

The Political Economy of Coal

Obstacles to Clean Energy Transitions

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2 Late and expensive

The political economy of coal phase-out in Germany

Lukas Hermwille and Dagmar Kiyar

Introduction

Coal used to be the backbone of the German electricity system. In the late 2000s still, Germany saw a “dash for coal” with soaring investments in new plant capacities (Pahle 2010). While Germany has a long history of managing the decline and ultimately phase-out of hard coal mining, the future of lignite mining was contested. However, until recently there was no formal policy process in place to debate the final chapter of coal phase-out. The adoption of the Paris Agreement with its ambitious 1.5°C target has contributed to raising political attention. Ultimately, the German government decided to appoint a “Commission on Growth, Structural Change and Employment” – hereafter coal commission – to settle what had become one of the most contested environmental issues in recent history (see also Leipprand and Flachsland 2018). The coal commission was first proposed as part of Germany’s long-term low-emission development strategy (*Klimaschutzplan 2050*) (BMU 2016) and subsequently included in the 2018 coalition agreement of the new German federal government (Christian Democratic Union [CDU], CSU and SPD 2018) after featuring prominently during the election campaign.

The commission was appointed in June 2018 with a mandate to come up with measures that minimize the mitigation gap for meeting the German emission reduction target for 2020 and to ensure the attainment of the 2030 target (BMW_i 2018). The commission was set up independently from the German federal government but received logistical and substantive support from the Federal Ministry for Economic Affairs and Energy (BMW_i) and other ministries. The commission comprised 28 members who were selected to represent all major stakeholders (BMW_i 2018). Moreover, the commission meetings were open for participation by legislators from the federal level as well as members of subnational governments, including from federal states. Those guests had the right to speak but not the right to vote on the final results. Internally, the discussions were prepared and driven by two “friends of the chair” working groups, one focusing on structural policy and the support for coal regions and one focusing on energy and climate policy aspects. These

groups discussed key aspects of the phase-out schedule, particularly in the final phase of the commission when they met two times a week [san4, pean2].

The coal commission finally adopted its recommendations on 26 January 2019 (Kommission Wohlstand and Strukturwandel und Beschäftigung 2019; see also Litz et al. 2019). The hard-fought compromise was adopted by near consensus (only one member voted against it). Key recommendations include:

- a moratorium on new coal infrastructure and to phase out coal no later than 2038 with an option to bring forward the phase-out to 2035;
- closing 12 GW out of 43 GW of coal capacity by 2022;
- a continuous decline of coal capacity to 17 GW by 2030 with a substantial intermediate step in 2025;
- negotiated compensation for operators of coal-fired power plants; and
- financial support for structural adjustments in coal regions to the amount of € bn 40 over a 20-year period.

In the German political discourse, the coal phase-out decision was viewed favorably by most commentators (see e.g. Spiegel Online 2019; Handelsblatt 2019). But from an international perspective, observers were puzzled by the late final phase-out date. Clearly, the coal phase-out schedule is too slow to meet Germany's mitigation obligations (Höhne et al. 2019; Yanguas-Parra et al. 2019). A Paris Agreement compatible coal phase-out would have translated to a phase-out by 2030 at the latest (Climate Analytics 2018). According to Moore (2020), Germany is one of the seven countries blocking the European energy transition, which are responsible for 80% of the European Union's (EU's) power sector emissions. Besides Poland and Czechia, Germany will be one of the three countries that will contribute to a total amount of 90% of EU coal generation in 2030.

Also, the recommendations of the coal commission come with a hefty price tag. Litz et al. (2019) estimate that public policy cost may add up to € bn 69–93 over a 20-year period (€ bn 40 for structural support, € bn 16–32 for compensating the increase in electricity prices, € bn 5–10 for compensation for utilities, € bn 5–7 early retirement compensation for workers, € bn 3–4 to buy up excess emission permits in the EU Emission Trading System).

While these figures are impressive in absolute terms, they also need to be seen in context. Not all of the funding for structural adjustments is altogether new. As it is an economically weak region, Lusatia would have received funds for structural adjustments in any case. Furthermore, the financial implications of the coal phase-out need to be seen in the historical context of massive fossil fuel subsidies. Oei et al. (2020) highlight that between 1950 and 2008 subsidies for hard coal production amounted to € bn 289–331, that is, € bn 5–5.7 per year over that extensive period.

