Bachelor Thesis

Discontinuing coal in Germany -
Keeping the forest above to phase out the coal below:
An explorative study of the negotiation process in terms of interests, conflicts and coalitions.

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Abstract

In the wake of sustainability transitions and increasing attention for climate change issues, the discontinuation of emission-intensive socio-technical systems like lignite coal becomes increasingly prevalent. The German coal phase-out provides for a timely and currently ongoing example, that can be explored with a governance of discontinuation perspective. While the overarching phenomenon of the coal phase-out is set into context, a framing analysis is conducted for the local case of the Hambach forest to gain insights on actors' interests, strategies and dynamics regarding the negotiation process. Data is derived from primary and secondary sources, primarily from actors' statements from the respective websites.

This explorative single case study is applied to conduct an in-depth analysis of the case with the help of a grounded theory approach to generate findings relevant for the research field of the governance of discontinuation. The agency-view enables the construction of three framing types that were most prevalent in the negotiation process: responsibility allocation, a lose-gain nexus and the creation of dependencies. The process has been shaped by conflictual interactions of interest groups emerging from a cluster of actors who share similar interests and engage in similar framing struggles to advance their respective interests.

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List of Abbreviations:

BUND	Bund für Umwelt und Naturschutz Deutschland
CGSCE	Commission on Growth, Structural Change and Employment
EEG	Erneuerbare-Energien-Gesetz
EnBW	Energie Baden-Württemberg
EU	European Union
ETS	Emission Trading Scheme
GHG	Greenhouse gas
GTM	Grounded Theory Method
IG BCE	Industriegewerkschaft Bergbau, Chemie, Energie
ILB case	Incandescent lightbulb case
MLP	Multi-level perspective
NGO	Non-governmental organization
NRW	North Rhine-Westphalia
RETs	Renewable Energy Technologies
RWE	RWE Power AG
TWh	Terawatt hour
UNFCCC	United Nations Framework Convention on Climate Change

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1) Introduction

A. Contextual background

Even though Sustainable Development has been on the agenda since the 1990s, the role of climate change policies became increasingly prevalent in recent years. A milestone in international climate and environmental politics emerged with the Paris Agreement, which sets the aim to keep the global temperature rise below 2 °C, if possible 1.5 °C, above pre-industrial levels. Policy measures are taken to not only accord with international agreements, but to avoid and limit the intensification of *"[c]limate-related risks for natural and human systems*" (IPCC, 2018, p. 7) in the wake of global, anthropogenic climate change.

This international agreement is underpinned by various arrangements on regional and national levels alike (such as the European climate and energy framework 2030 or Germany's national Climate Action Plan 2050). This symbolizes a steering towards future scenarios characterized as sustainability transitions and low-carbon transformations of societies and economies.

Reducing Greenhouse gas (GHG) emissions poses to be one of the key-strategies for designing a sustainable future and therefore situates the targeting of emission-intensive sectors at the center of climate politics (Edenhofer & Flachsland, 2012). As the prevalent context changes, socio-technical systems come under pressure to change with it or even get abandoned (Stegmaier et al., 2012) leading to destabilization processes within contemporary systems (Turnheim & Geels, 2012).

Most often, researchers tend to focus on the role of innovations within such transitions, without regarding the possible flipsides as being part of them (Turnheim & Geels, 2012). Those flipsides are connected to destabilization processes which potentially reveal dynamics of the purposeful discontinuation of certain socio-technical systems as such or parts of them. This is for example the case for the socio-technical system of lignite coal in Germany. Socio-technical systems are defined as "*… a specific combination of technical, social and institutional elements that work together while performing a certain task…"* (Hoffmann et al., 2017, p. 392). For the case of coal this refers to the task of electricity generation, provision and distribution connected for example to the operation of grids, electricity production via open-pit coal mines, jobs directly and indirectly tied to the industry, political planning, societal impacts such as health-issues and so on.

Historically, coal has been an accepted regional and secure source of energy supply in Germany. It became more and more targeted after political pressures increased via the announced sustainability transition emerging from the Agenda 2030, but especially in the context of the energy transition initiated in 2011. Such destabilization processes are related to broader developments, not only in terms of governance actions but also occur in alignment with changing normative ideals within society or prevailing market operation logics.
While Germany will miss its emission reduction targets for 2020 (Heinrichs et al., 2017), the national energy industry is responsible for the majority of German GHG emissions with a share of 37,8 % in 2016 (Salb et al., 2018). Especially coal-based power plants used for electricity generation have the potential to contribute to a fast and extensive reduction of emissions (BMWi, 2019a) and currently a coal phase-out date is under discussion.

The German coal phase-out is highly interesting for doing research focusing on the governance of discontinuation, as it is not only a discontinuation process in the making, but it is also highly dynamic. Therefore, subjecting it to an analysis right now is crucial to capture the current state of the process. The process is situated in a highly complex context, with coal-fired power plants being embedded within larger technological (e.g. energy supply system, grid expansion), economic (e.g. industry, employment), political (e.g. relation coal industry and politics, emission
reduction targets), social (e.g. societal well-being, forced resettlements for ongoing coal mining operations) and ecological (e.g. global climate change and its impacts on local levels) developments. This is reflected in the fact, that the so-called coal regions in Germany will require to undergo a structural transition as the regional industry is largely based on coal-based electricity generation, in addition to the energy transition.

To address this nexus of the global and local dimensions in relation to additional national and regional governance structures, the study will focus on the local policy arena of the Hambach forest in which actors are affected in their local realities of life by developments that are primarily characterized as global.

B. Relevance of the study

Hitherto, the existing literature on governance of socio-technical systems in transition studies seems to suffer from an innovation bias (Stegmaier et al., 2012). There is a persistent lack of research that specifically focuses on the deliberate act of discontinuation in the current

sustainability transition literature, leading to a lack of single-country studies which would be important for building comparisons. But discontinuation is a timely matter, as can be seen with studies focusing on it as a deliberate act like in the cases of the incandescent light bulb in the EU (Stegmaier et al., 2014) or the automobility regime (Hoffmann et al., 2017). Often, the German coal phase-out was analyzed as an integral part of the overarching sustainability and energy transition (Geels et al., 2016; Leipprand & Flachsland, 2018; Rogge & Johnstone, 2017), but not as a discontinuation process itself. One study was found which focuses on the destabilization trajectory, but only with regard to the German electricity system in general (Kungl & Geels, 2016).

Those who specifically focused on the coal phase-out, have mainly done so in terms of transformation pathways (Brauers et al., 2018; Vögele et al., 2018) or its feasibility (Heinrichs et al., 2017). By specifically focusing on the German coal phase-out from a discontinuation governance perspective this study adds a new theoretical view. One way this can be done is by specifically focusing on agency, trying to explore who the actors are, how destabilization occurs and how deliberate and active discontinuation processes are currently governed or influenced by certain actor groups.

To concretize the coal phase-out process, a case-study for the Hambach coal pit area will be conducted with a global-local nexus in mind. This implies that global decisions (e.g. Paris Agreement) which might lead to discontinuation processes on the national level (e.g. GHG emissions reduction targets requiring coal phase-outs to achieve them) have consequences on the local level (e.g. employment losses, termination of resettlements due to canceled enlargement of a coal-pit, protests, etc.). The focus will be set on actors and their relations. It is anticipated that due to the scope of the Bachelor thesis, certain areas might be neglected or only addressed shortly, such as detailed market mechanisms, the technological state of certain innovations or the specific role of EU institutions (e.g. the European Energy Agency).

C. Formulating the research question

The process of negotiation around the coal phase-out is set as focus of the research. It sheds light on actors and how they engage with each other in order to elucidate the role of conflicts and coalitions in the governance of discontinuation process. It aspires to analyze actors and their dynamics by looking at the types of actors, the relations between the actors (coalition building, antagonistic behavior) and how the coal-phase out is framed as a problem (problem

for whom and what type of problem).To do so, an exploratory main research question was chosen within the frame of interpretative research.

The main research question is:

> *How is the negotiation process of the coal phase-out shaped by conflicts and coalitions among actors with various interests and their problem definitions?*

By analyzing the local example of the Hambach open coal pit area, it is aspired to generate insights to answer the main research question. As the question incorporates many different aspects, several descriptive and exploratory sup-questions are supplementing it to enable a clearly structured and well-ordered research process. The sub-questions b) and c) specifically relate to the Hambach area and its actor settings.
The sub-questions are:

a) *Who are the actors and what are their interests?*
b) *Which dynamics are prevalent in the actors' interactions in terms of coalitions and conflicts?*
c) *How is the coal phase-out framed by the different actors?*

The aim is to develop interpretations and in-depth understanding of the researched phenomenon by posing these questions, while at the same time the questions seem feasible to answer within the limited time frame.

D. Research Design

The study follows a qualitative, exploratory research approach, focusing on details of the hypercomplex processes within sustainability transitions. It reconstructs the context in which the research object is situated historically as means to comprehend it in its overall setting. The study is based on a qualitative data analysis utilizing the Grounded Theory Method (GTM), later explained in the method section, to generate insights.

The approach constitutes a single case study of the Hambach coal pit, situated within the overall German setting. The research conducted in this study tries to understand some of the processes which can take place within a discontinuation setting and studies the case in depth, instead of

breadth. This can reduce its external validity and comparability; however, the broad context setting could make it possible to apply similar approaches to other socio-technical systems. An abductive approach is applied to find heuristics about possible regularities within the case. These findings can potentially serve as building blocks to develop theoretical assumptions further (van Thiel, 2014).

Moreover, the indefiniteness of abduction (Reichertz, 2007) relates back to the reflexive research design. A purely inductive approach is not sufficient for the case, as it would treat the case as *"... an instance of a known order..."* (Reichertz, 2007, p. 219) which is certainly not the case, as the aspiration is to discover the structure, patterns and peculiarities about it. Difficulties with comparability and external validity might arise, however, the in-depth approach can provide for an analysis regarding the different dimensions, types of actors and therefore the inner structure of the case, possibly enabling future comparison between cases by discovering concepts or typologies.

Researchers can never be completely un-biased, therefore, there is a need to ensure that the biases do not influence the quality of their research. For this study, personal goals in regard to climate change action could play a role, however, this bias will be scrutinized. This is done by applying value free judgement and "*…critical subjectivity…"* (Maxwell, 2008, p. 12). This is facilitated as the research is non-normative and is restrained to observe what the given elements of the research object are.

Value free judgement obliges the researcher to systematically look at all the aspects of the case, not only those which would fit personal goals. Critical subjectivity allows for acknowledging pre-existing experiences and thoughts, reflecting on them including their possible consequences for research decisions and utilizing them in the research to generate further insights, theoretical assumptions and consciously opening up to a variety of viewpoints (Babbie, 2013; Maxwell 2008). This helps to explore the meaning people give to the coal phase-out process and understand the different perspectives of the actors, working towards fulfilling the aspiration to grasp the complexity of the phenomena.

Also, the study provides an interesting setting: While its spatial dimension is fixed (Germany), its temporal dimension is partly retrospective, aiming to reconstruct the historical chronology of developments regarding the German coal phase-out, although simultaneously the phase-out process is still ongoing. This leads to a complicated overall setting in which the research takes place, since new developments can occur at any given moment. To encounter them, a temporal

boundary was set with the end of May**.** A planned national environmental protection law which was supposed to be drafted until the end of April has not come into being and can therefore not be included in the analysis. The strengths of the study lay in its high internal validity and in its in-depth analysis of the phase-out including an agency view, embedded in a contextual understanding to grasp the dynamics of a larger process which takes place across multiple dimensions.

E. Case selection

For the qualitative single-case study, the case of the open coal pit area Hambach located in North-Rhine-Westphalia, Germany was selected. Although there are other coal mining areas in Germany, the case carries several special traits, thus being likely to generate useful data, as it is characterized by its uniqueness (van Thiel, 2014). The region is characterized by the fact that the energy structure is built on the reliability of hard and lignite coal mining, with many different industries depending on it (e.g. chemical or paper production). Secondly, the case gained a lot of media attention in the past year. Radical protesters occupying the forest near the coal pit, which was ought to be cut down by the energy company for the ongoing mining process, received widespread public support via protest marches.

Additionally, several actors of the case are represented on the federal level as representatives in the Commission on Growth, Structural Change and employment (CGSCE). It is the institutional commission installed by the German government who is ought to generate concrete proposals on how to implement the coal phase-out. The variety of actors and their interaction is special in this case, as normally the coal pit and the forest were contested between a more or less fixed actor-triangle of the state government (North-Rhine Westphalia), the local energy company (RWE) and a well-known NGO (BUND). Often final decisions were taken by courts. In 2018 however, the number of actors in the political arena increased immensely, making the case of the Hambach area unique and especially interesting for an actor-centered analysis. For discovering which actors are relevant for this study, the prior knowledge gained from closely following the protests in the last year might become useful, as it is shaped by the experience which actors were the most prevalent in media reports. This could be an example of how managing bias can be fruitful for certain areas of the research. The number of actors must be limited, but well-reasoned, to remain manageable within the frame of the study and will be made clear in the analysis part of the study.

2) Theory

As the coal-phase out is a highly complex-phenomenon, it becomes a necessity to utilize various theories in order to grasp its multiple dimensions. The theoretical application for the case-study is structured into several steps which aim to contextualize the coal phase and capture the role of social constructions and problem definitions as a political act within the process of collective sense-making.

The policy-process behind the coal phase-out is characterized as a public problem, understood as *"...claims of groups of people about the way they experience a situation"* (Hoppe, 2011, p. 67). As actors may experience the situation differently, different ways of dealing with the problem, as well as different outcomes are expected. With this conception, the policy process of phasing out the socio-technical system of coal can hardly be explained with the classic policy-cycle model, which divides the policy process into sequential stages. Rather, the theoretical applications in this research help to understand the policy process as characterized by continuous questioning, breaking up the policy cycle and interlacing its different steps in a constant process and effort of "…*policy as social construction of meaning…"* (Hoppe, 2011, p. 48).

The MLP (Multi-Level Perspective) will help to map the overall transitions process as a "*...global model…"* (Geels & Schot, 2007, p. 414) and therefore enable to understand where the coal-phase out is contextually situated within that transition as a form of deliberate discontinuation. The German energy transition requires a purposeful deconstruction of energy regimes that do not fit along its lines such as the socio-technical regime based on lignite coal (Vögele et al., 2018). This transition context can be well illustrated by applying the three levels of the MLP, namely a landscape, regime and niche level (Grin & Schoot, 2010).

This perspective allows for the identification of actors, where their actions take place on these levels and how these interact across levels (reconstructing the context and relating to sub-questions a) and b)). It also supports the contextualization of the coal phase-out as a transition process within broader developments on the national as well as international level.

Secondly, the governance of discontinuation approach helps to characterize the German coal phase-out as an active and purposeful discontinuation process in the broader context of regime change (for the context-reconstruction, relating to sub-question a) and the nature of the research

subject). Additionally, the governance perspective allows for the inclusion of various actors participating in the process of the phase-out.
It is important to differentiate, that the theoretical lenses of discontinuation governance and governance of discontinuation differ. While the first is based prevalently on a policy termination view relating to the discontinuation of a specific way of solving a policy problem, linked to changes in governance action and government functions (Bauer, 2009; Stegmaier et al., 2012), the latter is about the governing of the discontinuation of a particular problem, or in the case at hand, a specific socio-technical system. Discontinuation is the deliberate act of putting an established socio-technical regime under pressure (Hoffmann et al. 2017). Setting it within the context of purposeful destabilization furthers an understanding of what happens after a first break-through of new technologies was achieved (Leipprand & Flachsland, 2018), as is currently the case for Renewable Energy Technologies (RETs) in Germany.

Thirdly, a constructivist view by applying concepts from the governance of problems and a framing analysis on the case is adopted, setting the focus on the construction of meaning with an agency-centric view (Colebatch, 2002; Geels, 2010; Hoppe, 2011).
The governance of problems approach categorizes problem types as structured, moderately structured (means), moderately structured (goals) or unstructured (Hoppe, 2011). This depends firstly, on the degree of consensus about values at stake and secondly, on the degree of certainty on required and available knowledge and points to the fact, that fact-constructions are closely linked to value-constructions in the political process (Hoppe, 2011). Unstructured problems are also referred to as intractable controversies, since the multiplicity of values, fact-constructions and perspectives leads to conflictive policy disagreement (Hischemöller & Hoppe, 2001; Schön & Rein, 1994).

The local example of the coal phase-out in Hambach is treated as a policy controversy in which meanings may shift not only within the actor's interaction, but also the existence of the coal phase-out as a controversy in a local and global context.
This policy controversy is understood as a frame conflict (Schön & Rein, 1994), referring to the fact that different frames make different actions more appropriate and that there is the effort to mobilize public opinion as well as political power within certain actor's interests (Hoppe, 2011; Schön & Rein, 1994). Frames are conceptualized as thought structures, which are conveyed by using specific language and visual imagery (Lakoff, 2010). This perspective helps to further identify actors, their specific strategies for defining and framing problems, how they

engage in framing struggles and therefore their interaction (relating to sub-questions a), b) and c)).

While the MLP helps to reconstruct the contextual environment in which the phenomenon of the coal phase-out process is embedded, the governance of discontinuation perspective structures and typifies the coal phase-out as a process of deliberate discontinuation. With the governance of problems, the focus is shifted to actors and their strategies, while the framing analysis is carried out to further the understanding of how the actors interact and how this might be shaped by specific institutional settings or certain strategies of the actors on a local level. With this heuristic understanding this study seeks to explore and generate an in-depth understanding of how the socio-technical system of coal is discontinued and how as well as by whom the process is steered and governed.

3) Data and Method

A. Data description

Mostly, qualitative interviews are seen as the primary sources of a qualitative analysis, but other data types can be equally informative (Bryant, 2017). The study utilizes qualitative data for empirical research by drawing on secondary sources (e.g. scientific articles) and primary sources, such as public statements or newsletters produced by actors and published newspaper interviews. Attention was paid to retrieve an approximate equal number of statements from each actor to avoid overrepresentation. For a more encompassing study, it could be useful to gather a more comprehensive mix of data such as field observations, interviews with actors and inquiring press statements.

The sources used are primarily statements directly retrieved from sources administered by the actors themselves. Sometimes it was necessary to operate with interviews or quotes within newspaper articles, though such sources were included as little as possible. This is due to the fact that media sources are also part of a public discourse and potentially influence public perception, which could make it difficult to regard them as an independent source within the framing analysis. They may be selective in their choice which information to present or to cater to the interests of their audience, therefore a selection might lead to biases. This study explicitly focuses on the framings of the actors as stakeholders in the public discourse and not on a news-frame analysis.

Social media sources (e.g. Twitter, Facebook, Instagram) would most likely have been useful, since they could possibly provide a quite intimate view on actor's positions and the way they utilize language. These sources will be excluded however, as they would broaden the research to an extent not manageable within the given timeframe. With regard to the primary sources, statements by the selected actors about their self-conception and attitude towards the coal phase-out are chosen.

