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## **Lusatia and the Coal Conundrum: The Lived Experience of the German *Energiewende***

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### **Abstract**

The German *Energiewende*, or energy transition, is an ambitious suite of policy measures which aim to decarbonize the economy and achieve an almost complete transition to an energy system based on renewable energy by mid-century. This article contends that the energy transition is also a social process. We develop a provisional local ethnography of the *Energiewende*, an account of the lived experience of this social process from the perspective of villagers in Atterwasch, Kerkwitz and Grabko, in the region of Lusatia in Eastern Germany. Their experiences are particularly salient, since their villages are facing demolition to make way for the expansion of the nearby Jänschwalde coal mine. The villagers' struggle to defend their homes

highlights a fundamental contradiction in the energy transition, sometimes referred to as the “coal conundrum”. The contest over the future of coal in Lusatia can be seen as a struggle to control key cultural ‘scripts’ or narratives, of home, belonging, ecological modernization, climate change, and democratic deficit. Our research suggests that any resolution of the coal conundrum, and effective implementation of the *Energiewende*, must be informed by an understanding of these scripts, and how they underpin the motivations and mentalities of different social actors.

### **Keywords**

Energiewende, energy transition, coal, renewable energy, Lusatia, climate change, energy policy

### **Word Count**

9973 words

## **1. Introduction.**

The common denominator must surely be to encourage progress and development in our region. The common denominator is climate policy. The very same climate policy which our Federal government has promulgated: onwards with renewable energy! That’s already a fact here! You can see it right here on my farm in Atterwasch. [...]I mean the solar panels, I mean our windmill, I mean our electric car. What my family and I talk about, we live as well. We’re living it [the *Energiewende*]. We don’t just talk about it, we live it. (Monika Schulz-Höpfner, Interview Atterwasch, September 2015 TM)

A small village in Lusatia, a region in Eastern Germany close to the Polish border, may seem an unlikely location from which to consider the global challenge of climate change. Atterwasch, and the neighbouring villages of Kerkwitz and Grabko, have histories stretching back hundreds of years; the oldest part of the parish church of Atterwasch dates back to 1294, while Kerkwitz recently celebrated the 555<sup>th</sup> anniversary of its first mention in official records (Schatte (ed.), 2012). Yet these villages, and the surrounding countryside, also display the physical manifestations of a particular form of technological modernity. The roof of the parish rectory, next to the church in Atterwasch, is equipped with a bank of solar panels, an innovation which was recently recognized with an “Ecumenical Environmental Award” conferred by the Ecumenical Council of Berlin-Brandenburg (*Märkischer Bote*, 25.9.2015). The turbines of a small wind farm situated a few kilometres away are clearly visible from the main street of Atterwasch, and the village also has a bio-gas plant operated by a local farmer, Ulrich Schulz.

These small-scale renewable energy projects embody at a local level what has been described as “one of the most ambitious national energy transition initiatives worldwide” (Moss et al, 2014, 1). This is the the German *Energiewende* or “energy transition”, a comprehensive policy framework which sets a target of 35 percent of national electricity generation to be provided by renewables by 2020, and 80% by 2050 (Bundesregierung, 2011, Röttgen 2013). The energy transition also commits Germany to a phase-out of all currently operating nuclear power plants by 2022 (Bundesregierung, 2011). Germany aims to reduce greenhouse gas emissions by 40% by 2020 (relative to 1990 levels), and by 80-95% by 2050 (Röttgen 2013). Felix Christian Matthes describes the long-term ambition of the energy transition as “full decarbonization of the economy” by mid-century and “the transition to an energy system in which energy supply is

almost fully based on renewable energies (Fabra et al, 2015, 51). However, the *Energiewende* is not simply a set of policy instruments, but also a social process; Ottmar Edenhofer, co-chair of working group III of the IPCC , has characterized it as “one of the greatest social experiments there has ever been in Germany, comparable with the process of reunification” (*Focus-Online*, 2011).

It is this social process which is the focus of the current article. We develop a provisional local ethnography of the *Energiewende*, an account of the lived experience of this social experiment from the perspective of villagers in Atterwasch, Kerkwitz and Grabko. Their experiences are particularly salient, since their villages are facing demolition to make way for the expansion of a nearby open-cut brown coal mine. Since 2007, the Swedish state-owned electricity company Vattenfall has been seeking approval from the State governments of Brandenburg and Saxony to expand existing open-cut brown coal mines, or open new mines, at five locations in Lusatia. If approved, they would allow Vattenfall to access and mine an estimated total of about 750 million tonnes of brown coal over the life of the mines (Vattenfall, 2012, p13 , Klima-Allianz, 2015). Nearly all this coal would be burnt in local coal-fired power plants to generate electricity. If all five mines go ahead, the three villages mentioned above – Kerkwitz, Atterwasch and Grabko – would be demolished or rendered uninhabitable, along with a further three villages elsewhere in Lusatia. Altogether around 900 residents would need to be relocated, and large areas of farmland and forest would be swallowed up by the mines (Klima-Allianz, 2015).

For the last eight years, residents of the villages have been campaigning to stop the mine extensions. Many of the villagers see this campaign as a struggle to defend not only their homes, farms and fields, but the goals of the *Energiewende*. Their struggle highlights a fundamental

contradiction in the energy transformation, one which Arne Jungjohann and Craig Morris describe in recent analysis for the Heinrich Böll Foundation as the “coal conundrum” (Jungjohann & Morris, 2014, 4). The coal conundrum can be expressed as follows: while renewables’ share of the German energy mix has been growing, so too has that of brown coal (lignite), one of the most polluting and carbon-intensive fossil fuels of all. As Ortwin Renn argues elsewhere in this Special Issue, a paradoxical situation has emerged: “the more Germany invested in the energy transition and poured more than 24 billion Euros into energy subsidies [...], the more the amount of Co<sub>2</sub> increased due to the fact that among the fossil fuel providers only lignite coal was able to remain competitive in the energy market” (Renn, 2015, 15).

Germany is the world’s largest producer of lignite, and overall, coal (both lignite and metallurgical coal) accounts for 43.6% of current electricity generation and 25.1% of primary energy consumption (AG Energiebilanzen, 2014). Since the passing of the energy transformation laws in 2011 and the beginning of the nuclear phaseout, consumption of brown coal for electricity generation has actually increased, from 25.4 per cent in 2013 to 25.6 per cent in 2014 (Agora Energiewende 2015, Vasagar 2015). This has led some commentators to argue that coal has made a “comeback” (Schultz, 2012, McCown, 2013). As Jungjohann & Morris ask rhetorically in their analysis of the coal conundrum, “is Germany building new coal plants to replace nuclear despite the country’s green ambitions?” (Jungjohann & Morris, 2014, 4).