Still, the recommendations reflected a carefully balanced compromise. The members of the commission and many observers, including the prime ministers of the affected federal states, were adamant that the federal government needed to implement the exact recommendations promptly and without deviation, but that is not what happened.

The recommendations regarding structural policy were implemented relatively quickly. The federal government adopted the draft of the law on supporting structural change in coal regions already in August 2019. Formal parliamentary adoption was supposed to coincide with the adoption of the coal phase-out law covering the energy policy aspects of the recommendations. This, however, was significantly delayed. Both the law for supporting structural change in coal regions and the coal phase-out law were adopted in July 2020, more than one year after the conclusion of the coal commission.

These delays already rendered some of the short-term measures proposed to close the gap for the 2020 target obsolete. Also, in May 2020 the newly built Datteln 4 power plant began regular operations (Handelsblatt 2020) thus violating the recommendation for a moratorium on new coal infrastructure. The actual phase-out law also no longer foresees a linear and continuous reduction pathway with a substantial intermediate step in 2025.

These deviations led 8 out of 28 members of the coal commission to issue a statement in which they harshly criticize the implementation of the coal phase-out law.

Climate protection was already taken into account insufficiently in the coal commission. It is irresponsible to extend this agreement further and damage climate protection. The social peace achieved by the compromise is a valuable asset that must not be given up lightly.

(Praetorius et al. 2020, 4; see also Grothus and Setton 2020)

This chapter employs a political economy analysis based on the framework developed by Jakob et al. (2020) explained in Chapter 1 to uncover the role of key actors, their interest and the ecological, socioeconomic and political-institutional context in which the political struggle for phasing out coal played out. This political economy lens will help us to answer the questions, why the German coal phase-out was scheduled so late and why it was so expensive.

The analysis builds on a total of 18 semi-structured interviews with 19 individuals covering a wide range of stakeholders, most of them being part of the coal commission (see Table 2.1).¹

Table 2.1 Overview of interviews held between March and August 2020

<i>Code</i>	<i>No. of interviews</i>	<i>Description</i>
pnm	2	Policy maker national: Ministry of Environment, Ministry of Economy
pmr	3	Policy maker regional: state-level ministries (2), municipality in the region (1)
pean	4	Private economic actors (national): utilities (2), industry associations (2)
san	10	Societal actors (national): environmental NGOs (2), local initiatives (2), trade unions (5), research organizations (1)

National context

Historical legacies

Germany has a long history of hard coal and lignite utilization. At its peak in 1955, the hard coal industry employed almost 600,000 people in mining; the last remaining mine was closed at the end of 2018. For lignite, it was more than 160,000 at the peak in 1985 and around 20,000 in 2019 (including employees in power plants) (Brauers et al. 2020). The share of coal in the gross power production has gone down over the last decades to 91.7 TWh or 16.3% from lignite and 42.5 TWh or 7.5% from hard coal in 2020 (Appunn et al. 2020). Although renewable energy share in gross power consumption is at 46.2% in 2020 (Hein et al. 2021), lignite is sometimes still referred to as the only remaining domestic energy source in Germany (Kiyar and Wittneben 2015).

The German electricity market was opened up for market liberalization with the German Energy Industry Act in 1998. After several mergers, four dominant utility companies (“the Big Four”) emerged: E.ON AG, RWE AG, EnBW AG and Vattenfall GmbH (later LEAG).² The portfolio of the Big Four continues to be dominated by fossil-fuelled and nuclear power plants. Especially in the first years after the liberalization, those four companies only very reluctantly invested in renewable energies (Hirschl et al. 2011) despite generous incentives provided according to the Renewable Energy Sources Act (EEG) introduced in 2000.

The Fukushima Daiichi nuclear disaster in March 2011 meant another decisive shift for German energy policy (Kiyar 2014; Hermwille 2016). Only half a year prior to the accident the German government had produced an *Energy Concept* which formulated mid- and long-term emission reduction targets for 2030 (–55%), 2040 (–70%) and 2050 (between –80% and –95%) (BMW i and BMU 2010) and extended the lifetime of nuclear power stations. This latter decision was rolled back quickly after the Fukushima accident, but the climate targets were maintained.