To determine which actors should be chosen for the analysis, not only the prior experience with the case as described above is helpful. With the use of several sources, including newspaper coverage, scientific articles, blog-posts of actors and published reports including timelines published by NGOs, a historical chronology of the overall trajectory of the sustainability

transition in Germany as well as of the occurrences around the Hambach coal pit area was constructed (see Appendix 1).

B. Method description

The data is operationalized with the help of the Grounded Theory Method (GTM), meaning that theoretical implications are derived "*…from an analysis of patterns, themes and common categories discovered in observational data"* (Babbie, 2013, p. 336). It is a process which is bound to the reconstruction of the empirical reality and aims to explain the strategies of actors and advance theoretical concepts with regard to the governance of discontinuation.

The GTM helps to inform the framing analysis specifically, which is conducted in an interpretative way. Thereby the interactive understanding and purposive wording of the coal phase-out in relation to the Hambach coal pit area is analyzed. It is structured and ordered by clarifying the categories and juxtaposing the positions of the different actors, focusing on how they frame the coal phase-out. Thereby, also the relational interaction between the actors can be identified.

The roots of grounded theory as a method, or family of methods (Bryant, 2017), can be traced back to several publications of Glaser and Strauss with the purpose of procedurally constructing a theory from the data under analysis during the research process (Corbin, 2017). This relates back to the abductive approach taken in the study and the use of search heuristics.
The GTM is a method of constant comparison (Bryant, 2017) and bears the challenge to critically identify patterns within the gathered data and form categories from it to enable comparison. It extensively draws on cognitive processes of the researcher and openness for the process of scientific discovery (Reichertz, 2007; Bryant, 2017). As a researcher utilizing this method, one has to constantly engage in conscious and reflective interpretation to remain open to any discoveries explored throughout the process, even and especially, when it leads into unexpected directions (Bryant, 2017), relating back to the reflexive design of the study.

Doing grounded theorizing is seen as a process and not a pre-given methodological approach simply applied on the research object and made fit (Bryant, 2017), but rather leaves room to the constant development of possibly changing interpretations by analyzing patterns, themes and categories that are connected to the research object. With GTM, data collection and analysis are running parallel and are intersecting as an iterative process (Bryant, 2017). This means that

while collecting and evaluating data, coding becomes a practice that is supportive for the research to systematically capture salient features across the data.

In this study, the term coding refers to a strategy of handling data as a form of analysis, as it breaks down certain salient aspects into fragments and therefore making them comparable e.g. by capturing patterns. Codes are reflections of what the researcher sees in the data, concepts then are the interpretative description of what lays behind or within these codes and categories build the connected frames in which the concepts can be subsumed**.**

There are different strategies of coding of which each has its own implications for the interpretation of data. In the first stream of the analysis open coding is applied in which one discovers and develops some draft categories. Then, fracturing the data into code units for further analysis becomes necessary to foster the emergence of categories as well as concepts. The fragmented units get realigned as key concepts and categories and are set into relation to one another, which brings the challenge to actually bring the categories into an order to explain key aspects of the phenomenon under research.

C. Usage of Atlas.ti

For the framing analysis, the software Atlas.ti is utilized, as the program helps to systematically order the data and gives a transparent overview about the research process. It also facilitates the general analysis of unstructured, non-numerical data, which is in use and thereby enables a more systematic comparison by giving an organized overview. This will be especially relevant in the process of constructing categories from codes and when putting concepts and categories into relation. Disadvantages of utilizing a software such as Atlas.ti could be limitations that might be pregiven due to the nature of the software or getting lost in analytical tools which may not have a relevant value for the research. Another potential danger linked to the overplaying of analytical tool is, that the research part in terms of the cognitive and creative performance the researcher has to engage in, gets underrated with the assumption that the software will do the analysis. It is important to note again, that with the GTM the interpretation of data does not just start when actually “coding” but runs parallel with the data collection.

As a historicist and constructivist approach is applied for the study, it must be stated, that such a phenomenon can never be grasped in all its complexity. Conclusions will be drawn from the patterns, themes, categories or concepts developed by the grounded theorizing, as well as from

the coding results of the framing analysis. It focuses on the exploration of meanings and actions in the framework of governance of discontinuation, with regard to the socio-technical system of coal in a problem-centric and actor-centric way. It is expected that the local case of Hambach has the potential to improve the understanding of the complex dynamics present in the process. With the GTM, the current phenomenon can be analyzed in a way that acknowledges as well as permeates the given complexity and seeks to discover certain regularities within the process.

4) Analysis

A. The MLP and the German coal phase-out

The MLP analytically differentiates between three levels, the niche-, regime-, and landscape levels (Grin & Schoot, 2010) which allow for a parallel assessment. Regimes are embedded within the socio-technical landscape, whereas niches are embedded within regimes (Grin & Schoot, 2010.).

As socio-technical systems develop over decades (Geels, 2018) so do the different levels, the respective actors and their respective interactions within the MLP. The system of coal, or more specifically lignite-coal for electricity generation, has a long history rooted in Germany's industrializing processes. Today the share of lignite coal in the national electricity mix is determined at 22.5 % for the year 2018 (AG Energiebilanzen e.V., 2019) and in comparison to other EU member states still plays a relatively large role (Brauers, et al., 2018) which makes it necessary to trace back its trajectory. The electricity supply in Germany is generally structured along the triangle of energy affordability, reliability and security (Poortinga et al., 2018). For reasons of clarity, the analysis will be restricted to the most salient developments to sketch the contextual setting of the coal phase-out via the landscape, niche and regime level. The term coal will refer only to lignite coal utilized for electricity generation if not otherwise specified.

A.1 Overview landscape trends

The landscape-level marks the socio-technical, exogenous environment characterized by slow changes which often only take place over decades but is also subject to exogenous shocks (Geels & Schot, 2007). It is influenced by social values, political ideologies and coalitions, international politics e.g. at the EU or international level, (Leipprand & Flachsland, 2018; Vögele et al. 2018) and can create pressures at the regime and niche level by enabling or constraining actors. While the analysis will be restricted to the most salient developments an overall historical trajectory is outlined below (see Table 1).

Due to the oil crisis in the mid-1970s energy security became one of the most prevalent topics in the discourse around electricity generation and served an intensification of political protection and support of the coal-industry by the governing coalition between the Social and Liberal Democrats (Renn & Marshall, 2016; Vögele et al., 2018). Throughout the 1980s, the Chernobyl incident and the consequential formation of the anti-nuclear environmental

movement legitimized coal as a cost-effective and secure pillar of the national electricity-generation system. With the 1990s, this the landscape began to incorporate developments antagonizing the prevailing stance of coal.

The Feed-In-Law for Renewable Energy Sources, passed in 1990, ensured grid-access for Renewable Energy Technologies (RETs), enabling niche actors an active market entrance for the first time. From the 1990s onwards, the issue of climate change slowly started to penetrate political agendas, exemplified with the Rio-Summit producing the Agenda 21 and creating the United Nations Framework Convention on Climate Change (UNFCCC). Additionally, a milestone in environmental politics was created with the Kyoto-Protocol. With this agreement, for the first time precise GHG-emission reduction targets were set for example by the European Union (Renn & Marshall, 2016).

For the case of the German coal phase-out, the energy transition (the so called Energiewende) is especially important as an overarching transition paradigm. It was spearheaded by the Fukushima catastrophe in 2011 to which the government reacted with a nuclear phase-out. The Fukushima accident settled the debate between proponents and opponents of nuclear power which had been going on for four decades (Jahn & Stephan, 2012). The opponents were largely represented via the strong environmental and anti-nuclear movements in Germany. The movement was steered by its high risk perception of nuclear power (Johnston & Stirling, 2015), which then became affirmed with the accident. This led to a drastic reorientation of the German energy policy and electricity system. The energy transition targeted the employment of Renewable Energy Technologies (RETs) by setting specific goals e.g. 80 % of RETs employed by 2050 (Geels et al., 2016) or the reduction of fossil fuels in the energy supply to 20 % by 2050 (BMWi, 2019a). It thereby poses to be "*... an explicit energy transition policy...*" (Geels et al., 2016, p. 905) that directly targets the reduction of fossil-nuclear based electricity generation.

As the energy industry had a share of 37,8 % in the overall GHG emissions in 2016 (Salb et al., 2018), this bears massive implications for the energy sector to reorganize if emission targets are to be met**.** These targets are further complemented by EU emission targets incorporated in the EU 2020 climate and energy package, EU 2030 energy and climate framework and the EU 2050 long-term target (Amanatidis, 2019).

Table 1 – General timeline of historical developments:

Minuses indicate largely negative developments for companies with conventional, namely fossil-nuclear (including coal) based energy production, a plus indicating largely positive developments, (for sources see Appendix 2).

	State policies and governance incidents	Public legitimacy and social movements	Market development	Niche actors	Prevailing discourse
1950 - 1980s **1970s: Social and Liberal Democrats protecting coal industry**	+ Intensive subsidies + Little state interventionism	+ Employment - Concerns about health effects due to pollution	+ Oil crisis led to increased importance of coal for electricity generation	+ Barely existent (small collectives)	Energy security and affordability Broad acceptance of nuclear and coal
1980s – 1998 **1990: Liberal and Christian Democrats**	- Feed-In-Law (1991) - Kyoto-protocol (1997) + European Market liberalization (1998)	- Anti-nuclear movement (Chernobyl 1986) - Climate Change gaining presence on political and public agenda	+ Market liberalization -> consolidation of market power ("Big 4") + Rising demand	- Active market entrance via Feed-In-Law	German unification, nuclear phase-out, coal as cheap, competitive and reliable energy source, employment
1999 – 2011 **1998 – 2005: Social Democrats and Greens (policy shift towards Sustainable Development)** **2011: Christian Democrats and Liberals**	- Renewable Energy Sources Act (EEG 2000) - Sustainable Development strategy (2002) -/+ ETS (2005; not effective) - Energy Concept (2010) - EU regulations - Energy transition (2011)	- Legitimizing nuclear phase-out (Fukushima 2011)	+ Rising demand - Decreasing energy prices	- Subsidies and support schemes for RETs (EEG) - Prioritization of RETs on the grid (EEG)	Energy transition and its societal implications Nuclear phase-out, negotiations about hard-coal phase-out
2012 – 2019 **2005-2019: Social Democrats and Christian Democrats**	- Paris Agreement (2015) - EU emission targets and regulations - Climate Action Plan 2050 (2016) +/- Electricity Market Law (2016) - Eurelectric divestment decision (2017) - CGSCE, coal phase-out date set to 2038 (2018) - Improvement of ETS (2019) - Benchmark paper on law for the structural transitions in coal-regions (2019)	- Public awareness about climate change - Environmentalist protest movements (e.g. Fridays for Future, 2018) - High public support for RETs deployment	+ Share of lignite coal in energy mix increased (Energy transition paradox) + Rising energy prices	- Share of RETs in energy mix increased (Energy transition paradox)	Climate change as dangerous, adjustment to low-carbon society Coal phase-out not about "if" but "when" and "how"

Generally, concerns about climate change are especially high in Germany in comparison to other European countries (Poortinga et al., 2018). Around 90 % of the population think it is an important challenge to shift from fossil fuels to RETs for the electricity generation (BMUB & UBA, 2016), illustrating the societal dimensions in terms of public opinion and legitimacy.

Coal-based electricity generation specifically got targeted when the German government installed the Commission on Growth, Structural Change and Employment (CGSCE) in 2018 installed by the German government who is ought to generate concrete proposals on how to implement the coal phase-out (BMWi, 2019b). Moreover, a a cabinet for climate protection (referred to as Climate Cabinet) with the task to prepare legally binding decisions on how to reach the targets included in the national Climate Action Plan 2050 was set up (Die Bundesregierung, 2019b). This phase marks the political structuring of the socio-technical dimension of a coal-phase out via negotiations.

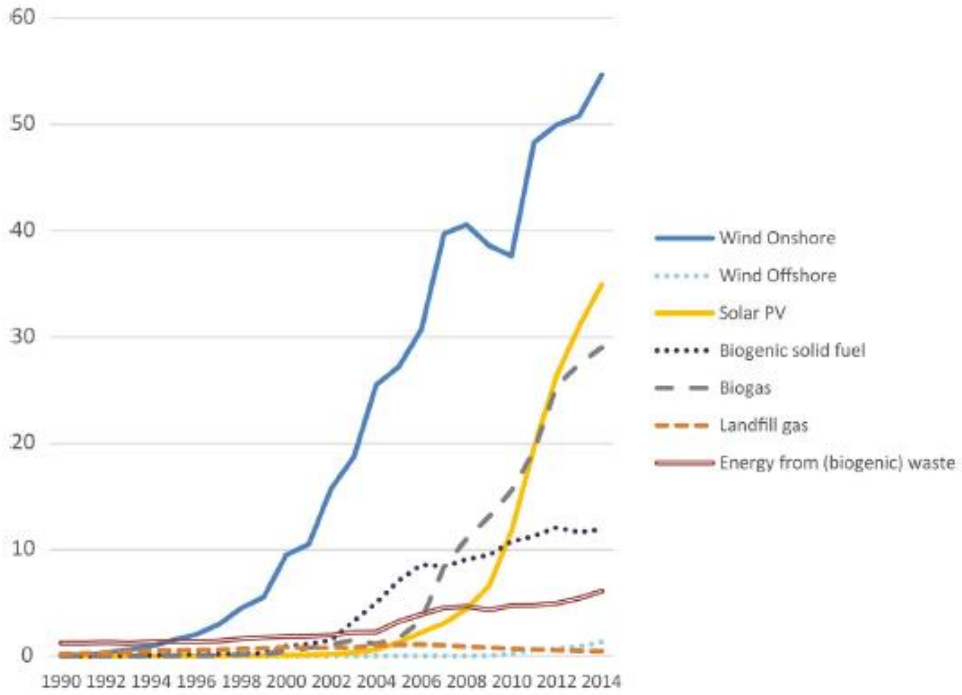
With the timetable (Table 1), the developments which were and are creating favorable or disadvantageous circumstances for the predominant regime of coal can be traced.
Increasingly, active support of niche innovations was furthered and the simultaneous reduction of fossil- and nuclear-based electricity generation created additional pressures.
While coal-fired power plants were able to assert their position within the regime for a long period, it was increasingly pushed into an ending configuration (Stegmaier et al., 2020), which has taken the form of a phase-out by now.

A.2 Trends on the regime level

The industry regime is the level in which the dominance of certain technologies and infrastructure, as well as of specific mindsets, business models, and usage practices (Geels, 2014) constrain or enable firm-level activities (Kungl & Geels, 2016).
With the European liberalization in 1998, four major market players consolidated their market power, creating the "Big 4" (RWE, E.ON, Vattenfall, EnBW; Geels et al., 2016) with a regional market dominance. RWE is relevant for the Hambach local case-study as it is the energy company present in the Rhine-area. The "Big 4" control major parts of the electricity distribution grid (Kungl & Geels, 2016), in a largely centralized energy generation system. Though, in the years following the Renewable Energy Sources Act (EEG), the share of RETs in electricity generation rose dramatically (see Figure 1) and the electricity sector experienced a "social opening" (Kungl & Geels, 2016).

Collectives and households started to employ small-scale energy generation e.g. with regional energy networks, bringing challenges to the technological organization of the regime. This led regime actors to engage in a reorientation of their market concepts, such as building subsidiaries, like RWE did by creating "Innogy" in 2007 (Geels et al., 2016) which specifically focuses on the renewable business. This shows that the incumbent regime actors engage in the shaping of the newly developing RET-regime to ensure their survival, as profitability of conventional power-generation decreased. Companies slowly reduced their effort to prevent the strengthening of the new market entrants but rather reoriented their strategy towards the adoption of niche innovations within the existing system to secure their predominant position in the energy market.

Figure 1 - Power production from RETs excluding hydro in TWh, 1990-2013:
(Taken from Geels et al. 2016).

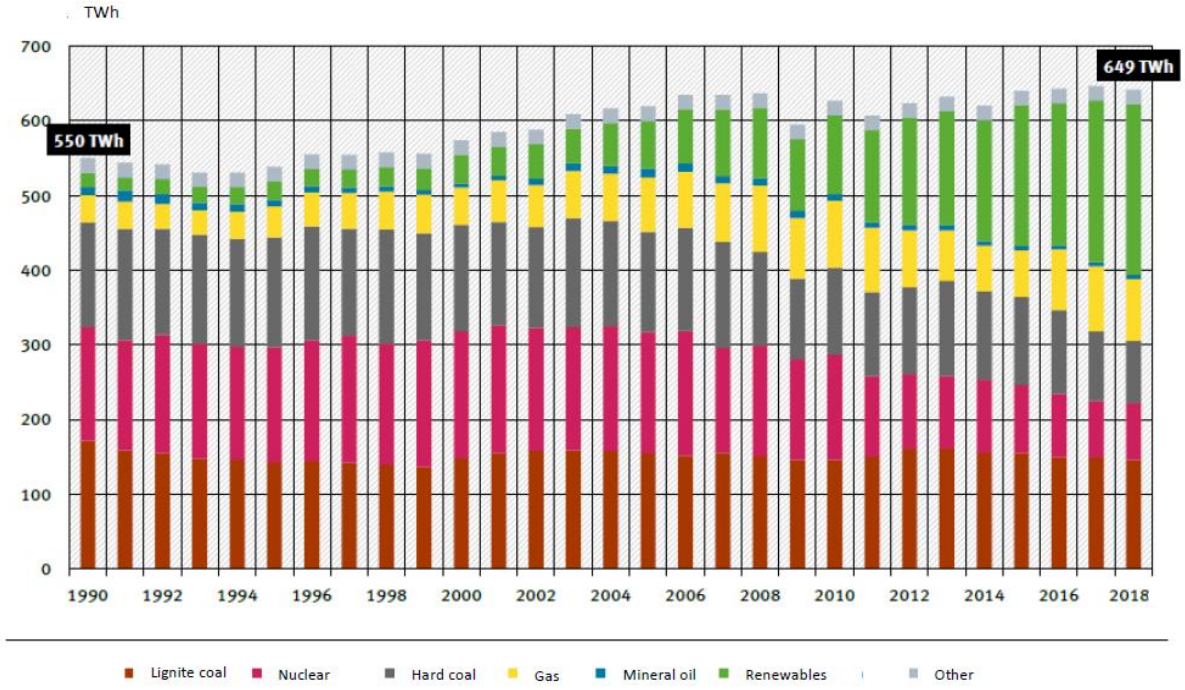


After 2011, the "Big 4" came under pressure due to economic divestments the nuclear phase-out came along with an increasingly negative public image, while public attention for climate change rose as did the share of RETs in the market (Kungl & Geels, 2016). The up to then prevailing fossil-nuclear regime was pushed to reorganize, due to the fact that rising climate concerns prevented the coal-regime to act as substitute for the declining nuclear-power. This hints at the fact, that the nuclear and coal phase-out developed in co-evolution. Interestingly, the firm's production remained primarily based on the production from conventional energy-sources and the share of lignite coal did not significantly decrease over the years, while hard-

coal was slowly reduced due to the newly employed sustainable development strategies, nevertheless it was not officially phased-out until 2018 (see Figure 2).

