secondly, the positioning can be expected to have a longer history from earlier phases of the conflict over Hambach since at least 2012 (which we have not analysed here).

We have identified framing conflicts about who is (not) cared for, who is to be held responsible, what potential costs, losses and gains are, and what conditions are needed for the implementation of a coal discontinuation. If other cases of conflicts around forests and large-scale infrastructure depict similar categories, this might provide for a typology of discontinuations on a socio-political level.

The Hambach conflict has spilled over into the discursive policy arena of the Commission and has been negotiated there as a consequence. This points towards the power of physical confrontation while negotiations regarding how to govern a discontinuation take place in another arena that is not even accessible to some actors that are part of the Hambach conflict (e.g., the NRW Minister of the Interior or the thousands of protesters at the demonstrations). The problematisation of specific interest priorities of actors on the local level scales up in impacting the national level and the negotiation of the discontinuation as a whole. The actors negotiate on the spot and simultaneously in a formal policy arena about at which pace a discontinuation should (not) happen. Frames and their conveyed meanings are therefore transferred

across different policy levels. Different spatial, temporal, and administrative scales utilised by actors to make sense of the conflict potentially complicate the construction of consensus as making sense together [112]. There are actors who are in conflict with one another, frame very different problem definitions, factual and normative assessments and prioritisations (cf. [113]).

This shows how a policy arena which has been set up as a frame to negotiate by the Federal Government has been shifted: in the Hambach Forest conflict, regime rules (e.g., creating ecological losses by cutting down a forest for the enlargement of the mine or the consequences for the workers) were negotiated on the ground in a conflictive manner and with it all the faultlines, different prioritisations and operative logics that accompany it. The conflict in the Hambach Forest was also a dispute of the established regime with a challenging alternative set of rules for that regime. This was demonstrated as actors of both groupings, namely the occupiers and RWE, showed a willingness to escalate. Where one could have paused the fight because of the ongoing coal discontinuation negotiations, this only happened for a short time after the fatal accident of a reporter who fell from a tree. Instead, the occupation of the forest and the mass protests around it intensified, especially after the opposing side went through with the eviction of the forest. This created the makings of dissent and potentially obstructed processes of frame convergence [111] that might have taken place in the CGSCE.

The divide between the two groupings in how they assess the importance of the conflict can be shown with the different temporal scales they apply, closely connected with the framing categories we identified: for *the landscape and climate protectors* the struggle in Hambach represents the immediate need for a coal discontinuation as an ongoing coal mining operation in Hambach would run diametrically against their responsibility of protecting the climate, the villages, and the people. The *protectors of economic and public order* tried to negate the importance of the struggle for discontinuation discussions by situating the discussions on another point of the temporal scale, namely in the medium- and long-term which would avoid immediate costs in the forms of job losses and profits. Both groupings utilise this scale framing to shape the meaning of the policy problem including and excluding specific issues accordingly [112]. The mismatch of the scale frame becomes inherent to the policy conflict [114]. Demands of immediacy situated in the vehemence of climate change by grouping 1 are positioned against the long-ranging logic of the regime actors applying a more economic rationale of grouping 2. For both sides, the struggle over the Hambach Forest and the coal mine seems to be linked to a 'guiding vision/future making'—playing "an important role in the transition management approach as a central means of mobilising social actors and the co-ordination of dispersed agency … [which relate to] inherently political and contested processes involving much strategizing and anticipation of conflict" ([115]: 449). Thereby, the physical confrontation of the actors in Hambach created a proxy policy arena which symbolises and makes visible what is at stake for each actor grouping when it comes to a coal discontinuation. It has become a fight about the prerogative of interpretation of what a discontinuation means in its implementation on a local site. For the *climate and landscape protectors*, it needs to be done immediately, for the *protectors of public and economic order*, it needs to be done over years if not decades [116].