There has been vigorous debate amongst policy analysts about the coal conundrum – sometimes referred to as the “dark side” of the energy transformation – and the future role of coal and coal-

fired power in the German electricity market (Gawel et al 2013, Dehmer, 2014, Kunze & Lehmann, 2015, Fabra et al, 2015). This debate tends to focus on the energy mix and energy policy at the national level. At a local level, in Lusatia where our study is based, the coal industry is deeply imbricated in local political and economic structures. The State governments of Brandenburg and Saxony have indicated strong in-principle support for the mine extensions, and a continuing role for coal mining and coal-fired power in the regional economy.

The contest over coal in Lusatia has polarized local populations, and led many to question whether or not policy makers are truly committed to the goals of the *Energiewende*. Regional and national environmental organizations such as Greenpeace and Friends of the Earth have become involved in local campaigns, and protests both supporting and opposing the mine extensions have attracted national media attention.

In this highly charged and extremely fluid social setting, we have been conducting an ethnographic study of the local contestation of coal since mid-2014. For many of the actors involved in this contestation, the *Energiewende* is not simply an abstract policy framework; it is already a part of the texture of everyday life, and provides an important background script for their actions and motivations. This paper focuses on what the energy transition means in concrete terms for local protagonists, in a region where its aims collide with entrenched reliance on brown coal. Our approach starts from the basic premise that implementing the *Energiewende*, and the climate protection goals which form an important part of its underlying motivation, is not simply a technocratic issue, but also a sociopolitical question. As Ortwin Renn has noted, “a better understanding of the human drivers for initiating, promoting, or hindering political change [in the arena of climate action] is as crucial to effective decision-making as are the findings of the natural and climate sciences.” (Renn, 2011, 165).

## 1.2 The *Energiewende* and ecological modernization: a brief history

As Renn notes elsewhere in this issue, the Fukushima nuclear accident was a crucial turning point in the evolution of German energy policy, and had an immediate effect on public debate about the future of nuclear power (Renn, 2015, 13). However, the energy transition itself needs to be seen as the continuation of a policy approach and process of self-definition which has been unfolding at least since the early 1990s. Felix Christian Matthes points out that the German term *Energiewende* was originally coined in 1980, but did not become the “official headline of the new German energy paradigm” until 2011 (Fabra et al, 2015, 51). There were a number of important milestones on what Matthes calls the “long political road” to the *Energiewende*, including the passing of the Renewable Energy Law (Erneuerbare-Energien-Gesetz (EEG)) in 2000, and the 2010 Energy and Climate Policy Package, which set out Germany’s ambitious emissions reduction targets (ibid.) It was the decision for an exit from nuclear energy in 2011, however, which turned the energy transition into an “official headline”. Unlike many such headlines, the energy transition has had bipartisan support from the major political parties in Germany, the CDU (Christian Democrats), and the Social Democrats (SPD), as well as the Greens and the Left Party (Die Linke), and has been greeted positively by major environmental organizations such as Greenpeace and the German Climate Alliance (Klima Allianz Deutschland). Public support for the *Energiewende* was strong from the beginning, and has largely remained so (Amelang, 2015), but there were also early doubts as to whether the Federal government had the political will and the means to implement this ambitious transformation (Dehmer 2013, 72). As Buchan (2012) noted just a year after the instigation of the *Energiewende*, “Germany has set itself an extraordinary challenge in climate and energy policy –

to move away from fossil fuels and simultaneously to abandon nuclear power, while remaining and growing as a major industrial economy” (Buchan 2012, 2).

Internationally, the German *Energiewende* has been seen as a laboratory of decarbonization. As early as 2012, Mark Lewis, an analyst at Deutsche Bank, told the *Economist* that Germany was alone in the industrialized world in possessing “the means and will to achieve a staggering transformation of the energy infrastructure.” (*Economist*, 2012). By one set of measures, this would appear to be true. In 2014, 26% of the electricity generated in Germany came from renewable sources (Agora Energiewende 2015, Vasagar 2015), and for a brief period on the 25<sup>th</sup> July 2015, during one of the hottest summers on record, 78% of the country’s electricity consumption was met by renewables (Morris 2015a). The country appears well on track to meet its renewable energy targets by 2020. As Oliver Geden and Severin Fischer have pointed out, however, Germany’s desire to take a leading role in energy and climate politics has increasingly found itself in conflict with the slower pace and less ambitious targets of EU policy, by which it is ultimately constrained (Geden & Fischer, 2014).

Our local ethnography of the German energy transition frames it explicitly as a process of ecological modernization. While ecological modernization is itself a contested concept, it has been the cornerstone of German climate policy and the impulse behind Germany’s investment in renewables for well over a decade (Hillebrand 2013). According to Rainer Hillebrand,

Ecological modernization conceptualizes innovation-driven economic growth as a means to reduce the environmental impact of production and consumption, thereby transforming the trade-off between ecology and economy into a positive-sum game. (Hillebrand, 2013, 665)



Ecological modernization “emphasizes the ‘win-win’ opportunities of technological progress in industrialized countries . . . in contrast to environmental approaches which stress the negative ecological impact of economic activities and the physical boundaries of economic growth” (Hillebrand, 2023, 666). As Hillebrand shows, a commitment to ecological modernization has underpinned German climate protection policy since the 1990s, and has simultaneously resulted in the creation of a “booming environmental industry” (Hillebrand, 2013, 668).

As Hillebrand points out, however, not all industries have bought into the rhetoric of ecological modernization. “Dirty” industries such as coal-based energy and the automobile industry have to bear the costs of environmental policy – in this case, the shift to a low-carbon economy – and will tend to lobby against regulation (Hillebrand, 2013, 667). Such a strategy, he argues, is “particularly promising for traditional sectors that usually employ a large number of people and hold well-established ties to the political system” (ibid.). The vigorous and ultimately successful public campaign against the “climate contribution” in 2015 is a particularly salient example of this tendency. The climate contribution (“*Klimaabgabe*”) was a proposal put forward by the Federal Minister for Economic Affairs and Energy, Sigmar Gabriel, for a levy to be paid by older, more heavily polluting coal-fired power plants. According to a recent analysis of official EU data, of the five power plants with the highest CO<sub>2</sub> emissions in Europe, four are situated in Germany (Willroth, 2015).

The climate contribution was defeated by an alliance between the coal industry, electricity generators, some unions, the state governments of Brandenburg and Saxony, and sections of the

Christian Democrat party in 2015. The defeat of the climate contribution, and its replacement by an entirely different policy instrument, the so-called “capacity reserve”, which some commentators argue will give a “golden handshake” to brown coal-fired power stations and make no contribution to Germany’s climate goals (Klimaretter 2015), again underlines the contradiction, “paradox”, or “conundrum” at the heart of the *Energiewende*, and the project of ecological modernization. Even if coal is not making a comeback, it is proving remarkable tenacious both as an energy source, and a rallying point for powerful economic and political interests in Germany. Jungjohann and Morris conclude that “lignite is in a safe position during the nuclear phaseout unless policies are changed”, and that without such changes “the market is unlikely to bring about a reduction in power production from lignite until the mid-2020s” (Jungjohann & Morris, 2014, 4).