Figure 2 - Gross electricity generation in Germany by energy sources:

(Adapted to English, taken from UBA, 2018, original included in Appendix 3).



The energy transition rapidly put the regime actors under a lot of pressure by creating an intensified level of competition between new and old technologies. With agreements and target setting on the international and national level, the trajectory to restructure the energy sector towards a decarbonized society in 2050 was set. A dynamic restructuring of the energy market was put into place by actively targeting the fossil-nuclear based regime and increasing the share of RETs which illustrates a steering of firm-level action in interaction with the landscape and the niche level.

A.3 Trends on the niche-level

The RETs managed to capture a significant amount of the electricity market in a very limited amount of time as their shore rose to 37,8 % in 2018 (UBA, 2019) which was heavily facilitated by broader landscape in alignment with regime developments.

The developments described above illustrate the importance of policy measures, with subsidies and market regulation. With the Feed-In-Law of 1990 or the Renewable Energy Sources Act,

market access was granted and facilitated by political means, causing incumbent regime actors to reorganize their stabilized logics of operation in the energy sector. These measures could also be transferred to the logic of the creation of "windows of opportunity" or supporting to take advantage of such windows which are often the results of alignment tensions between the different levels (Grin & Schot, 2010). While niche-actors started out as rare spots within the energy sector like collectively owned wind farms, by now RETs have penetrated the energy market mainly by being adopted in subsidiaries of the predominant energy companies. Therefore, their deployment is controlled by incumbent actors on the regime level.

A.4 Key findings

Following from the analysis, the sustainability transition in Germany is subject to contributions by a multiplicity of different actors located on all levels in which politics and policy measures have a crucial role. It is further characterized by gradual changes (e.g. reduction of lignite in energy production, value changes) as well as rapid shifts from exogenous disturbances (e.g. energy transition after Fukushima). Exogenous factors are thereby impacting endogenous operative logics, pointing towards the importance of political steering. The "Big 4" however remained dominant and rather than being pushed out of the market, adapted market strategies to capture profits arising from RETs, thereby bringing the technical steering of niche-innovations within their own sphere of influence.

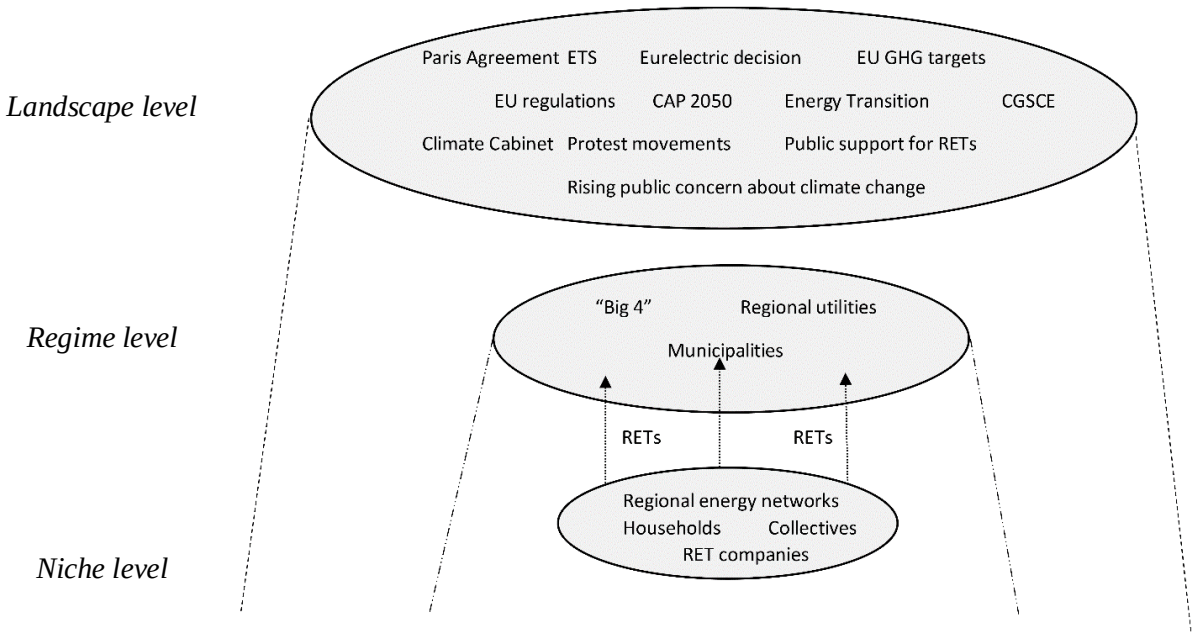
The landscape level was primarily shaped by developments on the national, regional and international level. Political values and institutions such as the CGSCE, EU regulations and public opinion are intertwined and construct conditions to which the regime and niche level need to adhere to, for example with increasingly stricter political target setting, which consciously aims at reducing the share of fossil-based electricity generation.

Changes in the political landscape were partly mediated by the regime actors, being the four largest energy companies and therefore representing private interest stakeholders. They slowly engaged with the rise of RETs by reorienting their market operations towards capturing RETs e.g. by creating subsidiaries, whereby they constructed a capturing and therefore control mechanism regarding RET deployment. This illustrates actions of resistance of the incumbent regime. Niche actors played a less salient role in terms of own actions, though the form in which they emerged (small collectives, private households, small energy companies) led to a reorientation of market structures in the former largely centralized energy supply system.

The RETs served as alternative technologies able to satisfy political targets, became aligned with public perceptions and heightened competition from the niche level for the regime actors. While the nuclear phase-out is already in full development, the coal phase-out is still in a phase of being structured politically and financially via negotiations. Fossil-based energy sources became increasingly regulated, though at the side-lines of the nuclear phase-out, thereby the phase-outs developed in co-evolution. Though the general targeting of coal in terms of a socio-political response is prominent, lignite coal still holds a large share in the overall energy mix with 22.5 % in 2018 and only declined slowly since 1990 (BMWi, 2018), pointing to the resilience of the incumbent system.

Landscape developments, supportive policy mixes and a value reorientation from energy security to environmental protection tended to restructure the frame in which regime and niche actors are able to move and created co-evolutionary processes between the levels (see Figure 3). Landscape developments such as the European market liberalization and the rise of RETs by supportive policy measures reframed the economic conditions and created techno-economic pressures for the regime. Socio-political pressures were and are created via emission-target setting and public protests mirroring growing concern about climate change. This shows that the different levels are constantly flowing and intersecting with each other rather than following a linear development.

Figure 3 -Full overview of the three levels:



The question remains if further windows of opportunities will be created to accelerate the transition or if the energy transition will follow a path of simply keeping the RETs alive as niche and regime actors. This context is subjecting the phase-out proceedings to various influences and dynamics which are most often rooted within larger landscape developments, having repercussions on the regime and niche levels. The different and interwoven trends on all three levels are situated on different governance levels. All of them flow into the structuring of the coal phase-out, enhancing its complexity.

B. Governance of discontinuation and the coal-phase out

As seen within the MLP analysis, the coal phase-out is entrenched within the German energy transition and is connected to a variety of different actors which are positioned outside a government dimension. The analysis also shows that niche innovations in form of RETs were insufficient to replace the incumbent regime of coal, which still exists alongside it.

Nevertheless, the established socio-technical regime of coal was increasingly put under various kinds of pressures, as was shown with the MLP.

Increased delegitimization and the finding of alternatives is considered a deliberate act to further a discontinuation trajectory (Hoffmann et al., 2017). How this discontinuation process is constructed can be explored by using a governance perspective which incorporates the role of private and public actors who try to establish certain governance instruments to shape social action and "…*to achieve specific goals"* (Borrás & Edler, 2014, p. 24). This links to the purposeful destabilization of an existing regime to understand and gain insights from analyzing the policymaking in terms of deliberate discontinuation practices. Policy hereby becomes the instrument of governance.

To operationalize the governance of discontinuation, the study will utilize the following definition: The governance of discontinuation "…*appear[s] 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"* (Stegmaier et al., 2014, p. 112).

However, the theoretical lenses of discontinuation governance and governance of discontinuation differ. While the first is based prevalently on a policy termination view relating to the discontinuation of a specific way of solving a policy problem, linked to changes in governance action and government functions (Bauer, 2009; Stegmaier et al., 2012), the latter is

about the governing of the discontinuation of a particular problem, or in the case at hand, a specific socio-technical system.

A sharp reversal that initiated the energy transition was made in 2011, after the Fukushima catastrophe. Even though several steps were taken beforehand, focusing on supporting RETs as niche actors, which caused the regime to start shifting, the energy transition was a conscious step by the then Liberal-Conservative government to actively target carbon-intensive systems such as the coal-based energy generation. The developments in the past years, such as the Paris Agreement, the national Climate Action Plan 2050 and the consequentially installed CSCGE, as well as the Climate Cabinet are constituting the formal institutional settings steering the active disengagement from policies supporting the conventional energy regime based on fossil and nuclear. This course gets increasingly legitimized by intensified public concerns about climate change.

B.1 The coal phase-out as ladder of discontinuation

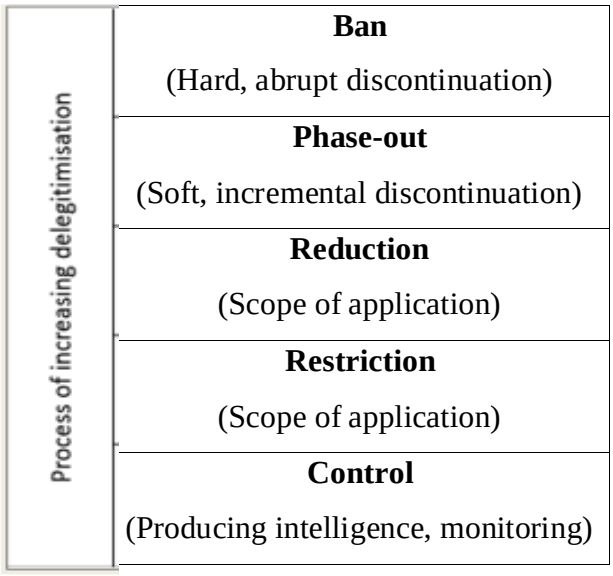
It is now especially interesting to analyze how the sustainability transition shapes the lignite coal phase-out in terms of discontinuation characteristics.

The ladder of discontinuation is a simplified model of structuring policy measures according to the steps of discontinuation processes they are supportive of. It was developed to illustrate the developments in the incandescent lightbulb (ILB) case (Stegmaier & Kuhlmann, 2015; see Figure 4). The phase-out in this case is already a form of discontinuation as such, namely in form of a soft and incremental reduction. However, the coal phase-out poses to be a system in a discontinuation process rather than a product, so there is need to restructure the ladder, which is why it will be placed on an own ladder of discontinuation to rate how much it has advanced and to understand how it can be understood as a discontinuation process (see Table 2). Discontinuation practices can take various forms and represent which governance instruments are used. The regulatory steps are the policy measures taken and describes how the discontinuation practice is enacted. The policy background represents in which institutions, decisions or agreements the two foregoing categories are rooted.

The focus remains on the active and deliberate destruction of the system of coal-based energy generation, but, as described in the MLP-part of the analysis, keeping the niche-actors alive and building their resilience (Strunz, 2014) is also part of the overall phase-out process.

Figure 4 – Ladder of discontinuation:

(Adopted from Stegmaier & Kuhlmann, 2015)



The original ladder was amended with the components of reorienting regime rules, pricing and containment. Restriction as individual step was left out, as the primary electricity consumption is predominantly altered by increasing the share of RETs in the energy mix, therefore this step got replaced with the step of reorienting regime rules. Additionally, a conceptually deviant understanding of the first step, the control mechanism in form of monitoring was applied.

The most recent developments for the discontinuation of a coal-based electricity generation system can be traced to the 1990s, where the basis for a coal phase-out was laid by beginning to scrutinize emissions the energy sector produces. Political target setting – though not sector-specific- creates a general orientation towards future actions. Voluntary commitments to reducing emissions are indirectly targeting the reduction of the use of conventional, fossil-based resources. This step is congruent with the step of the original ladder, however control in terms of monitoring is conceptualized as a superficial control mechanism, as though observation takes place, there are not limitations imposed on the system.

This step introduces an additional discontinuation practice. The dominant regime came under pressure as a window of opportunity for the RETs as niche actors was purposely created by actively facilitating their market entrance (technology push). This was supported by governmental steering policies such as the Renewable Energy Sources Act. It started altering the technological and market dimensions of the phase-out process as the new technologies came along with different requirements e.g. regarding the grid distribution than the conventional

energy sources. By introducing a supportive policy mix for the challenger technologies, changes to the regime rules of the dominant regime were created.

Table 2 – Ladder of discontinuation for the German coal phase-out:

Discontinuation practice	Regulatory step	Policy background
Ban?	Full abolishment? Deconstruction? Safety reserve?	Aftercare? Further compensations?
Actual phase-out (Incremental and flexible)	Phase-out date set to 2038 by CGSCE, (subject to revision); Step by step transfer of coal-fired power-plants into stand-by mode (security of supply), final shutdown after four years of constant stand-by mode (*so-called Sicherheitsbereitschaft)*; Financial support by the federal state for affected coal regions;	Commission on Growth, Structural Change and Employment (2018); Aftercare covering structural transition and energy transition in coal-regions (Compensations and "Law for strengthening structural transition in coal-regions")
Containment (Substantial control mechanisms)	No approval for the new construction of coal-based power plants; Avoid putting into operation already constructed but still inoperative coal-based power plants	Commission on Growth, Structural Change and Employment (2018) *(Note: based on recommendations of the final report by the Commission; National law still in progress)*
Reduction (Limited scope of production/share in electricity mix, limited scope of usage in primary energy consumption/increasing share of RETs)	Tightened emission limits and specific targeting of the coal-based energy sector	Energy transition (2011), Climate Action Plan 2050 (2016) Commission on Growth, Structural Change and Employment (2018)
Pricing (Market control mechanisms)	Carbon pricing via certificates	EU Emission Trading Scheme/ EU ETS (2005)
Reorienting regime rules	Creating space for RETs and accelerating their deployment = technology push, changes to regime rules	Feed-in Law (1991) Renewable Energy Sources Act (EEG, 2001)
Scrutiny, target setting and reporting (Superficial control mechanisms)	Monitoring, gathering data; Voluntary commitment to reduce emissions; Setting stricter targets over time on the national and European level	Kyoto Protocol (1997) Sustainable Development strategy (2002) Energy Concept (2010) Paris Agreement (2015)

To advance this, a soft control mechanism -namely the EU ETS in form of carbon pricing- was implemented. It exemplifies the intent to increasingly even the balance between supportive policies and destruction policies. However, the ETS was not effective and failed its purpose since the carbon prices generated via the allocation of free surplus certificates were too low to create an impact on the reduction of emissions. Pricing policies can be characterized as "*…destruction policies…"* (Rogge et al., 2017, p. 4), catering to the discontinuation rather than the innovation process of the phase-out.

Over time, the targets that were set increased in strictness and started targeting the energy sector actively rather than indirectly with concrete reduction measures. This can be seen for example with the strategy on Sustainable Development of 2002 which did not include a specific reduction target for the energy sector but rather stated that "*…the still considerable potential for reductions in industry and in the energy sector must also continue to be fully exploited*" (Die Bundesregierung, 2002, p. 143). A sector-specific target was also missing in the Energy Concept 2010 and was first-ever implemented with the Climate Action Plan 2050 in 2016 with a reduction of GHG-emissions of 61-62 % in the energy sector until 2030 (Salb et al., 2018).

The coal phase-out is still in a negotiation phase as the government postponed presenting an environmental protection law with indications for how the transition will be governed from April to autumn this year. However, it was announced that the report of the CGSCE will serve as basis and that intensive financial support will be provided for the structurally affected regions, which economies are economically relying on the coal-based system. For the phase-out stage, the CGSCE set a renegotiable date, to phase out lignite coal-based electricity generation by 2038, though this date remains subject to revision according to its realistic implementation which will be negotiated in 2032. The earliest phase-out date is recommended to be 2035, no earlier.

The process is characterized by flexibility and the willingness to engage in renewed negotiations. The creation of a roadmap for transferring coal-fired power plants first into a standby-mode and later into a shutdown mode show a specific discontinuation trajectory. The report was created by a wide variety of actors (see Appendix 4) to generate a societal consensus on how to terminate the system of coal, the discontinuation trajectory was set and will be furthered by the expected law in autumn.

Though this step-by-step trajectory helps to put the coal phase-out into a discontinuation perspective, one also has to recognize which steps might be missing. The German Environment Agency notes that no direct subsidies, but indirect favorable circumstances are created for the lignite industry. The government operates with a tight definition which does not cover certain supportive policies. The lignite industry is exempted from certain tax regulations within the energy sector at least until 2014, when the Renewable Energy Sources Act was amended or via state support for restoration purposes of the power plants (UBA, 2017). Also, no effective carbon-pricing was set in place to reduce the profitability of the coal-based system, even though the ETS was further amended in 2019 (European Commission, n.d.) and a carbon-tax is under discussion. There is nevertheless the possibility of reversal which becomes especially prevalent with the revision date as policies can be amended, altered or taken back in the future.

B.2 Key findings

The German coal phase-out surely depicts several characteristics of a discontinuation process and therefore is in line with its name. The phase-out is accompanied by a range of supportive as well as destructionist policies that mainly impact the regime and niche level. While niche actors experience beneficial supportive policies, regime actors become restricted in their actions. Via political means some parts of the technological and market dimensions get altered which encourages destabilization mechanisms affecting the dominant regime. The political decision-making appeared in a gradual and sequential manner, related to a soft and incremental step by step progress. It becomes clear that the political emission target setting concretized measures as it came to target not only the energy sector in general, but specifically lignite coal and the overall fossil-regime. How the coal phase-out will progress or possibly regress will be seen in the future. With the analysis, the ladder of discontinuation was amended and slightly modified, generating new insights for the governance of discontinuation of socio-technical systems.

C. The Hambach forest case

In the foregoing analysis, the global and national dimensions of the German coal phase-out were analyzed in terms of policy measures and what they implied for the discontinuation process. With the Hambacher forest as a local case, this study seeks to discover how the coal phase-out is shaped, steered and perceived by actors in Hambach. As the conflict is characterized by a wide variety of actors, the case provides for an interesting basis to analyze

the negotiation process regarding the coal mining operation in terms of coalitions and conflicts as well as problem definitions of the actors.

For that it is necessary to first understand the actors' interests, secondly to grasp the actors' dynamics and thirdly, to analyze the role of the coal phase-out in relation to the actors' interests by how it is framed. This deems necessary as global challenges like climate change mitigation and adaptation policies need to be enacted on the local level, bearing implications for the life reality of people, exemplifying the complexities such a phase-out can come along with. To do so, a framing analysis was conducted with Atlas.ti for which statements were retrieved from sources directly produced by the actors (such as newsletters or blogposts), published newspaper interviews and from quotes in newspaper articles. As reasoned in the method section, the latter was avoided as much as possible. The framing analysis was conducted on a group of main actors (listed in Table 3) which evolved as most prominent for steering the conflict via their actions and statements. To achieve an encompassing and balanced overview over the actors, an approximately equal number of statements per interest group (groups described in Figure 5) was collected[1]. As the material was originally in German, the quotes were directly translated by the author for the analysis, the original quotes can be found in Appendix 6.