Besides these national policies, Germany is also a member of the EU and hence subject to the framework of EU energy and climate policies. Specifically, large combustion facilities in the power and industry sectors are part of the EU Emissions Trading System (ETS). With the adoption of the “2030 Climate Action Target Plan” in December 2020, the EU has further raised the ambition of its climate target to –55% compared to 1990 levels by 2030 (EC 2020). According to several respondents, the increased ambition of the EU and consequently higher carbon prices in the EU ETS may well render the phase-out schedule obsolete and significantly accelerate the end of coal in Germany [e.g. pmn1, pmn2, pean3].

Ecological context

Germany has traditionally had a strong environmental movement. It first came to prominence in the 1970s and 1980s in the form of an early anti-nuclear

movement and has continued to hold significant political power not least through the foundation and subsequent electoral success of the Green party in Germany (Schreurs 2012; Uekötter 2014). This influence of the environmental movement has contributed to the perception, both internally and externally, of Germany being a global climate leader even when over the last decade or so, this leadership was more rhetorical than founded in actual progress (Handelsblatt 2018). Consequently, the discussion of coal phase-out was clearly framed in the context of the Paris Agreement. In fact, the call for a commission to determine the coal phase-out was first anchored politically in Germany's long-term low greenhouse gas development strategy that was submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2016. This is also reflected in the mandate of the coal commission, which clearly determines the attainment of the German emission reduction targets for 2030 as a key objective. But nuance is important here: the mandate of the coal commission referred to the German domestic climate targets, which date back as far as 2010 (BMW and BMU 2010), and consequently were not aligned with the increased ambition of the Paris Agreement.

Another important ecological context, especially during the negotiations in the coal commission, was the iconic battle for the Hambach Forest at the fringe of the Hambach lignite mine in the Rhineland. Local activists managed to mobilize some 50,000 participants demonstrating against the clearing of the forest (Aachener Nachrichten 2018) positioning the issue on the top of the political and public agenda.

Still, our respondents disagreed about the effect this had on the immediate negotiations in the coal commission. One respondent opined that at some point the protests threatened the continuation of the negotiations [pmn1], another characterized it as “accompaniment” [san1] while another stated that the protest did not play a significant role for the outcome of the negotiations [san4]. Several interviewees were annoyed by the topic of the forest [san7, pmr3, pmr1], as it was too much in the center of the discussion, “a very cleverly staged campaign” [san7].

Socioeconomic context

Generally, the political discussion on the phase-out of coal occurred during a phase of economic stability and growth which facilitated the discussions because there was a sense of resources being available for compensation [san4–6, pean3]. However, the circumstances differ significantly between the different mining areas. The Rhenish mining area is located between three economically strong urban centers (Cologne, Düsseldorf and Aachen) each with a diverse industrial base. Meanwhile, Lusatia, the other major German lignite mining area is a peripheral and rural region with only limited industrial activity not directly related to coal (Stognief et al. 2019; Oei et al. 2019). This much more dire prospect of the Eastern German mining regions has been highlighted by almost all respondents.

This is further compounded by the Eastern German legacy of transformation after the German unification in the early 1990s. In 1990, then German Chancellor Helmut Kohl famously promised “blooming landscapes” in Eastern Germany in an attempt to soothe the concerns of citizens of the late German Democratic Republic over the future of their jobs and social security (Bundesregierung der Bundesrepublik Deutschland 1990). What followed was a massive transformation and in many places outright collapse of Eastern German industries. In many instances, this transformation was managed or in the eyes of many Eastern Germans forced through by Western German experts. And the Eastern German lignite industry was no exception. Within five years after the unification, the coal industry imploded from 140,000 employees to below 40,000 and production fell by 200 million tons per year (Herpich et al. 2018). “In Lusatia, the wolf came, but not blooming landscapes” [san8]. Coal mining is the last industrial core in Lusatia, after 5,000 jobs were lost in the textile combine from one day to another and 25,000 jobs in the glass industry. The ruins of the glass industry are still standing; it reminds people of what happened [pnr3].