Thus, on the one hand, Germany can rightly be seen as leading the industrialized world in its commitment to climate action through the *Energiewende*. On the other, it would appear that Germany’s exit from nuclear energy has given supporters of the coal industry a powerful pretext to frame coal, and brown coal in particular, as a transitional energy source or bridging technology on the road to future decarbonisation. Typical for this position is the view expressed by Sigmar Gabriel, Germany’s Economics Minister, that “we can’t simultaneously get out of nuclear and coal,” (Richter, 2014). Our study explores this paradox, or conundrum, through a localized ethnography of the German energy transition.

## **2. Methodology**

## **2.1 Reasons for the location of our study**

Lusatia is experiencing the coal conundrum in a particularly stark manner. Lusatia is already the second-largest brown coal mining region in Germany. According to Vattenfall's own figures, in 2012 the company produced 62.6 million tonnes of brown coal from its open-cut pits in Lusatia. Nearly all of this coal is used locally for power generation. Three coal-fired power stations in Lusatia operated by Vattenfall, together with a plant half-owned by Vattenfall in Saxony, and its gas turbine power plants, produced 58 billion kilowatt-hours of electricity in 2012 — enough to provide power to around 16 million households. Overall, Vattenfall's coal-fired power stations produced almost one-tenth of every kilowatt-hour of electricity used in Germany (Vattenfall, 2012).

As outlined above, Vattenfall has been seeking since 2007 to expand its mining operations in Lusatia. If the proposed mines and mine extensions in Lusatia go ahead, they would substantially expand the current areas being mined for lignite in Eastern Germany, and perpetuate the use of lignite as an energy source. This directly contradicts the aims of the *Energiewende*, and Germany's stated commitments to emissions reduction and global climate protection goals. Thus, Lusatia represents a social laboratory of the *Energiewende*: a rich and complex local context within which the contradictions of climate and energy policy are being played out.

## **2.2 Overview of the fieldwork and fieldsites**

Our research focusses on the villages of Kerkwitz, Atterwasch and Grabko, which will be demolished if extensions to the nearby Jänschwalde open-cut mine go ahead. The mine supplies the nearby Jänschwalde power plant, the largest brown-coal-fired power plant in Germany

(Willmroth, 2015). Around 900 residents would be relocated from the three villages<sup>i</sup>. Since August 2014 we have been documenting the contestation of the Jänschwalde mine extension by local residents, local NGOs and civil society groups, and activists and environmental organizations from outside the immediate region. As Moss et al (2014) note, there are strong reasons for a highly localized focus of this kind:

What makes the *Energiewende* special from an urban/ regional studies perspective is that it is affecting villages, cities and regions across the whole country and that these communities are responding to the challenge in very different ways. These responses are not simply of a technical nature, but reflect intense debates about how each locality stands to benefit or lose out from the *Energiewende* and how it can intervene to advance its own – and broader, collective – interests. (Moss et al, 2014, 2)

As we shall see, the residents of the affected villages believe that they have a great deal to lose if the mines go ahead; especially their homes and the communities in which they live. They and their supporters from outside the immediate region argue that the energy transition itself would be a loser in any expansion of mining. Supporters of the mines, by contrast, argue that the regional economy will collapse unless the future of the coal industry is guaranteed. A speedy exit from coal, they argue, would lead to the “deindustrialization” and “depopulation” of the region<sup>ii</sup>. They contend that demolition of villages and the forced relocation of their inhabitants is a relatively small price to pay for securing the jobs of thousands of people directly and indirectly employed by coal.

As in the other case studies from Australia and India explored in this volume, we employ mixed methods of a primarily qualitative nature. Our research in Lusatia draws on methodologies informed by ethnography, journalism, and the practice of radio documentary production. There is now a lively and extensive scholarly literature drawing connections between the methodologies of anthropology and journalism (Vesperi 2010; Singer 2009; Cramer and Devitt 2004; Hannerz 2004). According to Boyer, both "...have a minimally *translocal* and *epistemic* orientation as practices of making and communicating knowledge about the world across social and spatial distance" (Boyer 2010). Above and beyond this, journalism and ethnographic anthropology are narrative discourses (with different forms and representational registers), and both are "social analysts" (ibid.) Radio documentary production is one of the methodologies of journalism, and one which can be capable of certain kinds of "thick description" (Singer 2009). It typically involves a sustained engagement with particular individuals and their communities and life-worlds; extensive interviewing, the recording of life histories, and an attempt to communicate to the audience the ways in which those individuals construct meaning in the context of their lived experience. It may also communicate aspects of a particular life-world through non-verbal means; in other words, through sound (Aroney & Barrell, 2009).

The fieldwork on which the current article is based was carried out between August 2014 and September 2015 by the current authors, a journalism academic and radio documentary producer based at the University of Technology Sydney, and a social anthropologist currently based at the University of Halle.

The authors engaged in participant observation at a number of locations in Lusatia and conducted approximately fifty interviews with a wide range of residents, activists and organizations representing both opponents and proponents of the mine extension, including Vattenfall

employees who work in the coal mines and the Jänschwalde power plant. They attended community events and protest actions focused in Atterwasch, Kerkwitz and nearby, and at two other locations in Lusatia, Rohne and Proschim, where villages are threatened with demolition. Although the focus of our fieldwork is primarily on Kerkwitz, Atterwasch and Grabko, we have kept a watching brief on the other two sites, in part to follow networks of cooperation and solidarity between activists, and also to draw into our considerations different strategies of resistance, such as the legal challenge currently underway in relation to the Nochten II mine.

A number of our informants were interviewed several times over the last year, in order to capture their responses to the dynamic and rapidly-changing situation in Lusatia. In October 2014, shortly after we commenced our fieldwork Vattenfall announced that it would be divesting itself of all of its coal assets in Germany, which include the Jänschwalde and Cottbus-Nord open-cast mines and Jänschwalde power plant, as well as other coal mines and power plants in Brandenburg and Saxony. In September 2015 the sale was formally announced in the *Financial Times* and bids were invited from interested buyers. At the time of writing, three Czech energy concerns, CEZ, EHP and Czech Coal-Vršanská Uhelná, had openly expressed interest in acquiring them. A final decision is highly unlikely before the publication of this Special Issue. It seems likely that any further expansion of the Jänschwalde mine, the focus of our study, will at least be delayed. Most recently, Vattenfall has announced that in 2018, as part of an agreement with the Federal government, two of the six towers in its Jänschwalde power plant will be placed on standby for four years, and subsequently decommissioned (rbb-online, 26.10.2015). Since less coal will be needed to run the power plant at this reduced capacity, there would seem to be less need for any extension of the Jänschwalde mine. Despite this, the Economic Minister of the state

of Brandenburg, Albrecht Gerber, has said it is still necessary to continue the planning process for the mine extension (rbb-online, 26.10.2015).