C.1 Case description – Hambach forest

Radical protesters have been occupying the Hambach forest with treehouses for the past six years. Though being evicted regularly, they reoccupied the forest, aiming to preserve it and protest against the nearby coal mining (for a short historical overview, see timeline in Appendix 7). The coal mining is operated by RWE Power AG (henceforth RWE) of which the Hambach forest is its legal property. Over time, some of the occupiers engaged in violent protests, harming tools and employees of RWE or the Police.

The occupiers receive support by the environmental NGOs present, such as Greenpeace and BUND, whereby the latter one primarily drives actions in the area. When the protests around the forest grew, they were joined by a variety of other NGOs. The occupiers as well as the NGOs declared solidarity with the citizen initiative present (Buirer für Buir) which consists of people living in villages which will be demolished for the coal mining operation and face resettlement and expropriation.

[1] With a total of 75 sources, there are 35 statements for Group 1, 33 for Group 2 and 7 sources from Courts or additional actors (for full overview see Appendix 5).

This study analyzes the developments from September 2018 until May 2019, with a distinction of six phases, that are characterized by certain events as described in detail in the timeline (see Appendix 7)**.** It covers the timespan from the start of the eviction of the protest, the death of a journalist, the stop of the forest clearance by the higher administrative court, the consequences of the final report of the CGSCE and further developments until May 2019.

Even though within that time setting the forest is the legal property of RWE, the company has entered a legal moratorium to wait with the forest clearance until an ongoing lawsuit by the BUND (an environmentalist NGO) is settled, assumable on the 14th of October. An eviction of the occupation however is necessary to prepare the forest clearance. RWE received support for the eviction by the NRW police, subordinated to the Ministry of the Interior NRW. The eviction in 2018 was authorized by the Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of NRW which belongs to the state government of NRW.
Additionally, the trade union IG BCE also engages with statements in favor of the clearance to keep the coal mining going in the conflict, as it has a large membership of RWE workers. The occupation counted around 86 treehouses which were evicted until the 4th of October (Ministerium für Heimat, Kommunales, Bau und Gleichstellung des Landes Nordrhein-Westfalen, 2019), though the police was still present until the 8th of October. The High Administrative Court Münster repealed the former decision of the Administrative Courts of Cologne and Aachen on the 5th and prohibited the forest clearance until the main lawsuit is settled, presumably in 2020. The lawsuit was again initiated by the BUND and is about the general operative plan for the coal pit. While currently a coalition between Christian Democrats and Liberal Democrats is in place in NRW, beforehand a coalition between the Greens and Social Democrats is responsible for granting the operative plan under dispute. The protests covered during the six phases were characterized by ever larger growing demonstrations which give way to the significance of the case for the general coal phase-out.

The analysis specifically focuses on the arguments on the coal phase-out as well as on the protest. Due to time constraints, certain developments such as the role of violence, partisan politics, the social media communication of actors or the role of fake-news had to be left out.

C.2 Actors and their interests in the Hambach forest case

A wide variety of actors is present in the political arena around the Hambach forest. Actors' organizations or institutions were mainly represented during the conflict by individual persons. Interviews conducted with them by newspapers were taken to draw inferences on the general stances of the organizations or institutions as they act as their highest representatives.

The main actors who are engaged in the conflict about the Hambach forest and their interests are included in Table 3 for an overview. They are classified as the most important ones and were included in the analysis, as they have been the most prevalent ones to initiate actions, protests, events or engaged publicly with media statements and interviews. The occupiers not only seek to preserve the forest, but to engage in a fight against Capitalism, seeing RWE and its action as a manifestation of it. Additionally, they advocate a fight for global climate justice and thereby grasp their protest situated on a global as well as local dimension.

The NGOs situate the conflict on the local as well as national level, seeking to strengthen climate protection in general. The citizen initiative in contrast situates the conflict purely on the local level, wanting to preserve the forest as well as their homes in the coal mining area. The preservation of the forest, which aligns the aforenamed actors, stands directly in contrast to the interests of the energy company which seeks to keep its business running, making the forest clearance a necessity.

It is salient, that the trade union, of which many members are employees of RWE does not engage in the debate about the forest clearance, but rather focuses on the possible loss of jobs. It regularly stresses the violence by the occupiers against its members, putting emphasis on the danger and damages linked to the occupiers. Already this interest communication is linked to framing processes (see Table 5), showing that frames might advance and promote interests and interests might get shaped by frames (Schön & Rein, 1994).

The NRW state institutions primarily focus on the illegality of the treehouses in official statements. An exception is the role of the Ministry of the Interior of NRW, represented by H. Reul, which stresses the criminality and danger of the occupiers, which links back to the statements of the trade union.

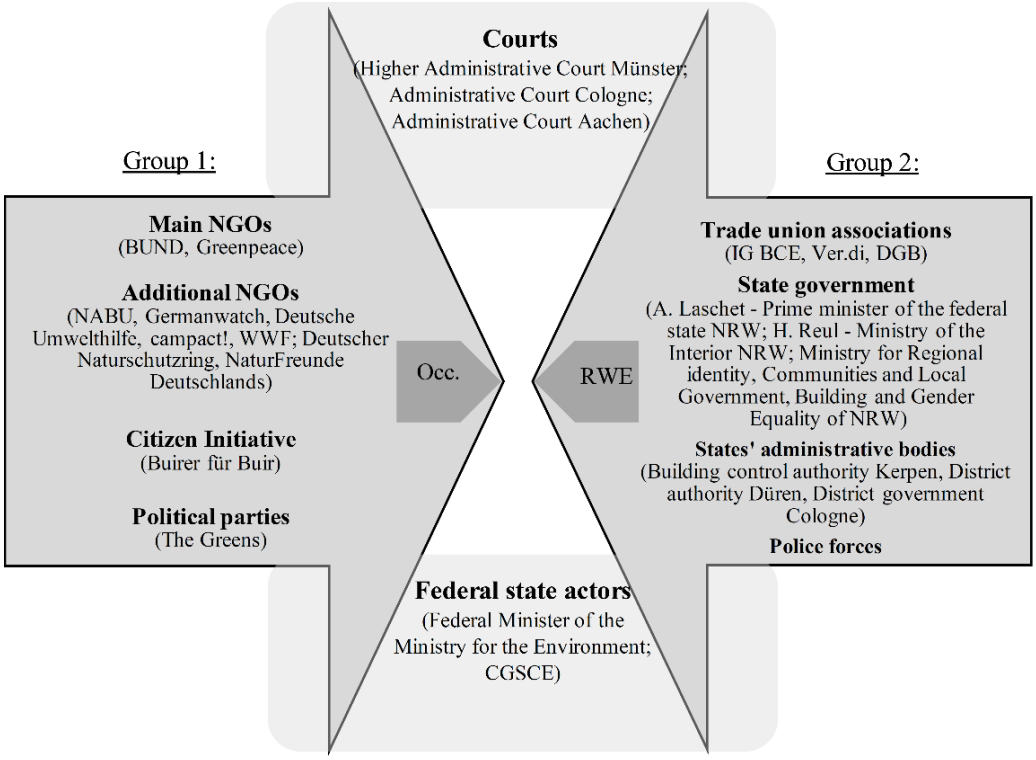
Table 3 - Description of the main actors' interests in the conflict:

Actors	Most salient interest (in the Hambach area)
Occupiers	- Fight capitalist interests and exploitative system - Fight coal - Climate protection - Worldwide climate justice - Fight for a better future for all
Environmentalist NGOs **BUND** **(H. Weiger, member of CGSCE)** **Greenpeace** **(M. Kaiser, member of CGSCE)** **Deutscher Naturschutzring** **(K. Niebert, member of CGSCE)**	- Climate protection - Preserve the forest (symbolic meaning) - Impact climate politics in Germany
Citizen initiative **Buirer für Buir** **(A. Grothus, member of CGSCE)**	- Protect own homes - Protect social peace in the region - Preserve the forest
Energy company **RWE** **(R. Schmitz, member of CGSCE)**	- Safeguard business and profit (ongoing coal mining) - Enforce property rights - Responsibility for workers
Trade union **IG BCE** **(M. Vassiliades, member of CGSCE)**	- Protect workers from violence - Protect workers from job and income losses - Stop violence by the occupiers
Ministry of the Interior of NRW **(H. Reul)**	- Evict illegal buildings due to fire safety issues - Enforce property rights - Stop violence by the occupiers - Evict criminals from the forest
NRW state government **NRW Minister President** **(A. Laschet)** **Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of NRW**	- Evict illegal buildings due to fire safety issues
Courts **Administrative Court Aachen, Administrative Court Cologne, Higher Administrative Court Münster**	- Ensure public safety - Protect the common good - Enforce Rule of Law

Even though only few sources of Courts' communications and decisions were available for the research, all of them stress to decide in the interest of the public good, to ensure safety interlinked to the Rule of Law, which implies that the actors grasp their role as a rather detached one from the conflict by simply applying laws.

It becomes clear that the actors can be allocated into two main groups (illustrated in Figure 5).

Figure 5 - General actor overview of the Hambach forest case:



This figure also incorporates a variety of additional actors which were however excluded from the analysis due to data shortage and the limited scope of the research. The clustering does not mean that the groups are homogenous, but rather depict similar interests (see Table 3). For reasons of clarity, the groups are named Group 1 and Group 2 without implying any quality of judgement.

The conflict is characterized by opposite and confrontational interests. The actors can be separated into two Groups as their interests align within those blocks. The occupiers and RWE however are spearheading the conflict as their interests directly clash with regard to their actions, as the occupiers are actively blocking a forest clearance which is regarded as necessity for the coal mining. Several organizations and institutions assist the actors with their respective struggles, though they might carry only similar and not directly the same interests (see Table 3). Courts play a crucial role as administrative actors, who indirectly steer the course of action of the two Groups in terms of how the case can be legally handled. Federal state actors do so on the political level, with decision-making or when engaging in the conflict with statements, thereby acknowledging the conflicts' importance.

C.3 Interaction dynamics of the actors

With the governance of problems, the interaction dynamics can be characterized as framing-struggles about the definition and structuring of a problem which needs to be solved via the application of policies. To trace back the development of policy actions throughout the five phases, it is important to start with the problem, that lays at the origins of the conflict's developments, which is the eviction and how it was dealt with by the two groups.

Group 2 characterizes the given problem, so the deviation between an existing state that currently *is* from a desirable state that is *ought* to be (Hoppe, 2011), as the illegal occupation with treehouses of the property owned by RWE. The eviction of the treehouses was primarily reasoned with fire-safety issues of the illegal buildings by the state institutions. The Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of NRW ordered lower district institutions to perform the eviction. The problem is perceived and framed as a structured one, based on a clear conception on which values are at stake (legality and Rule of Law, state authority, property rights, safety; see Table 3) and the knowledge that can be applied to address the problem.

The perceived problem is the illegal occupation which should be solved with an eviction. With the eviction, a bureaucratic policy routine (Hischemöller & Hoppe, 2001) is enacted as a solution approach. The process is characterized by being closed to public participation (Hischemöller & Hoppe, 2001) as it mainly occurred "behind closed doors", documents for the administrative proceedings are inaccessible. It follows a rule-based strategy for problem-solving by involving the relevant authorities with a clear and hierarchical role-distribution including fixed competences (by giving or receiving orders, e.g. the Ministry and the lower district authorities or the Police; Hischemöller & Hoppe, 2001). Thereby, the problem-solving is based on legal and administrative reasonings in a technocratic fashion.

Group 1 was thereby subjected to the authoritative choice of Group 2, without being able to engage in the decision making about it.

In their problem definition, the eviction would lead directly to a forest clearance which RWE would be allowed to begin with in mid-October, to safeguard its coal-mining operations in Hambach. With that, "*RWE escalates the conflicts and creates precedents…"* (Initiative Buirer für Buir, 2018). This example shows that frames can inform on the political actors' views and strategies when characterizing speech as meaningful activity (Bevir, 2011). The creation of

precedents is a frame linked to feelings of injustice, as it is not deemed as justified, but rather a premature action.

The Group therefore defines the problem not as the illegal eviction by the occupiers, but as part of a societal struggle on climate change. This is linked to the national coal phase-out and the work of the CGSCE in which several members of the affected Group 1 take part. It becomes clear that the discussion for this group circulates around the necessity of the forest clearance and not the eviction.

There is only low certainty regarding the available knowledge whether the forest must be cleared to safeguard the coal-mining business in Hambach. RWE and IG BCE argue that the forest must be cut down regardless any developments as it is technically relevant for the security of supply (RWE, 2018).

On the value dimension, within the Group there is broad consensus that the forest should be preserved and be subject of the work of the CGSCE as it is highly relevant for the local implementation of the coal phase-out in terms of a possible avoidance of resettlements and expropriations. This marks the problem as a moderately structured one (goals) for the group (Hoppe, 2011). A strategy to reason it, is a cost-benefit calculation (Hischemöller & Hoppe, 2001), which is represented with the assumption that an eviction and therefore a forest clearance would impact national climate politics as well as force people to resettle due to the ongoing coal mining. For this group, the costs are clearly outweighing the benefits, making the desired problem solution approach clashing with the actual decision which was authoritatively taken by Group 1.

These divergent interests and problem definitions are explained when linked to the respective identities of the actors. These are expressed in their framing of which several examples are provided below (Table 4). This closely connects the identities of frame-makers with their exercise of framing (van Hulst & Yanow, 2016), due to the fact that experiences are mediated by perspectives (Goffman, 1975).

Asymmetric power-relations are illustrated with these framing examples, which are reflected in the problem definitions by the actors and the respective strategies applied.

Table 4 – Interaction framing examples:

Framing Group 1	**Framing Group 2**
RWE as "*…energy giant…*" (Initiative Buirer für Buir, 2018; Hambi bleibt!, 2018c). Eviction leading to forest clearance: "*An eviction always also means the forest clearance"* (Hambi bleibt!, 2018a). Worth of forest: *"…12.000 years old Hambach forest…"* (Hambi bleibt!, 2018c); *"…ancient, precious forest…"* (BUND, 2018) *"…ecologically especially valuable…"* (Initiative Buirer für Buir, 2018); *"…ecological treasure"* (Greenpeace, 2018); Creating precedents, obstructing CGSCE work: "*…the ongoing attacks on the work of the Coal Commission"* (Initiative Buirer für Buir, 2018): Destruction and damage: "*… [d]estruction of the Hambach forest."* (Initiative Buirer für Buir, 2018; Hambi bleibt!, 2018c). Fight: *"… in the fight for the preservation of the forest…"* (Hambi bleibt!, 2018c).	Clearance independent from CGSCE work: "*The Hambach forest cannot be saved, regardless of what the Commission decides."* (Binder et al., 2018); "*We talk about two different things here."* (Bonnen, 2018). Legal reasoning, state authority: „*I have to ensure that the Rule of Law functions, that law and order are adhered to."* (Barenberg, 2018); *„… there is a clear legal basis."* (RWE, 2018). Occupiers as violent and criminals: "*… shaped by persons who are ready to use violence."* (Ministerium für Heimat, Kommunales, Bau und Gleichstellung des Landes Nordrhein-Westfalen, 2019); „*… it is about the criminals in the forest…"* (Barenberg, 2014); *"… the escalating violence of activists in the Hambach Forest"* (IG BCE, 2018a).

When Group 1 frames RWE as an "energy giant", it creates a picture of a strong actor who can suppress interests of smaller ones which is why they have to engage in a fight. A fight is something where several means need to be applied (possibly violent, strategic ones) to protect something and points to an "enemy" who "attacks". This frame also creates a danger that RWE exerts by creating damages.

This relates back to how the situation regarding the forest is described: as the valuable forest (something that is valuable requires protection) is destructed and damaged by the "giant" RWE. Precedents are created which cannot be reversed, endangering the work of the CGSCE. Power and responsibility are ascribed to Group 2 and especially the company in this situation.

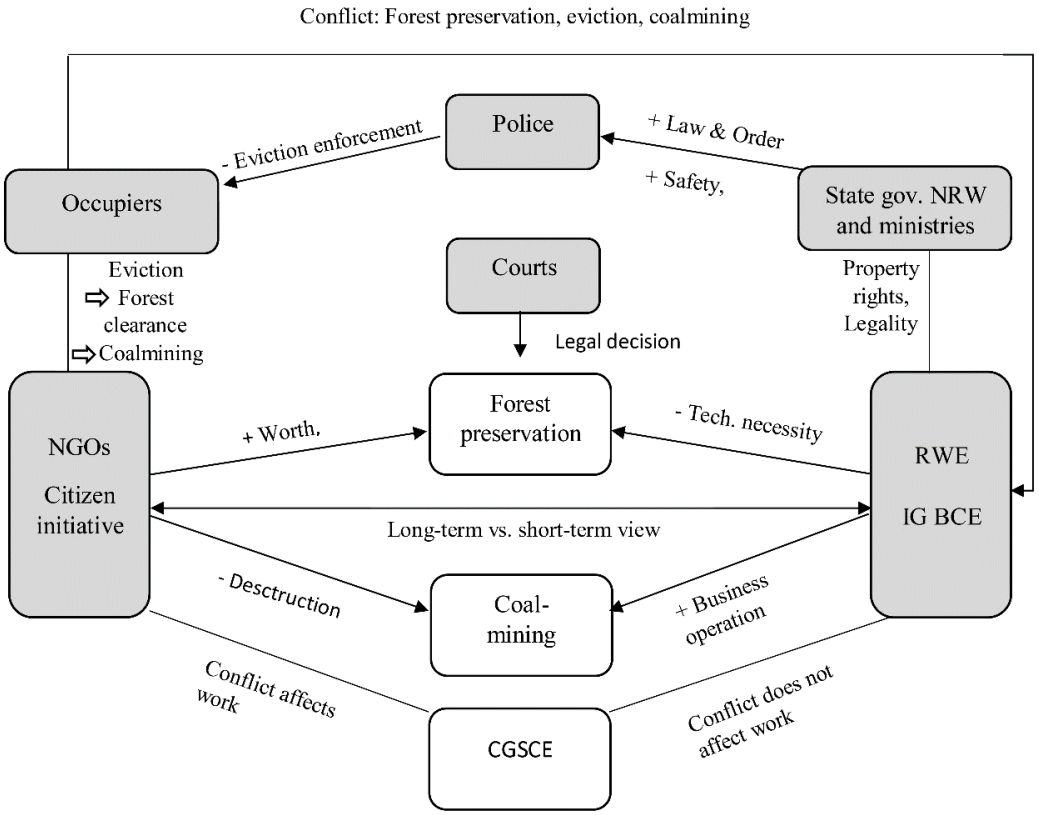
Whereas for the other group, the framing is a completely different one, related back to their problem-definition. It is focusing on the role of legality and Rule of Law, as well as a "law and order"-mentality, when occupiers are described as criminals ready to engage in violence. It

bears a notion of responsibility to protect workers, as well as police forces and safeguard a general public interest in safety. The applied framings transfer a specific idea about a situation by stressing some features and leaving out others, constructing and defining a relationship between the actors based on their interests (Colebatch, 2002; van Hulst & Yanow, 2016). This affirms that frames emerge "*... during intersubjective processes...*" (van Hulst & Yanow, 2016, p. 95), since the harm that is emanating from the occupiers, results into a protection-mechanism for others affected by it.