Consequently, the Eastern German discourse on coal transitions is marked by what can be summarized as “transformation fatigue”.

People in these regions have already been through 30 years of transformation. Some of them have had to do different jobs in their professional careers, have retrained, have reoriented, have moved, have changed their lives and do not want to have to go through another transformation now.

[san1]

For some stakeholders, the very terminology of transformation seemed to be political scorched earth [san8].

Political and institutional context

The political debate on coal was overshadowed by the rise of right-wing populism particularly in Eastern Germany [all respondents]. The far-right Alternative für Deutschland (AfD) gained strong support at the expense of established parties, particularly of the CDU, and even became the strongest party in some areas of Eastern Germany. Among other things, this upturn is also linked to the historical experience of the transformation of the Eastern German economy after 1990 (Weisskircher 2020). Populism is marked by a strong separation of “the ordinary people” vs. the outside elite (Mudde 2004). The coal phase-out being imposed on the region from Berlin, Brussels or Paris clearly resonates well with this foundation of populist attitudes. While the AfD was not involved directly in the negotiations, the fear of further strengthening the AfD was always present and had a lasting effect (see also Rosa-Luxemburg-Stiftung 2019).

Perhaps the most important institutional context for understanding the German coal phase-out is German federalism. Although the German federal

states had no formal role in the coal commission, they exerted tremendous power and were clearly a major political force in shaping both the phase-out schedule as well as the compensations for structural adjustments in the mining regions (see discussion below).

Key actors and objectives

Societal actors

Environmental groups

A key driver of the political debate on coal phase-out was the strong environmental movement. However, the environmental movement is not a uniform block, but a rather heterogeneous alliance [san3, san4, pmr1, san7]. It includes organizations such as Greenpeace with a focus on broad ecological issues and climate change as a systemic issue, as well as organizations with a much narrower focus on the conservation of particular ecosystems. Part of the wider environmental coalition were also local groups such as “Alle Dörfer bleiben” fighting to save those villages falling victim to the expansion of the open cast mines [san1, san10]. The main objectives of the environmental movement are to accelerate the phase-out of coal in line with the Paris Agreement’s 1.5°C goal and to safeguard local habitats (most saliently the Hambach Forest, see above) and villages. Some of the more radical actors also called for a more fundamental “system change” calling capitalism itself in question [san2, san3, san8, san9].

Closely associated with the environmental groups were several environmentally oriented research organizations that have conducted a host of studies covering nearly all aspects of the energy transition in general and coal phase-out in particular (Leipprand et al. 2017). This knowledge was the foundation for an objective and fact-based debate [san1, pean1, pean4].

Trade unions

Organized labor played a major role, in part in collaboration with environmental groups, in part in opposition to them. As one respondent put it: “the trade unions need to manage a balancing act between social responsibility for climate protection, and on the other hand responsibility for the employees, not only in the coal industry itself but also in the energy-intensive industry” [pmr2]. But not all jobs are created equal: jobs in the coal industry are particularly well-paid – a shift manager’s wage in the German lignite sector can be comparable to a university professor’s pay [san4, pean1, pmr3]. Also, they have many other benefits and many workers are unionized [san5, san6]. Yet, unions also recognize that the fight cannot be about salvaging the same jobs, but to create adequate alternative employment [san8]. Moreover, the unions were concerned about jobs in other energy-intensive industries that may be threatened by increased power prices as a result of coal phase-out.

Three labor organizations were represented in the coal commission: the mining, chemical and energy industry trade union (IGBCE) representing the workers in the mines and heavy industry (except steel). For IGBCE, coal phase-out may be an existential question, at least on the level of some of its local groups. Also represented was Verdi, the union of the service industry and Germany's largest trade union. Verdi's constituents will also be affected indirectly, if coal phase-out leads to significant economic downturn in the mining regions. On the other hand, Verdi represents many of the potential alternative jobs mentioned above. Finally, Deutscher Gewerkschaftsbund (DGB), the umbrella organization of German trade unions, was also represented.