In such a fluid situation it would be unwise and indeed impossible to make any predictions about how the coal conundrum will be played out in Lusatia. Instead, through our ethnographic approach we explore the ways in which those caught up in the contestation of coal make sense of their experiences, and how they relate these to the “meta-narrative” of the *Energiewende*.

### **2.3 The concept of “scripts”**

The concept of “scripts” has proven a particularly useful way of framing and organizing the ethnographic material we have gathered. According to Vanclay and Endicott, the concept of scripts is used across a range of disciplines, but draws chiefly on cognitive psychology and symbolic interactionism (Vanclay and Endicott, 2011, 257). Their own use of the script concept draws on the latter approach, which originates in the work of the sociologist Erving Goffman and “his dramaturgical perspective of everyday life” (ibid.) Vanclay and Endicott define a script as a “culturally shared expression, story or common line of argument, or an expected unfolding of events, that ... provides a rationale or justification for a particular issue or course of action” (ibid.) They identify four types of script:

(1) a socially perceived routine or expected sequence of events; (2) a catch-phrase, metaphor or allegory that is frequently recited in response to a particular issue or situation; (3) a mini-story, narrative or parable; and (4) a commonly used line of argument that is widely invoked in response to a particular issue or situation. (Vanclay and Endicott, 2011, 257)

In their work on the expansion of coal mining in the Upper Hunter region in rural New South Wales, Connor and McManus develop the notion of scripts as “ways of speaking in everyday life

that are shared among specific cultural groups, expressing taken-for-granted knowledge and values, and thereby demonstrating and affirming personal identity and group solidarity” (McManus & Connor, 2013, 166).

Opponents and proponents of the expansion of coal mining in Lusatia invoke a range of scripts to position themselves and advance their interests. We argue that the *Energiewende* itself, as the latest phase in a continuing project of ecological modernization, functions as an important background script for these local actors, calling forth from them “a dynamic series of rhetorical responses to an intensely politicized situation” (McManus & Connor, 2013, 167). It is worth pointing out here that this script is not a simple narrative, but operates at a number of different levels. Severin Fischer argues that there are at least three possible perspectives on what the *Energiewende* actually means<sup>iii</sup>. The first of these is what he terms the societal perspective.

If you ask people in Germany what the *Energiewende* actually looks like, it’s mainly focusing on the exit from nuclear energy in the electricity sector and an increase in the share of renewable energy, mainly solar and wind. So these are the two essential parts of the energy transition in the minds of ordinary people. (Severin Fischer, Berlin, September 2015, TM)

According to Fischer, climate change and climate action do not play an important role in this everyday social meaning of the *Energiewende*. At another level there is the political perspective, held by parliamentarians and government officials, for whom the energy transition represents a highly complex matrix of different short-term and long-term targets spread across different sectors such as transportation and construction. Finally, there is the external perspective, in which Germany is seen from the outside world as “the green model driving a process of transformation” (Interview Severin Fischer, Berlin, September 2015, TM). Fischer argues that



this external perspective on the energy transition is more focused on global themes, such as its contribution to climate change and climate action.

Thus it could be argued that the script of the *Energiewende* is read differently by “ordinary people”, policy elites, and observers outside Germany. In the following discussion, we are concerned primarily with the societal meaning of the energy transition for “ordinary people”.

### **3. Results**

Our research suggests that the effective implementation of the *Energiewende* is not simply a technocratic or technological problem. Rather, it must be informed by an understanding of the motivations and mentalities of different actors, and the scripts or narratives which guide them.

We identify a number of scripts which are not necessarily discrete, but which overlap and interweave, and which are mobilized by both opponents and proponents of new coal mining. These bring into play narratives of home and identity, ecological modernization, climate change, and democratic deficit.

The contest over the future of coal in Lusatia can be seen as a struggle over who controls these narratives. In a broader sense, it is a contest between competing modernities, or competing visions of modernity; one rural, localized and post-industrial, in which the energy transition has become integrated into the fabric of rural life, and one urban, regional and industrial, in which the coal industry continues to sustain mass employment and prosperity for the “silent majority” and nourish a sense of pride and identity.

If the “coal conundrum” is to be resolved in Lusatia, and at a national level, what is needed is not so much a further set of policy recommendations, as a better understanding of the politics of the *Energiewende*; in particular the clash between the policy aims of the Federal government and the concrete politics of coal as played out at a local, regional and state government level.

## **4. Discussion**

### **4.1 Scripts of place and identity: “Heimat”/home, history and community**

The German word “Heimat” carries political and cultural resonances which its literal English translation “home” does not adequately capture. Its appropriation and deployment in the ideology of National Socialism made it a suspect category in postwar Germany (Applegate, 1990). Until today the term remains contested and subject to scrutiny and instrumentalisation. However, philosophers and intellectuals opt for a rehabilitation of “Heimat” (Türcke, 2006, Mitscherlich 1971). Furthermore, the notion that *Heimat* gains relevance in moments of loss is less contested.

*Heimat* and the loss of it have particular salience for local struggles against coal-mining in Lusatia, since, if the proposed mines and mine extensions go ahead, several hundred people will lose their homes when they are forcibly relocated and their villages demolished<sup>iv</sup>. Julia Albinos, a young woman who grew up on her family’s farm in the village of Atterwasch, but now lives and works in Berlin, recalls her feelings when she first heard the news that her village might be demolished:

My parents told me that my region, my village, could be dug up to make way for an open-cut coal mine. I was away studying in Munich at the time. That was very hard for me when I heard about it, because I just couldn't imagine that one day my village mightn't be home any more, and that I would be homeless, if the mine came. (Julia Albinos, Atterwasch, September 2015, TM)

For some residents and opponents of mining in the affected villages, notions of home and belonging reach back over many generations. Ulrich Schulz runs a family farm of 750 hectares in Atterwasch, the largest farm in the immediate region. He says his family has very deep roots in the village:

Yes, well, we have proof that our family has been here on this farm for five hundred years. During the Thirty Years War my ancestors had contact with the Swedes. At that time the church was burnt down and all the parish records with it, but then the pastor started keeping records again, and from then on every generation of our family is recorded here in the parish.