As a result, the Hambach Forest conflict has become a representative struggle about the speed of the coal exit pathway in Germany. If one zooms out of the immediate confrontation, one can also see in this dissent-making a sense-making on another level: since both sides are more attuned to conflict than to consensus, they mark with their escalating steps that they agree on at least one thing—namely, that there is dissent here and that there is a need to struggle for the prerogative of interpretation and protection of the economy or environment. Here, rationalities that are staged as opposites, although not per se irreconcilable, collide. All this tends to situate the discontinuation process as an intractable controversy, which would lead to policy learning or frame reflection [24,61]. Though this strategy was adopted by creating the

CGSCE in which various public and private interests are represented, the government did not follow all its recommendations. It would have to be clarified empirically whether this is part of the policy learning, means its refusal, or points towards the power of alignment of state actors with regime actors. The ways in which frames and framings are collectively reasoned about and eventually changed or adapted remains understudied.

For governance of discontinuation this points to the significance of actor constellations, their conflicting framings and underlying logics. We can see that in the struggle for the forest of Hambach, the coal discontinuation is not only manifesting itself as an overarching issue, but also establishing itself. The fight has given the exit widespread visibility and attention. What does not seem to be up for debate, however, is the end of the indefinite continuation of coal mining. It is rather about how quickly—or slowly—it can be stopped. It is also about how much land damage (from the point of view of the *climate and landscape protectors*) and how much economic damage (from the point of view of *protectors of public and economic order*) is unacceptable. Crucial is also the perception and valuation of the possible consequences of the political alternatives and the price to pay for choosing them. The conflict in Hambach is exemplary to show what is at stake in the perception of actors' constellations when it comes to a governance of discontinuation. At stake is either the assertion of the primacy of economy or of ecology.

The study has some limitations, though. There are many aspects in the conflict that we had to leave unconsidered, e.g., the role of violence [117], partisan politics [118], the social media communication of actors [119,120] or the role of courts [121] in such conflicts. Data-wise, we could not include all the actors involved in the local case as either data of these actors was produced on social media and would have overstrained the given project capacities (e.g., role of the police) or was not accessible (e.g., district courts). For the intermediaries, only data for the High Administrative Court Münster could be accessed at the time of the research. For the pattern section we had to aggregate the individual actors' statements into statements of the groupings which means that specific details like the anti-capitalist framings of the occupiers got lost. Further studies could also include a stronger focus on material semiotics within such conflicts.

By looking at a demarcated timespan of the conflict, we need to some extent neglect the many experiences and perceptions of actors that might be rooted in the history of the conflict. Also, in the aftermath of the conflict, some instances of political trickery became known, ranging from preliminary talks of the NRW state government with the CEO of RWE that were previously denied to the non-disclosure of an expert assessment by the Federal Ministry for Economic Affairs and Energy which stated that some villages in the NRW coal region (though at another coal mining pit) would not need to be resettled. Only recently, the Administrative Court in Cologne ruled the eviction of the occupation as illegitimate due to the spurious legal basis of fire safety on which it took place [83]. This shows how topical the dispute over the Hambach Forest has been and still is today, and how over the years actions are put into different lights.

7. Conclusion and outlook

With this case study, we investigated the politics of the flipsides of energy transitions incorporated into a local struggle and showed how discursive approaches can generate fruitful insights on discontinuation negotiations. We have identified how actors positioned themselves into two groupings, forming block formations that engage in struggles over sense-making and present their different operating logics. Understanding these faultlines is essential when it comes to the governance of discontinuation. Temporality has been a crucial element of conflict in the case, showing that a governance of discontinuation is differently situated for the two framing coalitions which points towards its intractability regarding mutual sense-making. Also, the discursive alignment of state and regime actors needs careful scrutiny, as to what this implies

for the role of state-actors in democracies deemed responsible for legislating the framework for governing transitions and discontinuations.