Also, the reasoning for the necessity of the clearance is interesting. It is only seldomly substantially reasoned, but rather emphasized as requirement. Both groups stress individual actors of the other as a damage and threat to their own interest. An overview of these dynamics and the respective framings is provided in Figure 6.

Figure 6 – Overview of the actors' dynamics and framings:

The dynamics of the actors are closely connected to how they frame the perceived situation, as illustrated in the figure.



The framings do not only exemplify certain power dynamics, but also follow a pattern of legitimization and delegitimization of actions. While Group 1 regards the occupation of the forest as legit (though the NGOs and the citizen initiative only when it is peaceful), Group 2

delegitimizes it by framing the occupiers as violent and criminals. This in turn requires state intervention enforced by the police to restore the Rule of Law and ensure the enforcement of property rights.

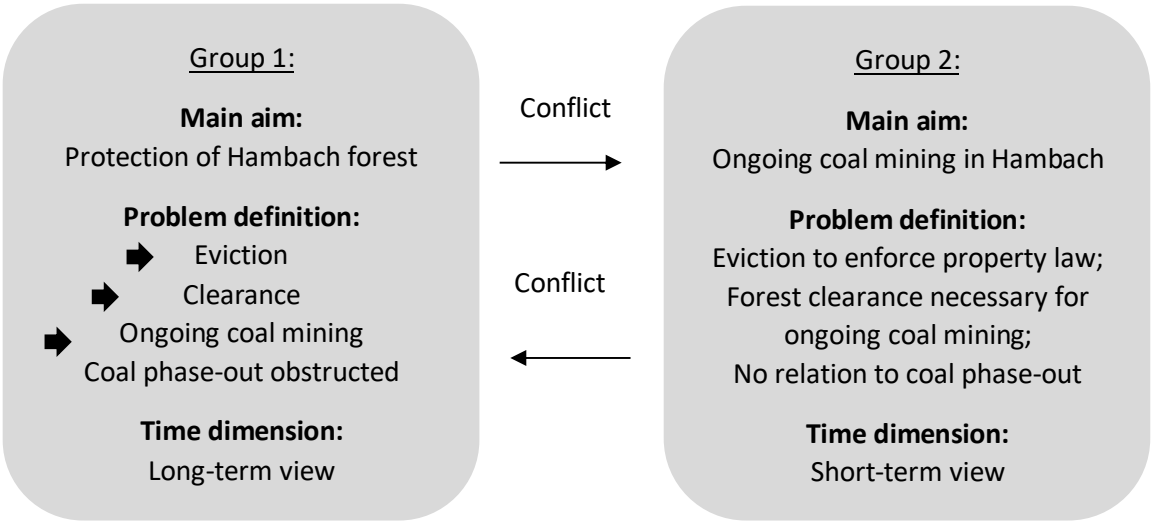
Group 1 conceives this proceeding in terms of a destruction caused by the powerful company to which personal as well as public goods are subjected. The frame of destruction and damages is hereby closely related to what needs protection, namely the forest, as well as the people and the climate. Via the framings, the actors transfer an implicit value judgement on the situation and about what is ought to be preserved or protected and by that create a multiplicity of social realities (Schön & Rein, 1994) that are intersecting.

The different value judgements are tied to the respective problem definitions which are based on how the degree of consensus on values at stake and available knowledge is perceived (Hoppe, 2011). Notions of conflict emerge due to the fact that within the respective groups there is consensus about values at stake, but not between the groups. The conflictual dynamics are intensified when Group 1 is able to authoritatively apply and enforce its problem solution. This in turn then clashes with the problem-definition of Group 2, possibly causing the feeling of injustice and powerlessness which is reflected in how they frame Group 1.

Additionally, the two groups situate the problems differently on a time dimension. While Group 1 sees the problem in a long-term perspective, Group 2 focuses on the short-term proceedings, actively negating that the forest clearance is linked to the work of the CGSCE which stands in complete contrast to the perception of Group 1.
While Group 1 directly links the conflict around the Hambach forest to the proceedings of the coal phase-out, Group 2 denies this long-term dimension and focuses on the enforcement of the Rule of Law and property rights. The different perspectives can be traced back to different perceptions of what is at stake. For Group 1 those are personalized and public damages (homes, social peace, valuable forest) and general climate change politics. The local conflict gets situated in relation to national and global developments. Group 2 sees the conflict bound to its on-spot locality in Hambach, as an action to restore the Rule of Law and ensure the ongoing of an ordered business operation.

All in all, the actors' dynamics are highly conflictive and are lumped around the Group of which they share similar interests, problem definitions and engage in similar framing dynamics (see Figure 7).

Figure 7 – Actors' dynamics as interest blocks:



The actors are primarily divided along three main lines of the conflict. First of all, they radically diverge in their main aims, as the goal achievement of one Group implies the goal loss of the other. Secondly, their problem definition diverges in terms of what is actually the problem. According to that, framings are adopted that put emphasis on certain features and leaving out others. As an example, for the case of Group 1, the adopted framings inherently stress the worth of the forest, but do not capture the implications of what the forest preservation would mean for Group 2.

The third conflictual aspect are the time dimensions which are addressed. These are closely connected to the problem definition of the respective group and have implications for the perception of the conflict as such. Namely, whether it is embedded in a larger, ongoing process (long-term view) or if it is regarded as something temporal, that can be terminated quickly, without persistent repercussions (short-term view). This leads to different types of actions and legitimization processes.

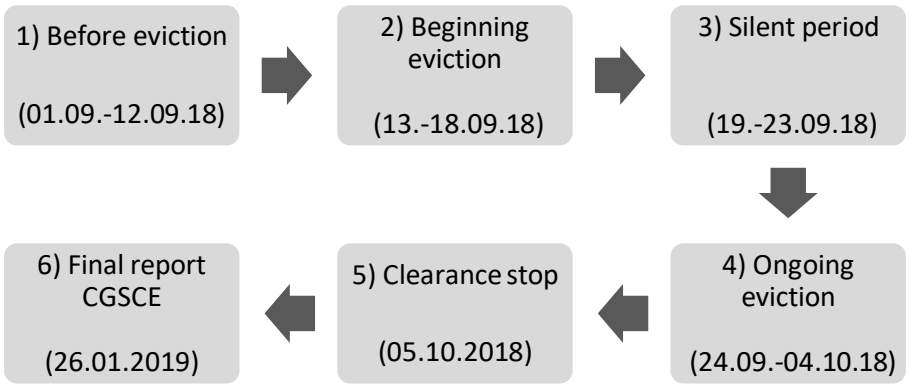
This block-formation generates immense cleavages between the actors and whereas Group 1 sees ways of life endangered, Group 2 engages in technical reasoning. The framing of the problem becomes a mirror of the identity and interests of the actors (van Hulst & Yanow, 2014). It points to the relevance of which actors are engaged and represented with their interests in a problem structuring process in terms of who gets what, when and how (Hoppe, 2011).

C.4 Framing the coal phase-out

The analysis was constructed along the lines of six phases which will help to trace the trajectory of how the coal phase-out is framed by the actors while the conflict around Hambach proceeds (Figure 6). While some phases mark punctual events, statements from a broader time-period that were related to the event were collected. The silent period refers to the temporary stop of the eviction after a journalist died. It is consensually accepted by all actors that this has been a tragic accident. Though it is not substantial for the coal phase-out, this phase is important to understand the conflict and the actors' dynamics. For this analysis, the occupiers often apply different framings than the rest of Group 1, which is why their framing actions are treated separately.

For each phase, a detailed analytic overview as well as framing examples can be found in the Appendix (Appendix 8), from which overarching interpretative patterns in form of framing types were retrieved. This analytical step, actively utilizing the GTM, followed Goffman's interpretative framework guided by the question "*[w]hat is it that's going on here?"* (1975, p. 8), to extract the most prevalent patterns and understand the negotiations and conflicts around the German coal phase-out as well as the conflict around Hambach.

Figure 8 – Phases covered in the analysis:



Three main overarching patterns have materialized during the analysis. Firstly, the most prevalent is the notion of responsibility, secondly a lose-gain nexus and the third is characterized as dependencies. In concretization these patterns are expressed by two types of responsibility allocations, different cost-benefit calculations by the actors and the creation of conditionalities in relation to the coal phase-out.

Lose-gain nexus:

The two groups engage in different kinds of cost-benefit calculations, which are partly reflected in the protection of subjects they are responsible for (see below). The losses 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".

For Group 1, including the occupiers, the lose-gain nexus is generally represented with the "forest vs. coal" dialectic framing. The forest is regarded as something valuable to protect (see framing examples Table 4). The framings of Group 1 align well as they over time include a broadening spectrum of subjects affected. Gains from a coal phase-out are framed in terms of the protection of life on the planet, the future, including the notion of intergenerational justice and intensified climate protection. In the first phases, mainly local subjects are covered (the forest and inhabitants of the villages nearby the coal-pit), while in the later phases, protection of the climate, planet and future generations widen the scope spatially and temporally, relating back to the long-term perspective of Group 1. For the citizen initiative specifically, potential losses are encapsulating the loss of homes via forced resettlements, which are closely linked to personal losses and the destruction of social peace in the region (Initiative Buirer für Buir, 2018). Largely absent from the framing practices of this group are the workers in the coal mining industry.

For Group 2, the weighing of costs and benefits of a coal phase-out present themselves differently. The actors in this group have 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. Generally, the phase-out evokes different framings ranging from costs for the business operation, loss of profit to an endangered security of supply for the region.

Additionally, the company puts emphasis on the role of job losses, though without further concretizing personal fates. All these negative frames are most prevalent in phase four and five, shortly before and with the court decision that blocks the forest clearance and therefore the company's ongoing operations. These phases are also marked by mass-demonstration around the Hambach forest, covering 7.000-10.000 people before and 50.000 after the court decision. With the proceedings of the conflict, the company also weighs the negative impact of the conflict on the company's image against the responsibility to protect its employees. It applies a higher value to its workers than to its image by stating that the company "*... cannot jeopardize*

nearly 5.000 jobs for that" (statement by R. Schmitz, in Brors & Flauger, 2018). Gains are hereby conceived as savings or preservation rather than actual gains.

The IG BCE is largely quiet in the first phase, not directly engaging in the framing struggle about the preservation of the forest or the eviction, though the occupiers are situated as antagonists. In phase two, reference is made to climate goals that are deemed as rightful, but also to the threat a phase-out would pose to the workers. The actor then disengages from the framing and reappears in phase five with which its workers are directly and imminently affected. It frames the decision of the court as "*[h]ighs risk for good jobs"* (IG BCE, 2018b) applying a frame that directly describes the jobs as valuable. Threats to the supply security of the region and for the individual fates of workers are also stressed, focusing on the losses generated by the decision and aligning with the frames of RWE- In phase six, the attention is drawn to gains in terms of a gradual and organized, incremental phase-out that is in their view socially acceptable.

The NRW state government and its Ministries decouple the eviction from the forest clearance and the coal phase-out constantly. In the first two phases therefore, the gains are framed as the enforcement of the Rule of Law, state authority and order for public safety. The state actors then disengage from the conflict and only reappear in phase six, in which the phase-out is highlighted as a good and socially acceptable solutions with a lot of combined gains as a balance was struck between climate protection and the design of a favorable structural transition (statement by A. Laschet, RP Online, 2019).
Gains are conceived as things that should be preserved, such as workplaces and the coal mining operation, not as additional gains.

This constant cost-benefit or lose-gain nexus applied by the different actors is structuring the local conflict as well as the national phase-out. The actors mirror this by engaging in intersubjective framing dynamics, meaning that the actors understand what is at stake but choose to highlight certain aspects of what is gained or lost over others.

Responsibility and its two types:

Throughout the different phases, several framing types of responsibility emerged, which can be differentiated in terms of responsibility *for* others which relate to the protection of and from subjects. As a second type, the responsibility *of* others, relating to the shift of responsibilities and the allocation of blame.

Responsibility for others in terms of protection:

The coal phase-out as well as the protest are both characterized by varying responsibility allocations from actors. This framing type is prevalent throughout all phases among the two groups, though in different levels of intensities.

Regarding Group 1, the protection of the Hambach forest is situated as a symbol of a fight, namely a struggle of the forest vs. the coal, something valuable vs. something that causes destruction and damage, climate protection vs. climate destruction. The forest is thereby constructed as a political symbol and serves for a simplification of the matter. While the occupiers view it as their responsibility to protect the forest, they also link their protest to global climate justice, the protection of the planet and future generations. In phase one and two, the communication of the visual imaginary "forest vs. coal" prevails, also in the rest of Group 1's framings. From phase four onwards the protection of nature, homes, the social peace within the region, the climate and future generations are increasingly emphasized, pointing towards the long-term perspective that is applied.

Group 2's pattern of responsibility to protect others is shaped by the engagement and disengagement of certain actors throughout the phases. In phase one, all actors of Group 2 stress the danger that is ascribed towards the occupiers, as they are framed as criminals and violent. The protection is focused in terms of the good of public safety. From phase four onwards, RWE and IG BCE start to reorient their framings though. While the state institutions largely remain silent, the two actors highlight the responsibility to protect the jobs of the RWE employees. Costs of a coal mining stop are emphasized and emotional framings referring to the personal fate of workers as they experience "*[i]nsecurity and fear for job losses and the personal future"* (IG BCE, 2018b) is applied. These relate to the protection of the company and individuals. In this phase, when the coal phase-out becomes more prevalent on a national level, RWE stresses the importance of the security of supply for the regional industry, thereby broadening the scope of potential industries and workplaces that would be affected and the company would have responsibility for. A regional dimension is applied here linked to the local dimension of the actual conflict.

The responsibility to protect a variety of subjects is prevalent for all actors involved, though each actor Group highlights a different spectrum of subjects that need protection within their frames. All actors allocate a responsibility for something that is worthy to protect. They either allocate it with themselves or with others, though the interests stay aligned within the respective

groups. As the protection of something simultaneously entails its counterpart, the protection from something that is endangering it, the next part of the analysis will deal with the type "responsibility of actors in terms of blame".

Responsibility of actors in terms of blame and shift:

This type is related to the perception of actors that other actors have the means and obligation to act and either do not do so or do it in a way different than the desired one. In terms of blame this means that actors seek 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. This can but does not necessarily mean that responsibility is diverted from the actor itself, but nevertheless targets and appeals to other actors by urging or expecting action or inaction from them, serving as justification strategy for how a group perceives the situation.

While quite similar patterns were found beforehand among Group 1, the group slightly diverges in this framing type. The occupiers link the NRW state government to RWE by allocating responsibility for "*...the protection of interests of the coal and capital giant RWE"* (Hambi bleibt!, 2018b), directly from the start.

The rest of Group 1 in the first phase solely blames RWE and only gradually but increasingly shifts responsibility to the NRW state government, due to its actions or inactions. For these actors, the state remains the locus of decision-making power, whereas the occupiers focus on the power of social movements. The occupiers see their responsibility to enact a "*...coal phase-out [...] from below"* (Hambi bleibt!, 2018c).

The "forest vs. coal" and the "fight" frame both clearly blame RWE and in connection to those that seek to protect its interests, also the NRW state government. With the visual imagery (Lakoff, 2010), the blame allocation is further simplified, those who are trying to "destroy" the forest are to blame. This also points towards framing as the construction of frames in relation to others (Lakoff, 2010), as the dialectic framing is transferred onto other aspects of the conflict. Those who destroy need to be fought and are to blame, those who protect the forest are serving a greater good.

As Group 1 links the CGSCE work to the local conflict, it locates the responsibility of the conflict within the national institution. Several members of the CGSCE are prevalent actors in the Hambacher forest conflict (see Table 3), creating a conditionality in the form of that if RWE

continues to act against their will, it will have repercussions on the national level, implying a doubled blame allocation.

The trajectory of Group 2 is especially relevant with regard to the role of courts. In phase one, the occupiers are directly blamed for the conflict and as well for engaging in violence. In phase two, the framing struggle slowly shifts from the eviction to the forest clearance, especially the NRW state actors shift the responsibility for decision-making to the courts, away from them. Additionally, Group 2 averts a responsibility shift for the conflict to the national level, when they actively decouple the work of the CGSCE from the conflict by stating that "*...[t]he Hambach forest is not a subject for the Commission"* (statement by M. Vassiliades, IG BCE; May, 2018). With the death of the journalist RWE and the Ministry of the Interior urge the occupiers to leave the forest and stop endangering themselves, giving them an opportunity to end the conflict. Blame allocation and responsibility shifting towards other actors is a clear pattern of Group 2 at this stage.
Lastly, the intervention of the court finally settled the conflict, though without any reference to the coal phase-out, highlighting the incisive role of administrative decisions.
In phase five, in relation to the court decision, the company answers to the shift in power relations occurring with it, that *"...the fight about Hambach goes on"* (statement by R. Schmitz, in Höning & Bröcker, 2018), showing that it still seeks to protect its coal mining operations but also adhered to the Rule of Law itself used as legitimization frame for its actions in the first phases regarding its property rights. This framing by RWE is especially salient, the "fight"-frame was actually a frame used by Group 1 beforehand. It appears to be that when being negatively affected by consequences, actors tend to engage in the metaphorical construction of an enemy as well as of something of value to protect from that enemy, in this case profit, employees, regional energy supply and the business as such.

A responsibility shifting can also be illustrated by how the different actor groups term the CGSCE. In that case it is not about who the responsibility is shifted to, but which responsibilities. While all of the main actors of Group 1 term the Commission the "Coal Commission" (Initative Buirer für Buir, 2018; Hambi bleibt!, 2019; BUND 2019) , the actors of the antagonistic Group 2 consistently refer to it as the "Commission on Growth, Structural Change and Employment" (RWE 2019; IG BCE, 2018a) or simply as "the Commission" (R. Schmitz in Binder et al. 2018; Die Landesregierung NRW, 2019).
How the Commission is titled is therefore closely linked to the actors' perception of what its work mainly is or should be about. For Group 1 this is the coal phase-out, for Group 2 it is the

design of a structural transition. The occupiers perceive it as a Capitalist institution which therefore can only produce outcomes that are irreconcilable with sustainability (Hambi bleibt!, 2019b), this perception is in line with their prevailing framing trajectory of advocating for a transformative system change from below.