(Ulrich Schulz, Atterwasch, September 2014, TM)

It is important to point out that the threat of relocation and the loss of *Heimat* occur against the background of a recent history which is specific to this region of Eastern Germany, and which many residents and activists refer to: the demolition of villages to make way for coal mines during the Socialist period in the former German Democratic Republic (GDR). For much of the history of the GDR, brown coal (lignite) was the primary energy source. In 1981, the West German newspaper *Die Zeit* reported that the GDR was the world's largest producer of brown

coal, with an annual yield of 256 million tons, or 28 percent of total world production (Nawrocki, 1981). In 1988, when production reached its peak, 310 million tons of brown coal were mined in the GDR. Wittig (1998) describes the consequences of this heavy reliance on brown coal as “an almost unimaginable destruction of the countryside and burdening of the environment; inefficiency in the generation of energy; wastefulness in the use of energy, encouraged by misguided subsidies; and a lack of measures to compensate [dislocated] populations and rehabilitate the landscape” (Wittig, 1998, 475). By 1990 a total of 136 villages had been destroyed or devastated in Lusatia alone due to coal mining<sup>v</sup>.

For a number of our informants, this destruction of the countryside, and the demolition of villages, was a part of their living memory. Thomas Burchardt is spokesperson of the Klinger Runde, a broadly-based civil society group formed in 2007 to oppose new coal mines throughout Lusatia. Burchardt lives in the village of Drehnow, not far from the Jänschwalde power plant. As a boy of 12 growing up in the GDR, he witnessed the building of the power plant and the destruction of villages to supply it with coal:

I remember sitting on the steps of the old church which belonged to the village of Gross-Lieskow. The church was already half in ruins. A man came out, walked about 10 paces, pointed out into the flattened landscape and said “...that used to be my house right there”. (Thomas Burchardt, Kerkwitz, August 2014, TM)

Martin Dotzauer, an activist now based in Leipzig, grew up close by in Jänschwalde Ost, between the Jänschwalde power plant and the village of Kerkwitz. He describes a landscape dominated by coal-mining and coal-fired power:

The power plant was always a strong visual presence. Wherever you went in our neighbourhood and round about it was always there, this huge industrial building, with the cloud [of smoke] towering above it. I'd almost say it was a landmark. (Martin Dotzauer, Leipzig, November 2014, KM)

In the years following reunification, many of the open-cut brown coal mines were closed. According to Wittig (1998), local populations were no longer willing to accept the social and environmental impacts of mining and burning brown coal. Brown coal production in the former East fell by 33.8 percent between 1989 and 1994 as a result of the arrival of the market economy and this shift in social attitudes (Wittig, 1998, 475) A far-reaching program of ecological rehabilitation was undertaken, financed by the Federal government: abandoned coal pits were flooded, and a new, artificial countryside of man-made lakes, fields, and green belts replaced a landscape ravaged by coal mining (Pflug, 1998). Most local residents assumed that the demolition of villages and the relocation of villagers had come to an end. But this was not the case. In 2004/5, despite a prolonged campaign of resistance and legal action by residents, the village of Horno was demolished to make way for an extension of the Jänschwalde mine.

As a kid and an adolescent I rode around a lot on my bike, to the lake, through the forest, just exploring the area. I'd have a look at what was happening in the other villages. And at the time the edge of the excavation was still some little distance away from the village of Horno. Horno was the last village to be demolished. So I kind of registered that something was happening there. (Martin Dotzauer, Leipzig, November 2014, KM)

Julia Albinos recalls visiting Horno as a girl of fourteen or fifteen, just prior to its demolition.

When I saw the village after the people had moved out it was like there'd been a war. People just went to the village and picked up stuff out of the houses. That's the only way I can describe it, as though I was watching a war. (Julia Albinos, Atterwasch, September 2015, TM)

For opponents of the mine extensions, the village of Horno has become emblematic of the broken promises of politicians across the political spectrum. In 1998 Peter Wagner, Christian-democratic State chairman (CDU Landesvorsitzender) of Brandenburg declared that “Horno is certainly the last village which will have to make way for brown coal” (Krauss and Rost 1998)<sup>vi</sup>. Less than ten years later, Vattenfall announced its plans to extend its coal operations in Lusatia, potentially leading to the demolition of a further six villages.

For some opponents of the mines, the potential destruction of *Heimat* refers not just to a physical dwelling, but a cultural landscape. Thomas Schornack, Mayor of the Municipality of Nebelschütz, is a member of the ethnic Sorb minority, which has lived in Lusatia for centuries. At a “community walk” in the threatened village of Rohne in April 2015, Schornack was asked what the phrase “Horno is the last village” (“Horno ist das letzte Dorf”) means to him.

Well, it really gets to me, because it's my Sorb home (Heimat) we're talking about. It really hurts. Every village, every community that's vanished in recent years. They were simply eradicated from Lusatia. And naturally I get very emotional about that. (Thomas Schornack, Rohne, April 2015, MW)

The story of Horno has become an important script animating resistance to new mining. It mobilizes notions of home and belonging, and simultaneously reinforces a sense of shared identity in the face of betrayal by political elites. The broken promise “Horno is the last village” functions as “a catch-phrase, metaphor or allegory that is frequently cited in response to a particular issue or situation... a story, narrative or parable that has particular significance in a social group” (Vanclay and Endicott, 2011, 257). Antje Kirchner grew up in Lusatia and now lives in Cottbus. She is actively engaged in the grassroots movement against further coal mining, and says the people of Horno have inspired solidarity among protesters throughout the region:

Because they showed that you could fight. That it's worth fighting. Naturally, it's a bit of a double-edged sword, because you could say, well, the people of Horno, they fought, but they lost. But the mayor of Horno is still very active. He spoke a couple of years ago at the march which happens every year on the first weekend in January in Kerkwitz, Atterwasch and Grabko. He said “...the same thing could happen to you that happened to us, but the most important thing is that you've got to stick together. Whatever we achieved, we achieved because we stuck together”. (Antje Kirchner, Rohne, April 2015, MW)

Thus *Heimat* and the loss of home is a central organizing principle for much of the local opposition to mining, and one that is grounded in recent and concrete historical experience; in particular, a narrative of trauma associated with the story of Horno. But loss of home and identity, and the trauma engendered thereby, is also a key script mobilized by proponents of the new mines. They see the opposition to the mines as an existential threat to the future of coal mining, and the region itself. Marko Bedrich works as an electronics technician in the

Jänschwalde power plant, where he also did his apprenticeship. For Bedrich, who grew up in the nearby regional centre of Cottbus, coal is synonymous with home:

Interviewer: what does coal mean to you?

Marko: It means a great deal. In principle, it means being able to stay here in my home. Without brown coal we'd lose many, many jobs. [...] If there were no more jobs here, I'd have to move. For that reason, coal is important, because it means I can continue to live here, where I feel at home. It means I can build a house with the money that I've earned. That's very important to me.