Moreover, we can state that the Hambach Forest conflict developed into a representative, proxy-policy arena for the coal discontinuation in Germany and created a locality in which regime rules were negotiated at the spot, creating a conflict over meaning and the prioritisation of interests, values and logics over each other. We have shown the framing conflict that circulated around the responsibility, the costs, losses, and gains and conditionalities of a discontinuation process. Both insights can be fruitful for a policy perspective. Further research could look into cycles of interactions and see if similar patterns can be found among other cases within the country or across countries, and to think about how these topics could be addressed from a governance of discontinuation perspective to stimulate policy making in line with sustainability transitions. Valuation studies could analyse conflicts such as this one to delve deeper into conflicts of economic vs. ecological values. From a social movement theory perspective, one could investigate processes of how policy arenas are created or can even be strategically created by social movements with the use of specific protest forms or the construction of forests as symbols to interfere with negotiations that take place on other governance levels.

When taking the transformation to a sustainable world seriously, governments will need to prepare for further local conflicts in which industrial infrastructures and social as well as ecological ecosystems stand opposed. We have been able to show a part of this here—but there is more. It is imperative to continue research, not only to look at the abstract systemic connections, but to go into the field right to the arenas of negotiation. From the combination of all this, we will understand transformations as well as discontinuations differently and, hopefully, better.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

Appendix A. Timeline: context of the Hambach forest developments 2018-2019

Timeline reconstructed from several sources [1–4].

03/18	04/18	05/18	08/18	
BZ Arnsberg allows coal mining operation until 31.12.2020	lawsuit by BUND before VG Köln against mining admission	BZ Arnsberg: property of BUND expropriated (area relevant for coalmining)	lawsuit VG Köln by BUND against expropriation	Attacks on the police by forest occupiers

03/09/18	05/09/18	06/09/18	12/09/18
Police presents weapons found in the forest to press (later clear, that weapons were discovered in 2016)	BUND lawsuit against state gov. of NRW because of expropriation, RWE: standby for forest clearance until 14th Oct. 18	Police and RWE security remove barricades built by activists in the forest	NRW ministry of construction orders the city of Kerpen to evict the treehouses built by activists due to fire safety issues

13/09/18	17/09/18	19/09/18	20/09/18
Official eviction by police and RWE security workers, aim to mine coal in October	First mass protest (4.-7.000 people) around the forest	Death of a journalist who who was friends fell from a treehouse while reporting	Different reports and perspectives on the death of the journalist e.g. if police was close, violation of proclaimed silent period

21/09/18	23/09/18	24/09/18	09/18
Proclaimed silent period officially ends, conflicts between police and activists	Mass protests around the forest (several thousand)	Eviction officially resumed	Different protests throughout Germany (e.g. camps, demonstrations blocking coal digger)

05/10/18	06/10/18	08/10/18	17/10/18
OVG serves BUND complaint to protect rare bats in the forest (EU directive), stops forest clearance	Mass demonstration around the forest (50.000 people)	Police retreat, forest reoccupied	Workers protest in front of the private home of the Buirer for Buir spokesperson

24/10/18	26-27/10/18	11/18	18/12/18
Workers protest with 30.000 participants	Protesters block coal transport in Hambach	New blockades in the forest are removed by police and RWE security	Violent attacks on RWE vehicles, police search protest camp

24-25/12/18	26/01/19	01/19	20/02/19
Activists attack camp of security forces by throwing stones, using incendiary material	Official statement by the Commission including the wish to preserve the Hambach Forest	Fridays for Future demonstrations gain popularity in Germany	RWE claims that there will be no forest clearance until 2020, official moratorium with NRW government

26/03/19	04/04/19		
An activist gets arrested for supposedly throwing a bucket of feces on a RWE worker	Announcement of financial support for coal regions by the federal government (90 million for NRW)		

Appendix B. List of original quotes

The sources were provided in the main text.