Dependencies:

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

Generally, Group 1 constitutes a three-fold dependency mechanism primarily in phase one. It captures the implication that the occupiers get evicted from the forest, then the forest will be cut down, the coal mining will go on. Simultaneously they perceive the forest preservation as dependent on the abolishment or restriction of coal mining, this however not only directly in Hambach, but also on the national level. This stance is reflected as they state, that *"[n]obody understands when RWE cuts down an ancient, valuable forest for the coal underneath it, though details of the coal phase-out are discussed in Berlin"* (BUND, 2018)". These actors also stress that the reaching of climate goals is directly dependent on the coal phase-out as such, which relates back to the pattern of responsibility for in terms of protection.

The utilization of the fight "forest vs. coal" frame thereby communicates a legitimization of the occupation. There is however a special pattern produced by the occupiers, referring to the perception that a coal phase-out needs to be enacted from below, to enable a system-change, away from the Capitalist system. They thereby condition that no overarching institution such as the CGSCE can enact a successful coal phase-out, rather only people and social movements can, also referring to the growing protests around the forest which peaked at 50.000 after the court-decision.

The second group puts emphasis on different dependency mechanisms which are representing the conflictual nature of interests in contrast to Group 1. For RWE, the coal mining depends on

the forest clearance, making its business, profits and the workplaces of its workers depending on the ongoing coal mining, applying a legitimization strategy. In later phases, such as in phase four, the company increasingly refers to the coal phase-out as being dependent on the electricity grid expansion and the deployment of RETs, because then "*[t]he coal phase-out will come as it must be"*(statement by R. Schmitz, in Binder et al., 2018). Here, the company increasingly diverges from its short-term view primarily adapted in the early phases of the conflict, increasingly adopting to a long-term view.

The IG BCE remains largely absent from the framing struggle in the first phases, but engages from phase four onwards. It aligns with the RWE framing in terms of the preservation of jobs and the development of other fields of energy policy as conditions for a phase-out, expessing regime-supportive behavior. Additionally, the trade union highlights the role of the federal government, as they expect "*... concrete help"* (IG BCE, 2018b) for the socially acceptable design for the structural transition in the coal regions.

Another pattern is the argument, that achieving the climate goals does not depend anymore on emission reductions in the energy sector as it already did its contribution, but on reduction in the mobility and construction sector (statement by M. Vassiliades, in Plück, 2018), legitimizing ongoing coal mining.

The NRW state government is only present in phase six, in which it highlights the dependence of a coal phase-out on the creation of regional perspectives and financial assistance from the federal state. Group 2 therefore aligns their different dependency strategies, in terms of situating the phase-out as a mean to possibly achieve climate goals, which however needs to be steered to avoid socio-economic losses.

The three patterns manifest in different intensity and quantity throughout the process for the respective Group (see Figure 9).

The two Groups act by divergent operating logics with regard to the three patterns which align with their overarching interests. The two Groups act upon different assumptions. While Group 1, in relation to its responsibility for others to protect certain subjects, enact climate protection as primary logic of operation, Group 2 adopts a logic of socio-economic consequences of a coal phase-out.

Figure 9 – Overview of pattern fluctuation:

The two figures show which patterns are most prevalent in the respective phases for the two groups. The pattern that is most present throughout all phases is highlighted in italic for each group.

Group 1						
Phase/ Pattern	1)	2)	3)	4)	5)	6)
Loose-gain	X					X
Responsibility for		X		X	X	X
Responsibility of	X	X	(X)			X
Dependencies	X					

Group 2						
Phase/ Pattern	1)	2)	3)	4)	5)	6)
Loose-gain	X			X	X	X
Responsibility for	X	X		X		
Responsibility of	X		(X)			
Dependencies		X			X	X

Group 1 primarily is involved in the conflict with framings on responsibilities for others in terms of protection, which is found in four out of the six phases (Figure 9). In contrast, Group 2 mainly operates with lose-gain nexus, applying a cost-benefit calculation more closely to its perception and framing of reality. This also ties back to the creation of dependencies, introducing conditionalities into the conflict which would seek to hinder changes to the prevalent order. These changes would proof disadvantageous for the regime actors of Group 2, which pose to be the energy company and as well the trade-union who seek to halt changes and preserve the currently existing regime for as long as possible.

Not all actors are equally present in all phases, though nevertheless, the actors generally stay aligned with their general interest groups. Actors mainly engage in framing struggles when they are directly affected by the consequences a phase carries. Also, smaller actors tend to be backed by larger actors such as the citizen initiative or the occupiers by the NGOs and the trade union by the company its members are employees of.

The state government NRW avoids to engage with direct statements related to Hambach, only making statements in phase one, regarding public safety which needs to be safeguarded under the states' authority and in phase six, when the national coal phase-out entails larger developments for the region, again also addressing the role of the state. It could be assumed that the government did not want to chose sides in the conflict to make itself potentially less vulnerable or that it did not deemed the local conflict as important for the national coal phase-out.

C. 5 Key findings

The case study made clear, that the actors engaged in the governance of the German coal phase-out reflect a variety of private, public, personal, legal, economic, ecologic, social, technical or a partial combination of these interests.

The complexity already illustrated with the MLP was reflected in the actors' perceptions about problem definitions, interests and framing strategies. In the case of Hambach, two interest groups emerged that aligned their interests within the groups but engaged in conflictual framing struggles between the groups. This conflictual nature largely emerged from different and clashing problem definitions and strategies, value judgement and value allocations, leading to a manifestation of three main patterns of framing types regarding the coal phase-out.

While the lose-gain nexus and the responsibility for relate to who gets what, the responsibility of and the dependencies are constructing the how of the policy process. Responsibility allocation in terms of blame and shift can legitimize or delegitimize actors' doings, include new actors (like the federal government) or try to limit the influence of persistent ones. Overall, the responsibility of an actor is interwoven with the responsibility for others in terms of protection.

These three patterns and their different expressions reveal the difficulties of negotiating the coal phase-out that is ought to be well-aligned with all sorts of public and private interests. The conflictual nature also presents itself in the fact that most often one actors' gain is the other actors' loss, creating dependencies as the interests apply mutually exclusive interest priorities. An example of that is that when the forest is preserved, the ongoing coalmining will be hampered. Further, gains and losses are framed as "damages" by and to the respective actors. The question represented with that is "who damages whom and with what reason?" and is a common thread throughout the phases.

Whereas Group 1 frames personal as well as abstract gains and losses, on the local as well as on the global level, Group 2 largely frames its gains and losses directly related to the local dimension and only addresses a national dimension in phase six. Additionally, IG BCE and RWE, actors directly negatively affected by a phase-out engage in framing behavior that illustrates the avoidance of an active and purposeful discontinuation of the system of coal, as both actors set conditionalities as preconditions for an enactment of the phase-out. With that, they divert responsibility from the industry regime. The same is done with pointing towards other sectors and own achievements in terms of responsibilities for emission reductions. It also tends to simplify a complex topic such as climate change.

Generally, a simplification of the debate was also found with the dialectic framing of the "forest

vs. coal", which potentially served as a mobilization practice. Constructing a clear political symbol enabled a simplification with a metaphorical example. From a global, rather abstract phenomenon, climate change was situated as a local theme, directly affecting the life reality of individuals, making it easily graspable and concretizing it.

One of the main findings is, that the actors perceive the coal phase-out differently regarding which cost-benefit analysis should be given priority. This prioritization is dependent on how actors perceive and frame their interests, building linguistic constructs to legitimize their claims. Clearly, different interests potentially conflict, however, their incorporation is the aim of a compromise and for that a prioritization needs to take place to enable the coal phase-out. This divergent prioritization is reflected in how the actors frame the work of the CGSCE and the CGSCE as such. With regard to its work, Group 1 directly interlinked the national dimension with the local one in Hambach, whereas Group 2 decoupled it, promoting or avoiding a shielding of interests by (not) making them of national relevance.

Furthermore, Group 1 adopted a long-term view from the beginning of the conflict, Group 2 adopted a short-term view, only opening up that temporal perspective with regard to the national coal phase-out. When naming the CGSCE in a certain way, the two groups tie different competences and varying kinds of responsibility to its work. The level of complexity of the task and which subjects the actor is responsible for in terms of protections is thereby perceived differently.

This is also a reflection of the notion of intersubjective understanding (van Hulst & Yanow, 2016) in which the actors share a common understanding of a subject but choose to highlight certain things over others. It points to the contextual setting in which the identities of the actors are embedded, influencing their exercise of framing (van Hulst & Yanow, 2016). Furthermore, Group 1 engaged in a broadening of the scope of protection from subjects within a locally restricted area – the Hambacher forest – towards regional and global subjects simulates an intensified connection to the national coal phase-out, throughout the process. This marks a shift not only in temporal, but also in spatial dimensions that become integrated in the struggle, which shows the importance to analyze the local level as a level of enactment and implementation of the coal phase-out.

The analysis shows that conflicts between actors do not only exist regarding their interests, but also relates to how and whose interests should be prioritized, who will experience gains and losses and who is to take the responsibility.

5) Conclusion

A. Answering the research question

The aim of this study is to analyze the negotiation process of the German coal phase-out to look for salient characteristics. To do so, the main research question: *How is the negotiation process of the coal phase-out shaped by conflicts and coalitions among actors with various interests and their problem definitions?* was posed. It was partially answered or set into context with each analytical step guided by a theoretical perspective.

The MLP helps to contextualize the phase-out, to understand its historical trajectory and therefore its development process. Landscape developments, supportive policy mixes and value reorientations are decisive. Politics and political decision-making in the form of target setting directly or indirectly affect regime actors, however, often they are able to mediate landscape trends. While regime actors within the MLP analysis were mainly found to be big energy companies, the case study involved other actors such as trade unions, showing that they can also be decisive supporters of the existing regime. This is presented with the fact that RWE and IG BCE both try to avert responsibility to further the discontinuation of coal. Dependencies are created and reference to achievements of the energy sector in emission reductions are made, thereby the regime actors engage in responsibility shifting.

Niche actors have already captured parts of the market as their share being over a third in the German electricity mix, lignite coal still persists with nearly an equal share. The overarching landscape developments as well as the regime reorientation and the intensified competition from former niche-actors point towards an active discontinuation trajectory. This is a form of a destabilization process, in which several discontinuation practices occurred before, the phase-out as such is one as well, marking the incremental and gradual destruction of the socio-technical system of lignite coal. This is nevertheless still ongoing and could potentially also be redirected, halted or reversed.

The frame in which the regime actors tended to move narrowed down increasingly over the decades. By now, with a coal phase-out in the making, the regime actors try to keep the regime alive in a profitable way as long as possible, intensively trying to shape the governance of the discontinuation as private actors. The alignment of smaller actors with larger ones in terms of their interest is decisive here. As mentioned above, for example in the local case, the trade union and the energy company align their interests, provide arguments for the continuation of the system and engage in framing struggles that tend to lay open lose-gain scenarios that are guided

by a socio-economic operative logic. These actors try to avert the negative consequences from a discontinuation while other antagonistic actors seek to prevent negative consequences from a global threat in terms of climate change. With that, the conflicting prioritization of divergent cost-benefit calculations becomes prevalent.

The definition of the locational setting of the problem in terms of a spatial as well as temporal dimension is not only difficult for a research setting but is a characteristic of the coal phase-out negotiation process. The case made clear that different actors tend to define and place the coal phase-out and problems related to it on different time and space dimension.
The actors of Group 1 in the case study, with the overall operative logic of climate protection, tended to conceive the phase-out as a need to mitigate the global phenomenon of climate change. They expressed this by directly linking the local conflict around Hambach to the work of the CGSCE operating as an institution to design the phase-out on the national level. Some of the actors present and affected in the case (head of the energy company, heads of NGOs, head of the citizen initiative) were actually members of the CGSCE, so the different spatial levels become intermingled in terms of persons acting as representatives of interest groups as well as in their problem definitions. The negotiation process is thereby guided by an unclear responsibility allocation which gets utilized by several actors in terms of responsibility shifting. This leads to the fact that accountability is difficult to be attributed and increases the complexity of the process.

The case study showed that the negotiation process is highly conflictive in terms of who gets what, when and how during the policy processes (Hoppe, 2011), but also in terms of who damages who and how this is reasoned. This led to the emergence of a block-formation and clustered interests on the local level. Consequences of a phase-out or of ongoing coal-operations vary for the actors. For the trade unions it is mainly about personal fates and preserving jobs, the energy company wants to preserve its profits, general business operations and protect its employees.
The occupiers, NGOs and citizen initiative want to preserve the forest, protect the climate, villages around the coal-pit, people, the planet, life and nature, whereby the occupiers additionally advocate for a system change away from Capitalism. These different interests are further differentialized by a diverging prioritization which is guided by deviating value definitions and steered by the contrasting operative logics described before. Though in the last phase, all actors came to problematize the phase-out as such, they all highlight different

problematic parts about it, choosing what is of importance and what is not for their respective interests.

With that, they generate a mosaic of problems rather than structuring the problem, though this might not even be possible due to the elaborated hyper-complexity of the phase-out. The policy actors thereby do not engage in policy making by making sense together but rather making sense apart from each other. This tends to situate the phase-out process as an *"*intractable controversy*"*, which requires policy learning (Hischemöller & Hoppe, 2001; Schön & Rein, 1994). Though this strategy was adopted by creating the CGSCE in which various public and private interests are represented, it is assumed that the actual future implementation of the phase-out requires additional fora to facilitate intersubjective understanding by actors and the larger society and to engage in more reflexive governance approaches.

It is also interesting to note what is absent when referring to the coal phase-out. The nuclear system became targeted in response to a crisis, an event like that is nonexistent when it comes to the system of coal. One could argue that consequences of climate change are increasingly referred to as a "climate crisis", that public values are changing and political pressures are increasing, this could potentially point towards the role of risk perception in discontinuation processes. However, global climate change is not a crisis that would be solely created by the coal-based regime as it was the case with nuclear energy. Also, niche-actors are largely absent from the policy arena, at least in the case at hand, though there is one representative in the CGSCE. The negotiation process is thereby not only shaped in terms of multiple problem definitions and interests, but also by who is included and excluded in it.

The dynamic of the negotiation process in the case at hand was largely characterized by three overarching patterns, namely responsibility, a lose-gain nexus and dependencies. The first was additionally typified into responsibility for others in terms of protection and responsibility of actors in terms of blame and shift. The three pattern incapsulated the role of the obligation to engage in or halt certain actions, personalized and abstract losses and conditionalities. The dynamics emerging from these patterns are realigned with the interest dynamics that were presented.

It became clear that those actors who are negatively affected by the consequences of a phase-out engage in dependency framing to construct conditionalities that ensure a gradual and slow phase-out. These are the incumbent regime actors who have actually accepted the phase-out and do not actively block its proceedings, but they tend to avert it for as long as possible. Interestingly, they advocate for the deployment of niche-innovations (acceleration of RET

deployment) and an adaptation of the technological regime (grid expansion), which pose to be niche-supportive policies that are seemingly preferred towards active, destructionist policies for the coal-regime. This might be reasoned by the fact that regime actors by now reoriented their market strategies to incorporate RETs and capture the profit stemming from them. Additionally, this deceleration of the phase-out could simply relate to a strategy of keeping the regime alive for as long as it is profitable.

With regard to gains and losses, simplification and concretization presented to be an important dynamic which was represented in the role of symbols and their potential for mobilization in favor or against a cause. When advocating a "fight" the actor groups constructed something that is worth to protect from someone or something that seeks to damages it, as was the case with the "forest vs. coal" visualization.

When looking at responsibility allocations it is interesting to see, that the majority of actors from both groups tends to call upon federal actors, shifting responsibility to a higher level of decision making. This could be related to the difficulty entailed by a mosaic of problems which is tried to be evaded by the actors by shifting responsibility away from themselves.

The dynamics appear to be highly conflictive as the diverging problem definitions and interests as well as their prioritization by the actors create faultlines. Consequently, this leads to coalition or alliance building among actors which do not have the same, but similar interests. Such interests blocks become difficult to incorporate in a compromise as their cost-benefit calculations often mutually exclude each other. For the local case, the perspectives applied in terms of spatial and temporal dimensions varied and complicated the structuring of the process. The actors engaged in different framing strategies of legitimization, delegitimization and responsibility allocations that steered the process on the local level. Nevertheless, the negotiation process of the phase-out origins and is situated in broader contexts, that range from landscape developments and political target setting, to governing discontinuations in forms of active and deliberate destructionist policies and challenging local implementation processes in which the conflict about the coal phase-out is enacted.

All in all, the negotiation process remains highly complex and difficult to entangle from the various intersecting actors, their interests and contexts in which it is situated. The negotiation process is shaped by constant reactions towards a dynamic situation by the different actors. The previously elaborated hyper-complexity of the coal phase-out became increasingly prevalent not only with the contextualization in larger technological, economic, political, social and economic developments, but especially with the local case-study and the creation of

dependencies. Dependencies from the different context became coupled, such as a technological-political coupling, when the energy company and the trade union made the phase-out dependent on the electricity grid expansion and RET deployment, being technological means that have to be furthered by political decisions. The conflict around the Hambach forest exemplified, also symbolically, how economic and ecological dependencies are created and conflict with each other. Moreover, social and political contexts were coupled, when social impacts were expected to be diverted by the federal government, for example relating to the structural transition. These interlinked contexts and the complexities they entail, in addition to the divergent definitions of spatial and temporal dimensions make the coal phase-out a primary field for policy learning as otherwise its complexities could not be dealt with adequately.

B. Implications and outlook

During the analysis, not only the overall trajectory of the phase-out as a discontinuation process could be traced, but also the ladder of discontinuation could be amended and partly modified. This led to new insights regarding policy measures associated with and the nature of the different steps of discontinuation practices. It proved the value of the governance of discontinuation perspective to uncover distinctive features of the research object and generated findings of scientific relevance. Additionally, the framing analysis enabled an agency-centric view that could generate and differentiate specific actor coalitions, their interactions and the problems occurring on the local level.

Future research could orient itself in various ways. An actor-centric view proved to be fruitful to generate insights on how and by whom a phase-out is socio-technical potentially discontinued and which struggles arise with it. For that, the role of niche actors, protest movements, organizations and especially administrative institutions could generate valuable insights. The framing analysis supports the research by allowing to discover patterns underlying the actions and statements of the various actors engaged in the conflict, this serves to uncover interrelations on the micro-level of discontinuation processes. To do so, a social media-analysis of such polarizing conflicts as was the case for the Hambach forest could lead to additional insights.

The GTM approach supported the intensive engagement with the research object and the generation of theoretical concepts such as the framing types well. However, for larger amounts of data in combination with an open-coding strategy, an even more organized structure of research would proof fruitful to avoid getting lost in interesting details. Nevertheless, the GTM

and usage of Atlas.ti enable the exploration of concepts and patterns and are especially valuable for exploratory, in-depth research in which theoretical assumptions yet need to be discovered, as is the case with the governance of discontinuation perspective. The case study of the German coal phase-out generated and improved the understanding of the difficult and hyper-complex dynamics underlying the discontinuation of the socio-technical system of lignite coal.