(Marko Bedrich, Cottbus September 2015, TM)

The defence of *Heimat*— meaning not just a physical location, but an industrial culture, and a sense of shared identity rooted in a tradition of labour – is also central to the rhetoric of the pro-coal civil society group *Pro Lausitzer Braunkohle* (For Brown Coal in Lusatia). In a recent press release published online, the group declares:

We want to stay here, and we won't give up our home without a fight and an argument. [...] Lusatia has already experienced a structural collapse after reunification and we did our bit then. 200,000 people had to leave the region. Many families were torn apart. We can't let that happen again. Brown coal in Lusatia mustn't become the political football of German climate policy. (*Pro Lausitzer Braunkohle*, 22.6.2015)



Summing up, it could be said that the rhetorical contest over coal mining in Lusatia is a contest over who can most successfully claim and control the script of home and belonging. This script is rooted in the history of mining and dispossession across the region, but also specifically in the context of the Socialist period and post-Socialist transformation of Eastern Germany. To the trauma experienced by villagers who lost their homes, or might lose them in the future, pro-coal forces counterpose the collective trauma already experienced by people after reunification.

#### **4.2 The script of ecological modernization**

For many residents of the affected villages, *Heimat* is the site of a dynamic dialogue between tradition and innovation, a place where the traditions of rural life intersect with the project of ecological modernization which underpins the *Energiewende*. They do not explicitly refer to ecological modernization as a concept guiding their actions; instead, they describe the ways in which they are *living* it. Monika Schulz-Höpfner is a former mayor of the villages of Kerkwitz and Atterwasch, and was a member of the state parliament of Brandenburg from 1994 to 2014 for the Christian Democrat party. For her, the energy transition has become part of everyday life:

The common denominator must surely be to encourage progress and development in our region. The common denominator is climate policy. The very same climate policy which our Federal government has promulgated: onwards with renewable energy! That's already a fact here! You can see it right here on my farm. And when such facts already exist, you can't stick your head in the sand and ignore them. You've got to give them their due.

Interviewer: You're pointing to the solar panels there on your roof...that's what you mean when you say the facts already exist...

Monika Schulz-Höpfner: I mean the solar panels, I mean our windmill, I mean our electric car. What my family and I talk about, we live as well.

Interviewer: You're living the *Energiewende*...

Monika Schulz-Höpfner: We're living it. As a family we want to be a living example that it's possible. My husband is working on a project to enable the farms around here to be completely energy-self-sufficient, so they can supply all their own energy needs. We don't just talk about it, we live it. (Monika Schulz-Höpfner, Atterwasch, September 2015, TM)

Villagers appeal simultaneously to historical tradition and to the practical steps which local residents have taken in implementing the *Energiewende*. Roswitha Koch, a resident of Kerkwitz, traces her ancestors' roots in the village to the time of the 30 Years War, and points out proudly that the village has recently celebrated its 550<sup>th</sup> anniversary. At the same time, Koch is keen to stress that her fellow villages are investing in renewable energy:

If you look at the roofs of the houses around here – solar power is practically everywhere. A lot of the houses – definitely 30% of them, maybe more – have solar on top. Local people have done a lot for renewable energy. The fact that more and more brown coal is being burnt just doesn't make sense. There's something not right there. There's more and more renewable energy and despite that more and more brown coal gets burnt.

Interviewer: [Is this] a paradox of the *Energiewende*?

Koch: Yes.

(Roswitha Koch, Kerkwitz, January 2015, KM)

This paradox is also touched on by Mathias Berndt, the recently retired Protestant pastor of Atterwasch. When Berndt was interviewed in August 2014, he too pointed out that the energy transition is already a concrete reality in Atterwasch. Solar panels are installed on the roof of the rectory, and wind turbines are visible from Berndt's back garden. This concrete reality would be swallowed up, if the mine proceeds, by a pit beginning fifty metres from his back garden, and swallowing up the rectory, the village church, which dates back to 1294, the entire village and the landscape all the way to the river Neisse seven kilometres away.

The lake would disappear, the woods would disappear, everything would be transformed into ash-grey piles of dirt. Probably nothing of any value would grow on it for a hundred years or more. The good life that we have here with nature all around us would disappear.

(Mathias Berndt, Atterwasch, August 2014, TM).

Ulrich Schulz, whose farm lies about a hundred metres from the church, stresses the practical contribution that he and other farmers are making to the *Energiewende* – and their pragmatic reasons for doing so:

We earn our living from farming. Farming is a hard life, but it also offers many of us opportunities to get involved in renewable energy. I hope this combination of farming and renewables will help to make our business more stable. [...] The biogas plant is over there,

right next to the chicken coops, so that we can use the warmth generated by the plant to heat the coops. [...] We generate about 160kW from the biogas plant and heat the farm buildings, the farmhouse, and the coops.

Interviewer: So you're making your own contribution to the energy transition ?

Ulli Schulz. Yes, certainly. (Interview Ulrich Schulz, Atterwasch, August 2014, TM)

Not surprisingly, the proponents of the new mines tend to downplay the conflict between coal and the energy transition. Electronics technician and Vattenfall employee Marko sees no contradiction between the continuing presence of coal in the German energy mix and Germany's climate goals:

Of course climate change is a topic, and an important one. Having said that, it's a philosophical question how we should deal with it. And we say, of course we're for the *Energiewende*, we want it, and we want it to succeed in Germany. We have to make sure that we make it work, so it can be an example for the rest of the world. That's the point at which we say, we still need brown coal, as a bridging technology, which will enable us to cross over into the age of renewable energy. (Marko Bedrich, Interview Cottbus, September 2015, TM)

Bedrich believes coal-fired power stations such as Jänschwalde will be needed for decades to come, in order maintain security of supply until the German electricity grid can be extended and technical solutions found for storing electricity generated by renewables. Only if the energy transition is seen to be financially sustainable, he argues, will it be emulated elsewhere:

We [Germans] are not the biggest emitters. The USA and China are bigger. And for that reason it would be sensible and clever, to shape the *Energiewende* so that it is financially successful as well. So that there are no financial risks attached, and other countries can copy us. And if other countries copy us, then we've won. Then we can really change the world. (Marko Bedrich, Interview Cottbus September 2015, TM)

Generally speaking, even interviewees who oppose the mine extensions do not support an immediate exit from coal mining. Rather, they argue that existing reserves of coal – for example, in the Jänschwalde mine – are sufficient to supply coal-fired power plants during the process of transformation, and thus no new mines or mine extensions are necessary.