Quotes in the text	Original quote (German)	Actor
"*RWE escalates the conflict and creates precedents: forced resettlements, forced expropriation and the destruction of the Hambach Forest.*"	"RWE eskaliert die Konflikte und schafft Fakten: Zwangsumsiedlungen, Zwangsenteignungen und die Vernichtung des Hambacher Waldes." (Buirer für Buir)	Citizen initiative: Buirer für Buir
"…will always continue to fight against the injustice of the state and the energy giant RWE and will definitely continue to fight for climate justice…!"	"…wird immer weiter gegen die Ungerechtigkeit des Staates und den Energieriesen RWE kämpfen und wird sich auf jeden Fall weiter für Klimagerechtigkeit… einsetzen!"	Occupiers: Hambi bleibt!
"We are deeply shocked and mourn the young journalist who died in the Hambach Forest."	"Wir sind tief erschüttert und trauern um den im Hambacher Wald gestorbenen jungen Journalisten."	NGO: BUND
		Occupiers: Hambi bleibt!

(*continued*)

Quotes in the text	Original quote (German)	Actor
"As long as RWE continues to clear the forest, we will continue to actively try to protect the forest, to prevent the clearing and to bring the coal phase-out into the public discourse."	"Solange RWE weiter rodet, werden wir auch weiter aktiv versuchen, den Wald zu schützen, die Rodung zu verhindern und den Kohleausstieg so in den öffentlichen Diskurs zu bringen."	
"From blocking the forest clearance to the coal-exit."	Vom Rodungsstop zum Braunkohleausstieg	Occupiers: Hambi bleibt!
"The Hambach Forest is saved."	"Der Hambacher Wald ist gerettet."	NGO: BUND
"…then the climate and with it all the villages and the forest must be saved."	"…dann muss das Klima und damit alle Dörfer und der Wald gerettet werden."	Citizen initiative: Buirer für Buir
"… there is no connection to the work of the Commission on Growth, Structural Change and Employment, which is concerned with the medium- and long-term prospects of coal-fired power generation and with a possible phase-out date."	"…entsprechend besteht auch kein inhaltlicher Zusammenhang zu den Ergebnissen der Kommission "Wachstum, Strukturwandel und Beschäftigung", die sich mit den mittel- und langfristigen Perspektiven der Kohleverstromung sowie mit einem späteren möglichen Abschlussdatum beschäftigt."	Energy company: CEO of RWE
"I am not to decide if we want to have lignite coal or not. That is decided by courts."	"Nur ich habe ja nicht den Auftrag zu entscheiden, wollen wir Braunkohle oder nicht."	NRW Minister of the Interior: Herbert Reul
"The forest clearance and the Hambach Forest are not subject for the Commission."	"Das Thema… Hambacher Forst ist ja nicht Auftrag der Kommission."	IG BCE: President Michael Vassiliades
"We are shocked and deeply regret this accident"	"Wir sind erschüttert und bedauern diesen Unfall zutiefst."	Energy company: CEO of RWE
"This will only be possible if we have 65% of electricity from renewable energy sources by then."	"Das geht aber nur dann, wenn wir bis dahin 65 Prozent Strom aus erneuerbaren Energien haben."	Energy company: CEO of RWE
"The coal phase-out will come as it must do"	"Der Kohleausstieg kommt dann von selbst."	Energy company: CEO of RWE
"Insecurity and fear of job losses and the personal future."	"Unsicherheit und Sorge um die Arbeitsplätze und die persönliche Zukunft"	IG BCE: President Michael Vassiliades
"…will the coal phase-out [..] be closely linked to the monitored progress of the future energy mix, the expansion of Renewables and the grid."	"…wird der Auslauf der Kohle […] eng an überprüfbare Fortschritte beim zukünftigen Energiemix, dem Ausbau der Erneuerbaren und der Netze geknüpft."	IG BCE: President Michael Vassiliades
"It is not comprehensible for anyone when RWE cuts down an ancient, valuable forest for the coal that lies beneath it whilst the details of the coal phase-out are being discussed in Berlin."	"Es ist für niemanden verständlich, wenn RWE einen uralten, wertvollen Wald für die darunterliegende Braunkohle abholzt, während in Berlin die Details des Kohleausstiegs diskutiert werden."	NGO: BUND
"A point has now been reached where people in the Rhenish mining area are getting a feel for what it would mean if a lignite phase-out were to come too quickly"	"Jetzt ist ein Punkt erreicht, an dem die Menschen im Rheinischen Revier ein Gefühl dafür bekommen, was es bedeutet, wenn ein Braunkohleausstieg zu schnell käme."	IG BCE: President Michael Vassiliades
"…the protection of interests of the coal giant RWE and the coal lobby…"	"… um die Interessen des Energieriesen RWE sowie der Kohle Lobby zu schützen…"	Occupiers: Hambi bleibt!
"…energy giant…"	…Energieriese[n] RWE…	Citizen initiative: Buirer für Buit Occupiers: Hambi bleibt!