Due to the diverse interests represented in the labor movement, many environmental NGOs had hoped to form a coalition with more progressive labor unions and isolate those interests that wanted to slow down the phase-out (especially in the IGBCE) [e.g. pmn1, san4]. However, organized labor invested heavily in coordination between the different unions as well as between their respective local, regional and national organizations and successfully managed to speak with one voice [san1, san5, san6, pmn2], and that voice was dominated by the IGBCE's position "that no one [of the employees in the coal industry] should fall into the void" [san7, pean4, pmr1]. Particularly, the IGBCE's representative Michael Vassiliadis with his long-term negotiation experience was characterized as "as a power in his own right" [pean1].

Industry

Several industry associations were involved in the discussions, most notably the Federation of German Industries (BDI) who previously also participated in German energy policy debates inter alia by commissioning studies outlining ambitious pathways (BCG and Prognos 2018). Concerning the coal phase-out their main objective was about maintaining affordable electricity prices potentially impinging on industrial competitiveness and particularly about secure electricity supply [san2–6, pean3] and the future of the employees in the coal industry [san7, pean4, pmr1]. However, industry representatives overall seem to have embraced or at least accepted the long-term need to decarbonize and achieve climate neutrality [pean3], a surprising deviation from previous analyses that saw German industry associations as strong defenders of the status quo (Leipprand and Flachsland 2018).

Utilities

Utilities are an obvious group of actors relevant for coal phase-out. But again, the group of actors is more diverse than it might seem. Being directly affected, RWE and LEAG, the two major utilities running the lignite mines and power plants, were not directly represented in the coal commission [pean1]. The two utilities were only represented indirectly by the German Association of Energy and Water Industries (BDEW) which also represents many smaller energy

companies, many of which are heavily invested in renewable energy and natural gas [pean1]. The same holds for the German Association of Local Public Utilities (VKU). Notably, the operators of hard coal power plants were not particularly vocal in the phase-out negotiations and hence were considered as one of the losers of the phase-out [e.g. pean3].

Again, the objectives of the utilities were diverse. RWE and LEAG were obviously interested in extending the coal production, not necessarily because they opposed the phase-out per se, but because they wanted to maximize compensation payments [san10]. RWE has been characterized as a company with strong foothold but also strong responsibility in the region. One respondent has described it as a social contract: RWE will mine lignite and the region endures the side effects, including ecological damage and relocation. On the other hand, RWE invests in, for example, cultural activities and allows for a degree of participation [san2]. Moreover, RWE is closely linked to several municipalities in the Rhineland and in the Ruhr area (16% of RWE still being in the hands of municipal shareholders), and with these shares in the company they relied on dividends for part of the regular budgets in the past [pmr2, pmn1, san2, san3, pean4]. But most importantly, perhaps, RWE has started to develop alternative business models, has invested in renewable energies internationally [pean4] and intends to stay in the energy business and continue to operate also in the region [pmr2].

Meanwhile, LEAG is owned by a Czech financial investor and to date has developed much less of a proactive vision for its future beyond coal. According to one respondent, the investors of LEAG never intended to make money out of the coal business but from withdrawing capital and extorting financial support from the state [san3] (see also Greenpeace 2018). Even if this is true for the investors, it does not necessarily hold for all of LEAG's employees, many of whom have deep roots in the region and are genuinely concerned about the economic and social outlook of the region [pean4]. Like RWE, LEAG maintains close ties with regional governments. A case in point is the appointment of Stanislaw Tillich, former Prime Minister of Saxony and cochair of the coal commission, as LEAG's chairman of the board only months after the conclusion of the coal commission [san3, san4].

Political actors

Political parties

A striking result of our interviews is the fact that none of our respondents highlighted the role of the political parties. Political parties did not play a very overt and strategic role, because the conflict lines did not seem to fall *between* but *within* the major political parties, at least the SPD and CDU. This conflict made it impossible for the government to resolve the issue on its own and hence made the coal commission necessary in the first place [san4].

While the major political parties did not engage openly in the conflict, that does not mean that party politics did not play an important role in the process.

However, these politics played out mostly behind closed doors within the various federal and state-level ministries involved.

Perhaps an exemption from the rule is the far-right populist AfD. While the AfD played hardly an active role in the political debate, it cast a long shadow over the negotiations. Their political opponents feared that a too ambitious phase-out schedule would drive some voters toward the AfD [pnn1]. The AfD was also perceived as a threat to the trade unions labeling them as traitors of the working class [san8, san3].