The clear message is that we have to restructure. It's going to be a long process. In my view we'll need at least thirty years. [...] You hear people mouthing sentences like “Yes, we want renewable energy, but for the time being we need coal”. In fact what they really mean is “We just want to go on burning coal”. (Interview Monika Schulz-Höpfner, Atterwasch, December 2014, KM)

Some residents of the affected villages believe that supporters of the mines are unwilling to engage in dialogue about an economic restructuring of the region, because this would mean admitting that the future for coal is limited. But Roland Lehmann, a resident and current mayor of Kerkwitz, argues that history is on the side of the energy transition :

The current developments in the energy sector will continue, no-one can stop them. Of course we know that there are people who would like to put the brakes on, to delay them as long as possible. To a certain extent they're succeeding. But all through human history, no-

one has been able to stop progress. [...] As I always say: time is on our side. (Interview Roland Lehmann, December 2014, KM)

It is worth pointing out that our interviewees' everyday understanding of the *Energiewende* is generally more narrowly framed than that which informs policy debates at the Federal level or the energy transition laws passed in 2011 (Bundesregierung 2011). Broadly speaking, the energy transition is understood at the local level of the village or region as a transition to electricity generation from "clean" renewable energy sources, often in explicit contrast to "dirty" coal-fired power. This contrasts with what might be termed the "expert" framing of the energy transition as a larger suite of targets and policy instruments encompassing areas such as energy efficiency and transportation, whose ultimate aim is a transformation of the entire German, and indeed European, energy system.

#### **4.3 Climate Change as Script**

As noted above, commentators such as Severin Fischer argue that, for the majority of the German population, the primary meaning of the *Energiewende* is societal. The exit from nuclear energy and the expansion of renewables are the two main themes underpinning this script, with climate change playing only a minor role in the narrative. Our ethnography of the *Energiewende* suggests a slightly different conclusion. While opponents of the mines do not necessarily frame their motivation in terms of climate change and the need for climate action, nevertheless climate change supplies an important background script or subtext for their involvement in activism, and their support for the energy transition. Attending a demonstration in the village of Rohne in

support of residents there, Roland Lehmann, the mayor of Kerkwitz answers the question what he was more concerned about, climate change, or preserving the villages:

Certainly in the first instance it's about saving our villages. But everybody knows today that it's not just about that, if you look beyond your own backyard it's about a lot, lot more. It's not just about a village here or a village there that might vanish from the earth. In the end, we'll all be affected, not just those of us whose villages get dug up. The bill for what happens here will have to be paid eventually. Not by us, not directly, but by our children, and their children. And we can't let that happen. (Interview Roland Lehmann, Rohne, April 2015, MW)

This theme of responsibility for coming generations is also taken up by farmer Ulrich Schulz. Schulz sees a direct contradiction between the Federal government's climate goals and what he believes is the continuing support for brown coal and coal-fired power:

We make our living from farming, and that means we make our living from the climate, we make our living from nature. For us the most important thing of all is to pass our way of life on to the next generation, in the same way our fathers passed it on to us. And we certainly won't achieve that by opening up new mines and burning coal to make electricity.

Climate change is also a central concern for Mathias Berndt, the recently retired pastor of the village of Atterwasch. Berndt has been an important public figure in local opposition to the mine, and describes his motivation as follows:

A famous professor here in Germany said two years ago, that the energy transition is

the Reformation of the 21<sup>st</sup> century, and the energy transition can't be achieved with words, but only through deeds, just as Martin Luther was a man of deeds in 1517. So I've tried to act in such a way that I don't just talk about the energy transition and the preservation of God's creation, which are really the same thing, but actually to realize them through my deeds. [...] And in my view it's an important part of this change, this transformation, that the democratic grass-roots are involved more strongly. On the one hand this means that those who depend on electricity generation for their jobs and livelihoods, that that is maintained. On the other hand it means that nature and creation and the environment are not put under unnecessary strain and destroyed, and human beings aren't unnecessarily subjected to fear and anxiety. And we have the potential to achieve both these goals through renewable energy. (Interview Mathias Berndt, Atterwasch, August 2014, TM)

Here Berndt stresses the “win-win” opportunities created by the *Energiewende* as an example of ecological modernization (Hillebrand, 2013, 666). The “preservation of God's creation” through climate action is seen as synonymous with the creation of new jobs through renewable energy. Berndt's emphasis on involving the democratic grass-roots highlights a key theme or script mobilized by both opponents and proponents of the new coal mines: what they perceive as a democratic deficit, a lack of real opportunities for citizens to participate in shaping the future direction of energy policy.

#### **4.4 The script of democratic deficit: energy policy as a failure of democracy**



Opponents of the mines point to the close relationship between the coal industry, unions, and politicians in the state legislatures of both Brandenburg and Saxony, and argue that coal has effectively captured the political process. Proponents of the mines argue that the anti-coal forces have successfully captured the media and the public sphere, and that they on the contrary speak for a “silent majority” who want to see coal mining continue. These latter views are forcefully expressed by Wolfgang Rupieper, the official spokesperson for the Association for Brown Coal in Lusatia (*Pro Lausitzer Braunkohle*), a community organization which, until recently, received funding from Vattenfall. Rupieper is a retired judge, originally from West Germany, who came to the regional centre of Cottbus in the early 1990s and has remained there after his retirement.

In the last five or six years the perception has arisen that the population of Lusatia is fundamentally opposed to the further development of coal mines, and to brown coal mining in our region per se. [...] I knew from many conversations with people, young people in particular, that the opinion of the population is a different one, so I joined forces with mayors and other government officials, and we came to the view that we had to combat this [negative] perception. And then about two-and-a-half years ago we founded the Association for Brown Coal in Lusatia, in order to give the people of Lusatia a voice, to give a voice to the silent majority. Because we say that the majority of people in Lusatia is for the continuation of coal mining, for the mines, for electricity generation from coal, for whatever is possible in the future. (Wolfgang Rupieper, Cottbus, August 2014, TM)

For Monika Schulz-Höpfner, an opponent of the mines and herself a Christian Democrat member of parliament for twenty years, the democratic deficit consists in a failure of party politics.

Instead of attempting to create a consensus for change, she argues, the major parties are perpetuating confrontation.

No-one is prepared to think seriously about alternatives, no-one is prepared to show their true colours and say: brown coal is a model that's on the way out, and we have to think about how we organize the region to deal with that. [...] Politicians should show leadership, but instead they stand on the sidelines and fan the flames of conflict between the workers in the coal industry and the people whose villages are threatened. The conflict has only intensified. At demonstrations the two blocks face off against each other. There's no dialogue. (Monika Schulz-Höpfner, Atterwasch, December 2014, KM)

Schulz-Höpfner is no longer a member of the state parliament, but has remained an active member of the Christian Democrat party. Together with some party colleagues she has formed a cross-party grouping of about thirty members which calls itself the "Action Group for the *Energiewende*". The Action Group is considering how to put the energy transition into practice at a regional level.