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Appendices

Appendix overview:

Appendix 1 – Timeline overviews for the German sustainability transition and Hambach case:

General timeline on Germany's sustainability and energy transition:

1950	1960	1973	1973/74	1970s	1981	1986	1990s
Coal = almost 90% of energy consumption	Studies link pollution to health complications	Federal energy program	Oil crisis, role of energy security -> protect coal	Support for opening a coal-pit area around Hambach, some local protests	Revised Energy program	Chernobyl accident, refocusing on gas and primarily coal	Knowledge about climate change increasingly present in public discourse

1991	1992	1997	1998	2000	**2002**	2004
StrEG/ Electricity feed- in act for RES	Rio Summit, Agenda 21	Kyoto-protocol, EU aim to reduce GHG-emissions	EU liberalizing energy market + government change to SD and Greens -> stress S.D.	Energy Dialogue, subsidies to build solar-roofs, EEG/RES Act	German Council for S.D. published the first national S.D. strategy	Further development of the EEG

2005	2008	2009	**2011**	2012 + 2014	**2015**	**2016**
European Emission Trading Scheme + government change to SD/CD	Government sets the date for phasing out hard-coal mining to 2018	Further development of the EEG	Fukushima catastrophe -> nuclear phase-out until 2022 -> “Energiewende” /energy transition	Further development of the EEG	Paris Agreement	Government adopts national Climate Action Plan 2050 (CAP 2050)

2010 – 2015: Share of RES and brown coal increased, as do CO2 emissions

2017	2018	June **2018**	Dec. 2018	January **2019**	March **2019**
Further development of the EEG	Hot and dry summer referred to as Drought summer in the media	Government installs the “Coal Commission”	COP 24, Germany wins “Fossil of the day” - award	“Coal Commission” presents its final report to the government	Climate Cabinet installed

April **2019**	May **2019**
1st session of Climate Cabinet	15 billion for NRW structural transitions 40 billion for coal regions

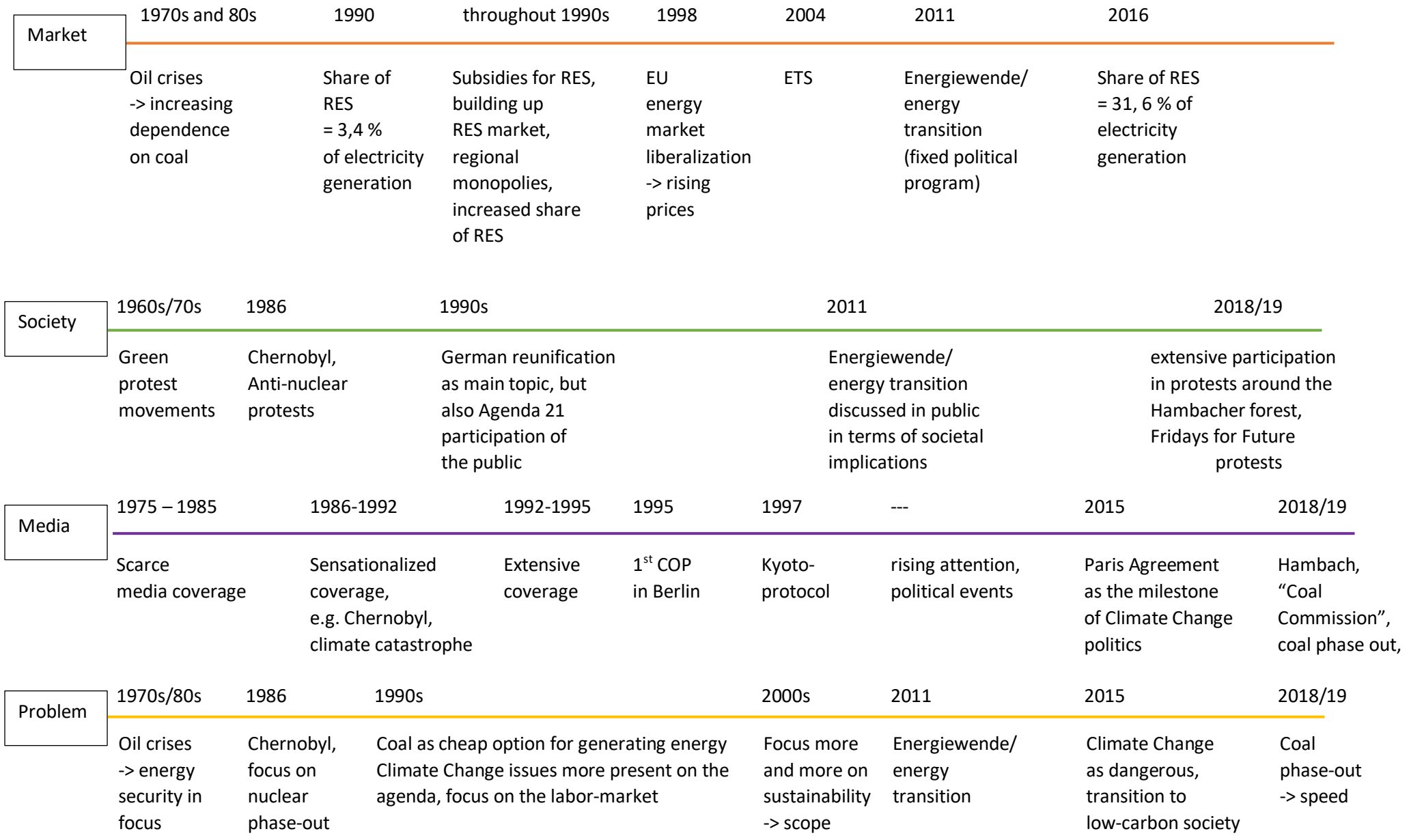
Dimensional timeline:

Science

1975 – 1985	1986 – 1992	1995	----	----
Agenda building and agenda setting, problematizing Climate Change	Activist science to draw public attention e.g. DGP press release	Climate Change Science more institutionalized, e.g. 2 research institutes for Climate Change Science	More interdisciplinary approaches	Engaging in public discussion e.g. Think Tanks, Agora Energiewende

State

Until mid-1980s	1986	1992	1997	1998	early 2000s	2011	2015	2016	2018/19
Subsidies and support schemes for coal	Public pressure	Rio Summit	Kyoto Protocol	EU energy market liberalization+ governmental change -> focus on S. D.	Energy dialogue, policy instruments to increase share of RES, focus on S. D., ETS, feed-in tariffs; Energy Concept 2010	Fukushima -> Energiewende/ Energy transition	Paris Agreement	CAP 2050	Hambach, "Coal Commission"


Market
1970s and 80s
1990
throughout 1990s
1998
2004
2011
2016
Oil crises -> increasing dependence on coal
Share of RES = 3,4 % of electricity generation
Subsidies for RES, building up RES market, regional monopolies, increased share of RES
EU energy market liberalization -> rising prices
ETS
Energiewende/ energy transition (fixed political program)
Share of RES = 31, 6 % of electricity generation
Society
1960s/70s
1986
1990s
2011
2018/19
Green protest movements
Chernobyl, Anti-nuclear protests
German reunification as main topic, but also Agenda 21 participation of the public
Energiewende/ energy transition discussed in public in terms of societal implications
extensive participation in protests around the Hambacher forest, Fridays for Future protests
Media
1975 – 1985
1986-1992
1992-1995
1995
1997

2015
2018/19
Scarce media coverage
Sensationalized coverage, e.g. Chernobyl, climate catastrophe
Extensive coverage
1st COP in Berlin
Kyoto-protocol
rising attention, political events
Paris Agreement as the milestone of Climate Change politics
Hambach, "Coal Commission", coal phase out,
Problem
1970s/80s
1986
1990s
2000s
2011
2015
2018/19
Oil crises -> energy security in focus
Chernobyl, focus on nuclear phase-out
Coal as cheap option for generating energy
Climate Change issues more present on the agenda, focus on the labor-market
Focus more and more on sustainability -> scope
Energiewende/ energy transition
Climate Change as dangerous, transition to low-carbon society
Coal phase-out -> speed

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Abbreviations:

A. Grothus	Antje Grothus, member of the initiative "Buirer für Buir" and the "Coal Commission"
Bergbauamt	Coal-mining office
Bezirksregierung	District government
BKA	Brown coal mining oversight board
BR/Bezirksregierung	District government
BUND	Environmental NGO
BZ/Bezirksamt	District office
CAP 2050	Climate Action Plan 2050
Coal Commission/CGSCE	Commission on Growth, Structural Change and Employment
COP	Conference of the Parties to the UNFCCC
EEG	Erneuerbare Energien Gesetz (Renewable energy sources Act)
Ende Gelände	Activist group that blocks coal-mining operations with civil disobedience actions e.g. human blockades
ETS	Emission Trading Scheme
IGBCE	Trade union for workers in the mining, chemical and energy sector
NRW	North-Rhine Westphalia

OVG Münster	Higher administrative Court Münster
RAG/Rheinbraun AG	Energy company, later transformed into RWE Power AG
RES	Renewable energy sources
SD	Social Democrats
CD	Christian Democrats
S. D.	Sustainable Development
StrEG	Stromeinspeisungsgesetz/ Feed-in Act
VG Köln	Administrative court Cologne
---	Process that spans across several months
-	Ongoing process

Timeline of the developments around the Hambacher forest and coal-pit area:

April 1950	1972/73	Jul 1974	Dec. 1975	May 1977	March 1978	Apr. 1979	Nov. 1979
Plan for Rhein. coal area	Concretized planning Hambach	1. Rahmen-betriebsplan/ operational plan	BKA plan (Braunkohle-ausschuss)	binding. plan	Opening of coal mine	EC guideline bird preservation	BKA plan part of Land- government plan

1988-	1994	Aug. 1995	------	Dec. 2011	------	Apr. 2012 –	Nov. 2012
Resettlements authorized	Bergbauamt Köln NGO participation	Rheinbraun AG pressures Bezirksamt Düren	several lawsuits BUND vs- RAG before several courts	RWE Power AG new operational plan (2020-2030) suggested to Bezirksregierung Arnsberg	lawsuit BUND before VG Köln	1st occupation of the forest	eviction

Sept. 2013	March 2014	April 2014	Oct. 2014	Dec. 2015	Dec. 2016	Oct. 2017	------	Nov. 2017
2nd occupation of the forest	eviction	3rd occupation	eviction + 4th occupation	RWE requests premises close to the coal pit owned by BUND	OVG: protest camp = illegal	VG Cologne: suggests to protect 56ha of the forest + ongoing coal mining	BUND complains before OVG	OVG Münster suspending forest clearance

Dec. 2017			March 2018	------	May 2018	-----	Aug. 2018
OVG suggestion settlement ->	RWE agrees -> no forest clearance	BZ Arnsberg allows coal mining until 31.03.18 if forest remains protected	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 (NGO receives news out of newspaper)	lawsuit VG Köln by BUND against expropriation	Attacks on the police by forest occupiers

03. Sept. 18	05. Sept. 18	06. Sept. 18	12. Sept. 18	13. Sept. 18	17. Sept. 18	19. Sept. 18
Police presents weapons found in the forest to press (later clear, that weapons were discovered in 2016) - media strategy?	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 tree-houses built by activists due to fire safety issues	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 was friends with some activists fell from a tree-house while reporting

20. Sept. 18	21. Sept. 18	---	23. Sept. 18	24. Sept. 18	05. Oct. 18	06. Oct. 18
Different reports and perspectives on the death of the journalist e.g. if police was close, violation of the proclaimed silent period	Proclaimed silent period officially ends, conflicts between police and activists	different protests throughout Germany (e.g. camps, demonstrations, blocking coal digger)	Mass protests around the forest (several thousands)	Eviction officially goes on	OVG serves BUND complaint to protect rare bats in the forest, (EU directive) stops forest clearance	Mass demonstration around the forest (50.000 people)

08. Oct. 18	---	26/27. Oct. 18	17 Oct.	Nov. 18	24/25 Dec. 18	Dec. 18
Police retreat	Forest reoccupied	Ende Gelände protests block coal transport in Hambach	Protests in front of A. Grothus home (100 RWE/ IGBCE workers)	new blockades in the forest are removed by police and RWE security forces	Activists attack camp of security forces violently (throwing stones, incendiary material)	Violent attack on RWE vehicles + police searches protest camp

January 2019-	26. Jan. 19	20. Feb. 19	26. March. 19	04. Apr. 19
Fridays for Future demonstrations gain popularity in Germany	“Coal Commission”: official statement that it wishes to preserve the Hambacher forest	RWE claims that there will be no forest clearance until 2020, official moratorium with the NRW-government	An activist gets arrested for supposedly throwing a bucket of feces from a tree-house on a RWE worker (was not hit by it)	Financial support for the coal-states in Germany by the federal government (for NRW: 90 million)

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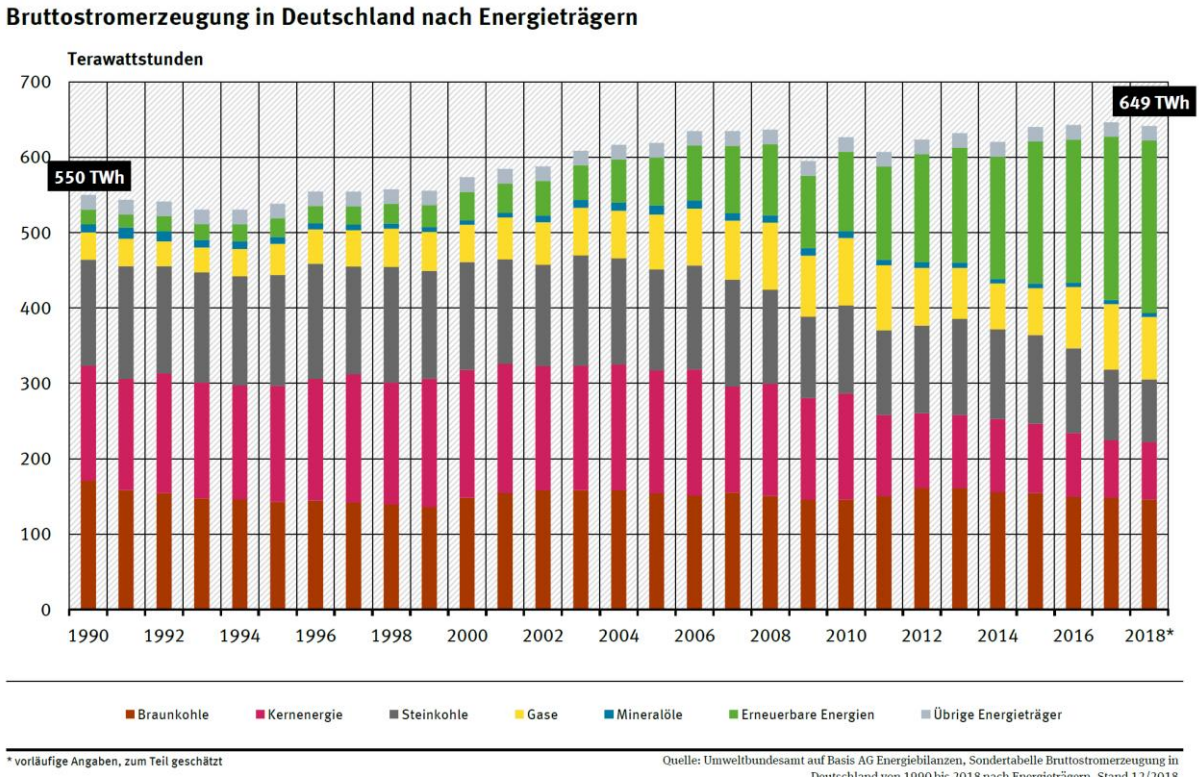
Appendix 3 - Gross electricity generation in Germany by energy sources:



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Appendix 4 – Overview actors in the CGSCE and their backgrounds:

Person	Background
Chair: Matthias Platzeck	Former minister of lignite mining state Brandenburg, SPD
Chair: Prof. Dr. Barbara Praetorius	Climate economists, former deputy director at Agora Energiewende
Stanislaw Tillich	Former state premier of lignite mining state Saxony, CDU
Ronald Pofalla	Board member at Deutsche Bahn, CDU
Christiane Schönefeld	Regional director of the Federal Employment Agency in NRW
Antje Grothus	Buirer für Buir (citizen initiative)
Gerda Hasselfeldt	former chairwoman of CSU parliamentary group
Christine Herntier	Spokesperson for Lausitzrunde, mayor of coal mining town Spremberg
Martin Kaiser	Executive Director Greenpeace
Steffen Kapferer	Head of utility association BDEW (Bundesverband der Energie- und Wasserwirtschaft)
Prof. Dieter Kempf	President of industry association BDI (Bundesverband der deutschen Industrie)
Stefan Körzell	Member of executive board of German Trade Union Confederation (DGB)
Michael Kreuzberg	Head of district authority of mining region Rhein Erft Kreis
Dr. Felix C. Matthes	Research coordinator at Institute for Applied Ecology (Institut für angewandte Ökologie)
Claudia Nemat	Board of Management, Deutsche Telekom AG
Prof. Dr. Kai Niebert	Sustainability Researcher, University of Zurich, President of Deutscher Naturschutzring
Prof. Dr. Annekatrin Niebuhr	Researcher for empirical labor market economics, Kiel University
Reiner Priggen	NRW Green Party, state association for renewable energies NRW
Katherina Reiche	Head of German Association of Local Utilities (Verband Kommunaler Unternehmen)
Gunda Röstel	Director of Local utility Stadtentwässerung Dresden, formerly leader of the Green Party
Andreas Scheidt	Member of federal executive board of trade union Verdi
Prof. Dr. Dr. H. J. Schellnhuber	Director of the Potsdam Institute for Climate Impact Research (PIK)
Dr. Eric Schweitzer	President of the German Chamber for Commerce and Industry (DIHK)
Michael Vassiliadis	Head of mining union IG BCE
Prof. Dr. Ralf B. Wehrspohn	Director of the Fraunhofer Institute for Microstructure of Materials and Systems (IMWS)
Prof. Dr. Hubert Weiger	Head of BUND, member of the council of sustainable development for the federal government
Hannelore Wodtke	Head of Citizen group Green Future Welzlow
Andreas Lämme	Member of Parliament, CDU
Dr. Andreeas Lenz	Member of Parliament, CSU
Dr. Matthias Miersch	Member of Parliament, SPD

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Appendix 6 – Original Quotes in German:

Quote in the text	Original quote (German)	Source	Page in thesis
"*RWE escalates the conflicts and creates precedents…"*	„RWE eskaliert die Konflikte und schafft Fakten…"	Initiative Buirer für Buir, 2018	35
RWE as "…*energy giant…*"	"…Energieriesen RWE…" „…Energie Riesen [sic!] RWE…"	Initiative Buirer für Buir, 2018; Hambi bleibt!, 2018c	35 35
"*An eviction always also means the forest clearance."*	"Räumung bedeutet immer auch gleich Rodung."	Hambi bleibt!, 2018a	35
"…12.000 years old Hambach forest."	„…den 12.000 Jahre alten Hambacher Forst."	Hambi bleibt!, 2018c	35
"…ancient, precious forest…"	„…uralten, wertvollen Wald..."	BUND, 2018	35
"…ecologically especially valuable…"	„…ökologisch besonders wertvollen…"	Initiative Buirer für Buir, 2018	35
"…ecological treasure"	„…ökologisches Kleinod…"	Greenpeace, 2018	35
"*…the ongoing attacks on the work of the Coal Commission"*	"…die anhaltenden Angriffe auf die Arbeit der Kommission…"	Initiative Buirer für Buir, 2018	35
"*… [d]estruction of the Hambach forest."*	"…Vernichtung des Hambacher Waldes" „…Zerstörung des […] Hambacher Forstes."	Initiative Buirer für Buir, 2018; Hambi bleibt!, 2018c	35
"… in the fight for the preservation of the forest…"	"…im Kampf um den Erhalt des Waldes …."	Hambi bleibt!, 2018c	35
"*The Hambach forest cannot be saved, regardless of what the Commission decides."*	"Der Hambacher Forst ist nicht zu retten, egal was die Kommission entscheidet."	Binder et al., 2018 Statement by R. Schmitz	35
"*We talk about two different things here."*	"Wir sprechen da über zwei unterschiedliche Dinge."	Bonnen, 2018 Statement by A. Laschet	35

„… there is a clear legal basis."	"…es eine klare Rechtsgrundlage gibt."	RWE, 2018	35
"*… shaped by persons who are ready to use violence."*	"Die Nutzerstruktur im Hambacher Forst ist […] von gewaltbereiten Personen durchsetzt."	Ministerium für Heimat, Kommunales, Bau und Gleichstellung des Landes Nordrhein-Westfalen, 2019	35
„*… it is about the criminals in the forest…"*	"…mir geht es um die Kriminellen, die im Wald sind…"	Barenberg, 2014 Statement by H. Reul	35
"… the escalating violence of activists in the Hambach Forest…"	"…die ausufernde Gewalt von Aktivisten am Hambacher Forst…"	IG BCE, 2018a	35
"*… cannot jeopardize nearly 5.000 jobs for that."*	„Ich kann dafür nicht fast 5000 Arbeitsplätze aufs Spiel setzen."	Brors & Flauger, 2018 Statement by R. Schmitz	41
"[h]ighs risk for good jobs"	"Hohes Risiko für gute Arbeitsplätze"	IG BCE, 2018b	41
"*[i]nsecurity and fear for job losses and the personal future"*	„Unsicherheit und Sorge um die Arbeitsplätze und die persönliche Zukunft"	IG BCE, 2018b	42
"*…the protection of interests of the coal and capital giant RWE."*	„…sowie den Schutz der Interessen des Kohle- und Kapitalgiganten RWE."	Hambi bleibt!, 2018b	43
"*…coal phase-out […] from below"*	„…. ein Braunkohleausstieg, der von unten […] erkämpft wurde ..."	Hambi bleibt!, 2018e	43
"*…the Hambach forest is not a subject for the Commission"*	"…und Hambacher Forst ist ja nicht Auftrag der Kommission."	May, 2018 Statement by R. Schmitz	44
"[t]he fight about Hambach goes on"	"…der Kampf um Hambach geht weiter."	Höning & Bröcker, 2018 Statement by R. Schmitz	44
"[n]obody understands when RWE cuts down an ancient, valuable forest for the coal underneath it, though	"Es ist für niemanden verständlich, wenn RWE einen uralten, wertvollen Wald für die darunterliegende Braunkohle abholzt, während in Berlin die	BUND, 2018	45

details of the coal phase-out are discussed in Berlin."	Details des Kohleausstiegs diskutiert werden."		
"*[t]he coal phase-out will come as it must be"*	„Der Kohleausstieg kommt dann von selbst."	Binder et al., 2018 Statement by R. Schmitz	46
"*... concrete help"*	"Die IG BCE erwartet von der Bundesregierung konkrete Hilfe…"	IG BCE, 2018b	46

Appendix 7 - Timeline of the analytical phases of the Hambach forest case:

05. Sept. 18	*06. Sept. 18*	*12. Sept. 18*	*11. Sept. 18*	*13. Sept. 18*
RWE forest clearance standby moratorium until 14th Oct.	Police and RWE Security remove barricades built by Occ.	NRW Ministry[1] orders building control authority Kerpen to evict tree-houses (fire-safety issues)	Negotiations between RWE and NGOs about forest clearance	Official eviction of treehouses begins

[1] Ministry for Regional Identity, Communities and Local Government, Building and Gender Equality of NRW

17. Sept. 18	*19. Sept. 18*	*23. Sept. 18*	*24. Sept. 18*	*30. Sept. 18*
First mass-protest around the forest (4.000- 7.000)	Death of a journalist (friend of Occ.; fell from bridge of a treehouse) Silent period until 23rd Sept.	Mass-protests around the forest (several thousands)	Eviction officially goes on	Mass demonstrations around the forest (7.000-10.000 people)

05. Oct. 18	*06. Oct. 18*	*08.Oct. 18*	*------*	*Oct. – Dec. 18*
OVG MS[2] serves BUND complaints; stops forest clearance (until 2020); eviction finished	Mass demonstrations around the forest (50.000 people)	Police leaves the forest	Forest reoccupied	Various occasions: e.g. Trade union association protest before A. Groothus Groothus private home; Activists attacks on RWE security staff and material; Police removing rebuilt barricades in the forest

[2]Higher Administrative Court Münster

26. Jan. 2019	*20. Feb. 19*	*22. May 19*
Final report CGSCE; "Wish to preserve the Hambacher forest" included; During Jan. 2019: Fridays for Future protests gain popularity in Germany	RWE claims official moratorium for forest clearance until 2020	Fed. government adopts "Struktur-stärkungsgesetz Kohleregionen" / Law for promoting structural transition (for NRW: 90 million immediately)

Appendix 8 – Framing analysis of the six phases of analysis:

Phase 1 – before the eviction:

Already in this phase, it becomes clear, that the two blocks radically diverge in their points of view in terms of who is responsible for the conflict, who is to blame and what the problem actually is.

Actors:	Issues stressed:	Framing example:
Group 1:	- Eviction leading to clearance - Work of CGSCE affected - Protection of persons affected by coal mining - Socially acceptable phase-out - Damages caused by RWE - Escalation and provocation by RWE - Fight: forest vs. coal	"*RWE escalates the conflict and creates precedents: forced resettlements, forced expropriation and the destruction of the Hambach Forest"* (Initiative Buirer für Buir, 2018) "*Nobody understands when RWE cuts down an ancient, valuable forest for the coal underneath it, though details of the coal phase-out are discussed in Berlin."* (BUND, 2018a)
Occupiers:	- Immediate coal-exit - Fight against Capitalism - Violence by Group 2 (police, Ministry of the Interior of NRW) - Protection of RWE by NRW state government - Forest vs. coal	"*…[c]limate activsts who fight for the preservation of the forest and against the capitalist extraction of dirty coal…"* (Hambi bleibt!, 2018a). "*…the protection of interests of the coal and capital giant RWE."* (Hambi bleibt!, 2018a)
Group 2:	- Violence by occupiers -> Danger to workers and police - Technical necessity of clearance - Work of CGSCE not affected	"*… the escalating violence by the activists in the Hambach forest…"* (IG BCE, 2018a) "*…occupiers are ready to use violence…"* (Ministerium für Heimat, Kommunales, Bau und Gleichstellung des Landes Nordrhein-Westfalen, 2019)

Group 1 constitutes a fight for the forest, against the coal and communicates this with the symbolic character. By situating the forest vs. the coal, the struggle is framed as something alive vs. something lifeless, something valuable vs. something that causes destruction locally as well as globally. This breaks down a complex issue toward a simple choice, one between good or bad. In contrast, Group 2 is only bothered with the enforcement of legal rights and reasons this with the protection of the Rule of Law as well as RWE workers. The coal phase-out is only abstractly present in the discussion, mainly throughout the debate if the work of the CGSCE is related to the conflict or not.

Phase 2 – beginning of eviction:

With the beginning of the eviction, the coal phase-out as an issue is pushed into the background. No statements directly related to it are taken by Group 1, including the occupiers, the main focus lays on the problem of the eviction and the role of violence, which is generally regarded as illegit (exempting the occupiers who nevertheless condemn violence by the police). The conflict takes the shape of a competing responsibility- and blame-shifting. It must be stressed that now not only RWE is seen as an actor with conflicting interests but also the NRW state

government, pointing towards a repositioning of the actors characterized as enemies by Group 1. A first mass-protest for the preservation of the forest with around 4.-7.000 people takes place.

Actors:	Issues stressed:	Framing example:
Group 1:	- Linking eviction to a consequential forest clearance - Questioning legal basis (fire-safety issues = false pretenses) - Responsibility of state government NRW and RWE for escalation - State government NRW protecting interests of RWE - Creating precedents - Forest vs. Coal	*"The NRW state government should stop making itself the henchman of RWE."* (BUND, 2018b) "*... if a valuable forest should be sacrificed for a [...] lignite opencast mine."* (BUND, 2018b)
Occupiers:	- Responsibility of state and RWE - Broad mobilization - Climate justice	"*... will go on fighting against the injustices of the state and the energy giant RWE"* (Hambi bleibt!, 2018b)
Group 2:	- Role of courts (Rule of Law) - Hambach Forest not subject for CGSCE - Dependency of phase-out on grid expansion and RET deployment (responsibility of federal government)	"*The Hambach forest is not a subject for the Commission."* (Statement by M. Vassiliades; May, 2018) "*I am not to decide if we want to have lignite coal or not. That is decided by courts."* (Statement by H. Reul; Barenberg, 2018)
Additional actor: **Federal Minister for the Environment**	- Thanks peaceful protesters for their dedication for nature and climate protection - Condemning violent protests - Linking coal phase-out to structural transition in the coal-regions - Appealing to RWE to not obstruct the consensual discussion in the CGSCE - Role of compromise	"*The coal phase-out can only be organized with a societal consensus*." (BMU, 2018).

A peculiarity of this phase is, that an actor of the federal state level started to intervene in the local conflict and supported the stance of Group 1 though with respect to the positions of Group 2. The phase is characterized by a problem-shift by Group 1 focusing mainly on the eviction, engaging in conflictual perceptions of the enforcement of the eviction by RWE and the NRW state government.

Phase 3- Death of a journalist and consequential silent-period:

In this phase, none of the actors actually refer to the coal phase-out, as the focus is set on the death of a journalist who fell from a bridge connecting treehouses. This phase is shaped by statements of grief and mourning, giving condolences for family and friends, there is consensus that it was a tragic accident. Only the BUND, the occupiers and RWE publish such statements, while Reul as Minister of the Interior preliminary stops the eviction to enable a silent period, while other actors remain silent. These are the three actors that attend to any kind of circumstances of the forest, while others see their necessity to engage only when affected by the developments. Three parties engaged in conflictual behavior, namely RWE interlinked with

H. Reul and the occupiers as both sides accused each other of instrumentalizing the death for strategic issues to drive the other party out of the forest.

Phase 4 – ongoing eviction:

This is a lively phase regarding the framing of the coal phase-out as slowly the eviction approaches its ending and the forest clearance becomes more and more likely. Protests for the preservation of the forest have grown to number of 7.000-10.000 people. This is reflected with the emphasis on the destruction that will follow as a consequence and the more pressing calls for an immediate shift in policies regarding coal, supported by the growing public support of the mast-protests. In contrast to that, actors of Group 2 actually remain silent, delink the conflict from the phase-out or frame the process in contingency to other technical developments.

Actors:	**Issues stressed:**	**Framing example**
Group 1:	- Damages to people, homes and social peace - Destruction of forest - Forest as symbol - Implementing coal phase-out - Encourage shift in politics - Responsibility of NRW state government	"*The Hambach forest is a symbol of unity and the future…"* (BUND, 2018c) "*Saving the Hambach forest, enforcing the coal phase-out…"* (BUND, 2018c)
Occupiers:	- Immediate coal-exit - Mobilization and solidarity - Worldwide climate justice - Forest as symbol - Linking forest preservation to coal phase-out - Protecting life on planet and future - Capitalist exploitation - Destruction by RWE - Hambach forest as tool to bring coal phase-out into public discourse	"*… for the preservation of the forest and an immediate exit from all fossil energies"* (Hambi bleibt!, 2018c) "*… attack on nature"* (Hambi bleibt!, 2018d)
Group 2:	- Coal phase-out will take time, energy transition already on its way - Phase-out linked to conditionalities (grid-expansion, deployment of RETs) - Responsibility to protect workers and their jobs - Protection of jobs - Costs - Security of supply for regional industry - Criticism on forest as symbol -> lack of rationality	"T*he coal phase-out will come as it must be"* (Statement by R. Schmitz; Binder et al., 2018). *"This will only be possible if we have 65% of electricity from renewable energy sources by then."* (Statement by R. Schmitz; Binder et al., 2018) "*And I have the responsibility for my employees."* (Statement by R. Schmitz; Brors & Flauger, 2018)

Phase 5 – Court decision to delay forest clearance:

Though the clearance stop is a punctual event, statements that related to it throughout October were gathered for the data analysis. The citizen initiative does not provide a statement for this period.
As the most salient actor, the Higher Administrative Court Münster appears in the policy arena in this phase. It reasons its decision with the possibility that the forests is potentially covered by the European Habitats Directive of 1992, as brought forward as concern by the BUND. As there was no sufficient proof of neither the necessity of the clearance nor of endangering the supply security of the region by RWE, the overall public interest in preserving the forest potentially falling under the Directive, outweighs the private interest of clearing the forest to ease its technical operations (Oberverwaltungsgericht NRW, 2018). The court does not refer in any way to the coal phase-out, but interestingly uses similar words as Group 1 in the first phases of the conflict, reasoning that RWE would create "*… irreversible facts…"* (Oberverwaltungsgericht NRW, 2018). One day after the court decision, a final mass-demonstration around the forest with 50.000 people took place.

Actors:	**Problem definitions:**	**Framing examples:**
Group 1:	- Legal success, role of courts - Worth of the forest - Protection of climate and nature, future generations - Responsibility of NRW state government to recognize importance of climate protection	"*A huge success for climate protection…"* (BUND, 2018d) "*The court thereby massively contributes to peace under the law."* (BUND, 2018d)
Occupiers:	- System change - Fighting Capitalism - Phase-out from below - Linking eviction and forest preservation with coal phase-out	"F*rom blocking the forest clearance to the coal-exit"* (Hambi bleibt!, 2018d) "*What we need is a system change. But a coal phase-out […] from below […], is a first step until then."* (Hambi bleibt! 2018d)
Group 2:	- Costs - Job losses - Fight about Hambach - Coal phase-out already decided, only measures are unclear - Achieved emission reductions, responsibility of other sectors for emission reduction - Simplification of debate by Group 1 - Individual consequences for workers (Emotionality)	"T*he fight about Hambach goes on"* (Statement by R. Schmitz; Höning & Bröcker, 2018) "H*igh risk for good jobs"* (IG BCE, 2018b) "I*nsecurity and fear of job losses and the personal future."* (IG BCE, 2018b)
Additional actors: **Higher Administrative Court Münster**	- Ongoing lawsuit on main operative plan - Creation of irreversible facts - General public interest	"*...the creation of irreversible facts…"* (OVG NRW, 2018)

This phase is characterized by a win-lose situation and again by diverging problem definitions which are nevertheless intertwined with each other. Group 1 (including the occupiers) relates

back to its framing of the conflict throughout the first phases, linking the preservation of the forest directly to the coal phase-out and the role of climate protection. A shift can be observed in the framing behavior of RWE and IG BCE. First of all, IG BCE reenters the framing struggle to protect its members from harm. The actors that are negatively affected by the court-decision highlight the consequences in terms of costs, job losses and the individual fates of workers. Especially the IG BCE uses emotions (also used in Phase 1), to generate feelings of sympathy as emotions make personal circumstances more accessible. Especially salient is RWE's framing of a "fight" which beforehand was actually a frame used by Group 1. It appears to be that when being negatively affected by consequences, actors tend to engage in the metaphorical construction of an enemy as well as of something of value to protect from that enemy (in this case profit, employees, regional energy supply and the business as such). Lastly, the intervention of the court finally settled the conflict, though without any reference to the coal phase-out, highlighting the incisive role of administrative decisions.

Phase 6:

This phase marks the termination of the work of the CGSCE with a proposal for measures how to further proceed with the coal phase-out. Again, statements within a broader statement that refer to the decision were collected, not only those in immediate reaction to it. In this phase, all of the actors' attention has shifted to the coal phase-out as such, with only Group 1 additionally referring to the forest preservation. After staying absent from the framing-struggle, the NRW state government now reengages with a statement. Though phase 1 and 2 were massively characterized by the conflict if the Hambach forest is subject of the CGSCE and relates to its work, the final report states the wish to preserve the forest. This marks an intervention by a federal actor which settles the local conflict for the time being. Nevertheless, the final report is only a tool of recommendation and not legally binding.

Actors:	**Issues stressed:**	**Framing examples:**
Group 1:	- Coal phase-out now begins - Forest preservation -> villages can stay - Phase-out long overdue - Preservation of forest - Protection of the future, planet and villages	*"The Hambach forest is saved."* (BUND, 2019)
Occupiers	- Immediate coal phase-out - CGSCE as Capitalist institution - Capitalism irreconcilable with sustainability - Resistance goes on	"M*any thanks - for 19 years more of ongoing resistance!"* (Hambi bleibt!, 2019b)
Group 2:	- Role of compromise - Socially acceptable solution - Chance to combine climate change goals and industrial competitiveness of the region - Role of structural transition - Phase-out linked to conditionalities (grid-expansion, deployment of RETs)	The government "welcomes" the compromise and regards it as a "*... good, socially acceptable and encompassing solution"* (Statement by A. Laschet; RP Online, 2019). "…will the coal phase-out [..] be closely linked to the monitored progress of the future energy mix, the expansion of Renewables and the grid." *(IG BCE, 2019).*

RWE	- Phase-out date too early - Possibility of renegotiation - Negative consequences	*"...grave consequences..."* (RWE, 2019)
Additional actors: CGSCE	-Wish for forest preservation	*"The Commission deems the preservation of the Hambach forest as desirable.*" (BMWi, 2019b).

The NGOs of Group 1 stress that the forest can be preserved, which is actually incorrect as it depends on the legal judgment on the main operative plan in 2020. The statement however communicates a clear signal, that the fight against the coal was won and that the forest will survive. The term "saved" also indicates that someone is responsible for the rescue and helped to protect a vulnerable entity, in this case Group 1, the occupiers and the protesters of the demonstrations. The occupiers engage in a sort of mocking as they announce 19 years more of resistance (as the phase-out date is set to 2038 by the Commission), generating a notion of gallows humor, by ridiculing the results of the CGSCE work and criticizing it for sustaining a capitalist reasoning.

With this phase it can be seen to whose interest the recommendations of the CGSCE appeal by interpretation. Group 1, exempting the occupiers, deem the report as a success in terms of the forest preservation and the coal phase-out, though further actions are deemed desirable. Group 2 on the other hand is satisfied with the broad consensus reached, though RWE seems to set focus on a renegotiation of the measure.

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