Federal government

The political economy of coal in Germany can only be considered in the multi-level governance system. Germany's climate targets must be seen in the context of the EU Nationally Determined Contributions (NDC) and the EU ETS is the key governance instrument in the energy sector. In fact, as one respondent put it: "The whole idea started in a situation where many people realized that the languishing ETS with its low carbon price won't turn the tide for coal" [san1]. However, within the coal commission and also in the public discourse around it, the European dimension played hardly any role [e.g. san3, pmr2, pean3]. The recent uptake of carbon prices only set in during the final phase of the coal commission. After the commission concluded, it became clear that some of the hard-fought phase-out schedules may actually be obsolete [pean2, pmn1, pmn2] (see also Popp and Reitzenstein 2020) and the coal phase-out law became a guarantee or bailout for power plant operators [san1, pean3, san9].

Despite this backdrop, the battle for coal phase-out was fought on the national level. For the German government, the issue was at the intersection of competencies of two ministries. The Ministry of the Environment (BMU; led by the Social Democratic Party – SPD) is in charge of climate policy and has developed the German long-term low emissions development strategy (Klimaschutzplan 2050) for the first time specifying sectoral mitigation targets and recommending the coal commission. Their objective was first and foremost to safeguard that Germany achieves both its domestic targets as well as international commitments. Meanwhile, the Ministry of the Economy (BMWi; led by the CDU) is in charge of energy issues, energy-intensive industries and matters related to structural change and hence was also in charge of the coal commission. While formally, the BMWi also heeded the German domestic climate targets, there were also other more subtle interests at play within the CDU.

The two ministries cooperated well in the initial phase when designing the mandate for the coal commission and selecting its members [pmn1]. But toward the end of the commission and especially in the process of the implementation of its recommendations, nearly all respondents expressed their frustration with delays in the BMWi, "intolerable" [pean3] public consultation procedures for the draft laws with a deadline of just 24 hours, and the significant deviations from the original recommendations [e.g. pean3, san1, san8, san9]. According to respondents from all constituents, these delays and deviations were the result of

a conflict within the CDU where many Eastern German legislators were afraid of a populist backlash [e.g. pmn1, pmn2, san1, san8]. On the other hand, some members of the federal government might have speculated that political resistance against coal phase-out from the Eastern German state governments might wane with new political constellations after the state elections in September 2019 [pean2].

Notable is also that during the negotiations of the commission, the Ministry of Finance (BMF) was involved only on the margins. While there was some degree of coordination between the leading federal ministries BMWi and BMU on the one hand and the BMF on the other [san1], it did not participate actively in the negotiations. This is particularly striking because the mandate of the coal commission did not include a budget restriction [san1, pmn2, pean3]. Consequently, the bargaining space between the diverse interests was unrestricted at one particular point. And apparently, not all financial aspects were consulted with BMF *ex ante*. For example, the issue of buying up excess emission permits in the EU ETS that result from the early phase-out of coal was supposedly not discussed in detail with the BMF before the conclusion of the coal commission, according to one insider [san1].

State-level governments

Below the national level, the Federal States (Bundesländer) played a powerful role in the coal phase-out decisions. Not only were their interests represented by two of the four coleads of the commission by two former state-level minister-presidents [san4] (alongside a researcher and a former federal minister and current executive of Deutsche Bahn). But despite having no official role in the coal commission, senior political personnel of all relevant states (North Rhine-Westphalia, Saxony, Saxony-Anhalt and Brandenburg) actively participated in all meetings of the commission [san1, san4, pean2] to the extent that one state-level representative stated “I definitely see myself as part of the commission and I stand by all of its results” [pmr2]. This strategic and high-level engagement contrasts starkly with the involvement of the federal government who was not as engaged in the commission and criticized for weak leadership by some respondents [san5, san6, san8, pean2].