The question we're asking is: How do we imagine a future without coal, or rather a future which involves getting out of coal? Of course we are trying to think through how you do that at the level of state politics, how you come up with an action plan or master plan for Lusatia. It means a new direction for the region and for politics in this state. (Interview Monika Schulz-Höpfner, Atterwasch, December 2014, KM)

Thus both proponents and opponents of the mines identify the top-down nature of government policy and the lack of opportunities for democratic participation as a key concern. Interestingly enough, this is an issue identified by recent research on the *Energiewende* which looks at public attitudes to major new projects, not in coal, but in renewable energy:

...citizens directly affected by projects often perceive the decision-making process as being intransparent, inscrutable, or even corrupt. [...] An essential feature of the relationship between citizens and the state pertains to the growing gap between legality and perceived legitimacy. Even if plans to construct transmission lines, wind farms, and pumped water storage go through all the necessary approval processes, the complexity of these processes may overwhelm affected citizens, leading them to feel alienated as well as skeptical of the claimed benefit to the public. (Schweizer et al, 2014, 2)

Schweizer et al argue that greater public participation, rather than better public communication, is necessary if the energy transition is to retain lasting support (Schweizer et al, 2014, 3). This is a point echoed by Beveridge and Kern (2013, 10-11) and Matthes (Fabra et al, 2015, 76ff), who argue, albeit from different perspectives, that a greater decentralization of the energy system and the associated decision-making networks will bolster the legitimacy and public acceptance of the *Energiewende*.

## **5. Conclusion and Policy Recommendations**

As we have shown, the *Energiewende* is now a key script through which opponents of the new coal mines in Lusatia seek to legitimize their struggle and deligitimize coal. They and the environmental organizations which support them frame themselves as advocates of the energy transition, confronting an industry mired in the industrial past. They do so by mobilizing several key scripts: scripts of home (*Heimat*) and identity, of ecological modernization, of climate change and responsibility for future generations, and of a deficit or failure of democracy. The home which opponents of the mines claim to be defending is a home in which the energy transition has already been accomplished at a local level, and has become part of the texture of everyday life.

Proponents of the mines deploy some of the same scripts, but with different emphases. Most do not directly attack the energy transition or seek to delegitimize it. Rather, they argue that coal itself is crucial to the success of the energy transition, which they locate in a more distant future; the present and immediate future are conceived of as an interregnum, stretching until mid-century, in which coal-fired power and a coal industry will still be required to guarantee energy security for Germany. Underpinning this rhetorical strategy is also a strong appeal to notions of home and identity. *Heimat* in this instance embraces not just a village or a local landscape, but an industrial region, which is experienced as a source of identity and tradition, an industrial culture intimately connected to coal and coal mining.

In a sense, the contest over coal in Lusatia can be seen as a contest between competing modernities, or competing visions of modernity; one bucolic, localized and post-industrial, in which the energy transition has become integrated into the fabric of rural life, and one urban,

regional and industrial, in which the coal industry continues to sustain mass employment and prosperity for the “silent majority” and nourish a sense of pride and identity.

Any policy recommendations which might flow from these findings should be seen in the light of Ortwin Renn’s insight that a better understanding of the “human drivers” for promoting or hindering action on climate change is as crucial to effective decision-making as the findings of the natural sciences (Renn, 2011). Our research suggests that the effective implementation of the *Energiewende* is not simply a technocratic or technological problem. Rather, it must be informed by an understanding of the motivations and mentalities of different actors, and the scripts or narratives which guide them. In a sense, what is needed is not so much a further set of policy recommendations, as a better understanding of the politics of the *Energiewende*; in particular the clash between the policy aims of the Federal government and the concrete politics of coal as played out at a local, regional and state government level. The defeat of the “climate contribution” is one clear example of how the politics of coal can undermine the policy aims of the energy transition, particularly as they relate to Germany’s climate goals.

Finally, our research in Lusatia reveals a belief on the part of both opponents and proponents of the new mines that democratic processes have failed to give them a stake in shaping the energy futures of their region. This belief is reinforced by what they experience as a “growing gap between legality and perceived legitimacy” (Schweizer et al, 2014, 2). We believe that what is needed is an expanded conception of deliberative democracy which embraces “energy democracy”; and we would echo Monika Schulz-Höpfner’s call for political and policy elites to show leadership, and attempt to bring the opposing actors together to begin shaping a consensus for Lusatia’s future beyond coal.

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All translations from German are by the authors.

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The majority of interviews with informants referenced in the text were conducted by the current authors Tom Morton (TM) and Katja Müller (KM). In some cases informants have been interviewed on different dates, and by different interviewers. Some additional interviews were conducted by Manuel Waltz (MW). Interviews are identified by the name of the interviewee, the location and date of the interview, and the initials of the interviewer.

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<sup>i</sup> <http://www.lausitzer-braunkohle.de>

<sup>ii</sup> See for example the website of Pro Lausitzer Braunkohle (“For Brown Coal in Lusatia”), a pro-mining civil society group (accessed 30.11.15).

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<sup>iii</sup> The following exposition of the societal, political and external perspectives on the *Energiewende* draws on a personal interview with Severin Fischer conducted by Tom Morton in September 2015. See also Fischer, S. The European dimension of Germany's "Energiewende": Between adaptation and Leadership., Stiftung Wissenschaft und Politik, „Mehrebenen-Governance der Energiewende“ EnergyTrans/FFU 04.11.2014, accessible at: [http://www.polsoz.fu-berlin.de/polwiss/forschung/systeme/ffu/forschung-alt/projekte/laufende/11\\_energytrans/konferenz2014/programm/EU1-swp-Fischer.pdf](http://www.polsoz.fu-berlin.de/polwiss/forschung/systeme/ffu/forschung-alt/projekte/laufende/11_energytrans/konferenz2014/programm/EU1-swp-Fischer.pdf) and: Severin Fischer & Oliver Geden, Europeanising the German Energy Transition, SWP Comments 33, November 2011, accessible at: [http://www.swp-berlin.org/fileadmin/contents/products/comments/2011C33\\_fis\\_gdn\\_ks.pdf](http://www.swp-berlin.org/fileadmin/contents/products/comments/2011C33_fis_gdn_ks.pdf)

<sup>iv</sup> (Welzow-Süd: 810, Nochten II: 1700, Jänschwalde-Nord: 900; <http://www.lausitzer-braunkohle.de>)

<sup>v</sup> <http://www.zeit.de/2015/30/braunkohle-tagebau-deutschland-verwuestung/seite-4> See also [http://www.archiv-verschwundene-orte.de/de/verschwundene\\_orte/verschwundene\\_orte/70543](http://www.archiv-verschwundene-orte.de/de/verschwundene_orte/verschwundene_orte/70543))

<sup>vi</sup> The statement about Horno being the last village is a common quote in the struggle against coalmining, which is today often attributed to Manfred Stolpe, the then State Premier of Brandenburg.