Appendix C. Overview of actors' interests and framings

Table 1
Description of the main actors' interests in the conflict.

Actors	Most salient interests (in the Hambach area)
Occupiers	- Fight capitalist interests and exploitative system [5,6] - Fight coal [7,8] - Climate justice and climate protection [9,10] - Planet protection [7,11] - Fight for a better future for all [5,12]

Environmental NGOs
  BUND
  (H. Weiger, member of CGSCE)
  Greenpeace
  (M. Kaiser, member of CGSCE)
  Deutscher Naturschutzring
  (K. Niebert, member of CGSCE)
	- Climate protection [13,14]
	- Preserve the forest (symbolic meaning) [15,16]
	- Impact on climate politics in Germany [17]

Citizen initiative
  Buirer für Buir
  (A. Grothus, member of CGSCE)
	- Protect own homes [18,19]
	- Protect social peace in the region [19,20]
	- Preserve the forest [18]
	- Climate protection [18,19]

Energy company
  RWE
  (R. Schmitz, member of CGSCE)
	- Safeguard business and profit [21,22]
	- Safeguard property rights [22,23]
	- Responsibility for workers [24,25]

Trade union
  IG BCE
  (M. Vassiliades, member of CGSCE)
	- Protect workers from violence [26,27]
	- Protect workers from job and income losses [2,28]

NRW state government
  NRW Minister President
  (A. Laschet)
 	
  Ministry of the Interior of NRW
	- Evict illegal buildings due to fire safety issues [29,30]
	- Enforce Law & Order [29,31]
	- Evict criminals from the forest [29,31]

Table 1 (*continued*)

Actors	Most salient interests (in the Hambach area)
(H. Reul)	
Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of NRW	
Courts	- Ensure public safety [32]
Administrative Court Aachen,	- Protect the common good [33]
Administrative Court Cologne,	
Higher Administrative Court Münster	

Appendix D. Overview results of the framing category coding

The highest occurrence of a framing category was 8 times within a phase, so we adopted three main sizes of circles that show in a range of 0 = non-existent, small circles symbolising a frequency of 1–3, middle-ones of 3–5 and large ones of 6–8.

Overview fluctuation coding grouping 1:

	Resp. for	Resp. of	Loose-gain	Depend.
Phase 1	6	6	5	6
Phase 2	3	4	1	1
Phase 3	1	2	0	0
Phase 4	4	4	3	4
Phase 5	7	6	1	3
Phase 6	5	3	1	2

Overview fluctuation coding grouping 2:

	Resp. for	Resp. of	Loose-gain	Depend.
Phase 1	3	3	3	1
Phase 2	1	1	2	2
Phase 3	1	2	0	0
Phase 4	5	5	6	3
Phase 5	8	2	7	7
Phase 6	4	0	5	4

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