The main objective of the state-level governments was to make sure that their respective territories would not be deindustrialized and receive adequate compensation and funding to adapt to the imminent structural changes. However, they differed particularly in the way they opposed or embraced changes. Perhaps also due to better starting conditions, respondents observed relatively little hesitation but willingness to engage in shaping the fate of the mining region beyond coal in North Rhine-Westphalia [san1, san4]. Meanwhile, the state governments in the East of Germany were looking to delay the phase-out, to portray it in the grimmest shades of color [san1, pean2] and marked by an “unwillingness to shape the change” [san4, also san1, san3], at least initially. As Haas and Gürtler (2019) point out, despite different party affiliations, the

Eastern German prime ministers formed a coalition and exerted strong influence on the negotiation process. They could wield this power also due to the looming state-level elections in both Saxony and Brandenburg using the fear of strong competition of the far-right AfD as a lever. Moreover, they could follow a particularly aggressive negotiating strategy, because unlike most other involved actors, for them the failure of the commission seemed to be not the preferred but an acceptable outcome [san1].

Two striking examples show how the state-level governments exerted this power. The coal commission was already close to adopting its final report in November 2018, in line with its original schedule. Having no formal right to intervene in the commission itself, the prime ministers met with Chancellor Merkel and successfully requested an extension of the commission mandate (ZEIT Online 2018) [pmr3, pean2]. Even more striking is that according to one of the respondents, prime ministers even intervened on behalf of the utilities in the negotiations on compensation between the lignite power plant operators and the federal government. “You think you are negotiating with power plant operators, but de facto there are still prime ministers negotiating in the background, or something like that, in order to push through regional interests” [pmn2].

Local authorities

Local authorities spoke on behalf of the coal regions. The authorities from the Lusatia region emphasized that the region has the “worst preconditions to successfully shape this structural change. It is always important not only to shape structural change, but to shape it successfully” [pmr1]. Demographic change, the rising of the far-right party AfD (see below) and the shutdown of important industries in the wake of the reunification of Germany have taken their toll on the region. Correspondingly, their main objectives are to get recognition for the dire situation of the region, to develop new visions and, especially, to receive financial support to implement those visions [pmr1, pmr3]. As an achievement of the commission process, one pointed out that they are closely networking with actors in the other coal regions [pmr1].

Discussion and conclusions

The public debate on coal phase-out was highly contentious, even heated, particularly during the massive protests in the Hambach Forest. But the interviews highlighted that there were no clear negotiating blocks and polarized confrontations in the coal commission. When asked about his opponents in the political conflict, one interviewee [san4] highlighted that this term was unfitting for the situation and another [pean2] highlighted that a vast majority of actors were interested in the resolution of the conflict and there were overlapping objectives between all involved actors. All seem to have accepted the mandate of the commission, namely to ensure that Germany will meet its climate

change objectives. Still, respondents highlighted the high degree of emotionality of the debate [pmn2, san8].

While the analysis did not reveal any directly opposed objectives, their prioritization varied distinctly between the main actors:

- The **environmental objective of meeting the German climate change objectives** was accepted by all actors [pean2], but while especially the environmental groups considered the Paris Agreement and the 1.5°C target as a benchmark, most others considered much less stringent German domestic target as a condition for success.
- The **regional economy objective of supporting structural adjustments** in the coal regions was carried by a broad alliance of actors. For trade unions, it meant to compensate coal workers and create opportunities for other sectors. For utilities, it meant to delay change and maximize compensation payments. And for regional and local governments, it meant maximizing support for structural change.
- The **industrial competitiveness objective of maintaining secure and low-cost electricity supply** for the wider industrial economy was again supported by a wide range of actors, most prominently by the various industry associations as well as the BMWi and the state-level government of North Rhine-Westphalia, an industrial powerhouse also beyond the coal industry.
- Finally, a less overt **political objective of keeping the far-right AfD in check**, particularly in Eastern Germany, was shared by all surveyed actors but prioritized strongly by Eastern German state governments as well as within the federal government, particularly the BMWi.

In this chapter, we set out to assess why the German coal phase-out is scheduled so late and why it is so expensive. The main reason for this is the dominance of the regional economy objective over the other objectives. First, the proponents of the regional economy objective were able to leverage strong support also by those actors most concerned about the political objective of keeping the AfD in check. The AfD is particularly strong in the Eastern German lignite regions and it rejects the coal phase-out as such [pmr1]. Owing in part to the history of transformation of Eastern German regions in the aftermath of the German reunification, there is deep scepticism and “transformation fatigue” among the population. The coal phase-out is not accepted in the population in the Eastern coal regions; it’s tolerated, they endure it but policy did fail to make the issue transparent and has not transformed it into a regional issue [pmr3]. The late implementation of the structural change and coal phase-out laws was hard to understand and criticized by all respondents, but cause for particularly bitter resentments in the Eastern coal regions [pmr1, pean1]. A slower phase-out schedule and strong support for the regions were seen by many powerful actors as an antidote to the growing populist movement [pean1].

Second, there was a friendly coexistence with the proponents of the industrial competitiveness objective. Currently, coal-based power generation ensures secure and cost-effective supply for a competitive industrial economy. Maintaining this status quo for a little longer is therefore well-aligned with the objective. On the other hand, the economic competitiveness objective played a secondary role only, because a wide range of scientific studies showed that a faster phase-out schedule also does not necessarily threaten security of supply even when considering the simultaneous nuclear phase-out (Pietroni et al. 2017; Kopiske and Gerhardt 2018; Climate Analytics 2018; Agora Energiewende 2017).

Finally, a late coal phase-out is obviously at odds with the environmental objective. However, this objective and its main proponents were in a sense muted by the way in which the objective was included in the mandate of the coal commission, which defined the dated German domestic climate targets as the benchmark for success. Discussing the adequacy of this target in the light of the more ambitious 1.5°C target of the Paris Agreement was out of bounds within the coal commission and would have thwarted any attempt to achieve a consensus according to some of our respondents [e.g. san1]. And the less stringent domestic climate targets left enough leeway to adopt a relatively slow phase-out schedule. Also, environmental groups generally supported the argument for structural support for the coal regions, albeit not as an argument to delay but to accelerate coal phase-out (see also Leipprand and Flachsland 2018).

Another reason for the late date and high costs of the phase-out was that the proponents of the regional economy objective were able to benefit from the institutional setup of the coal commission as well as the German federal system. *Prima facie* one could expect that subnational governments were sidelined in the process as they were not included formally in the coal commission. Yet, they managed to exert influence both inside and outside the commission in at least three ways. First, their interests were in part reflected inside of the commission by two of its chairs, former prime ministers of Saxony and Brandenburg respectively. In the words of one of our respondents, they “had completely dropped out of their role as chairmen. At 12:30 a.m. (of the final night of negotiations) they sang the Song of Songs of the Culture of Coal” [san1]. Second, while not being formal members, high-level representatives of the affected states participated in all meetings. They did not have the right to vote on the final report, but they made sure that their interests were nevertheless reflected [pmr2, san4, pean2]. Their success surprised even their counterparts from the federal government [pmn2]. They also benefited from the negotiation dynamics and the less than transparent way in which the negotiations were conducted. Previous drafts of the commission report had proposed structural funding of € bn 1 per annum for 20 years. But during the final day of the negotiations that figure was changed to two billion. This increase was never debated in the plenary of the commission [san4]. This was clearly enabled by the absence of budget constraint in the mandate of the commission as well as the lack of direct involvement of the BMF. Finally, the prime ministers intervened at the highest

political level with Chancellor Merkel to demand an extension of the mandate of the commission when nearing the original deadline, they were unsatisfied with the results particularly with regards to the financial support provided for the coal regions.

Overall, the German experience is perhaps not exemplary in how a phase-out decision should be achieved, but it certainly is exemplary of what to expect. While the eventual end of coal mining and utilization in Germany now seems to be widely accepted, the pace of phasing out coal was and still is highly contested, and it will almost certainly be in every other country. Our analysis of the political economy of coal in Germany has laid bare the main drivers and avenues of power that the key actors used to negotiate what is neither a cheap nor a swift goodbye to coal.

Appendix

This chapter contains supplementary online material at www.mcc-berlin.net/pecoal/ch02.

Notes

- 1 The interview guidelines for the semi-structured interviews are available online as supplementary material.
- 2 In 2016 Vattenfall sold its lignite assets to Czech energy conglomerate EPH and PPF investment group which subsequently formed a subsidiary LEAG to operate the Eastern German coal mines and power plants.

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