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## Perspectives

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Jennifer D. Carlson

## Renewable Energy and Class Struggles: Slurry and Stratification in Germany's Energy Transition

### Sensing the Energiewende

“When I was a girl they didn’t use those synthetic chemicals. That’s why it doesn’t smell right—why it smells so strong.” Pouring us both another cup of tea, 60-year-old Hanne<sup>1</sup> shook her head at the stench of fertilizer blanketing the village beyond her kitchen window. “It’s an outrage how they stink up the countryside with that stuff.” Having spent many months in Dobbe, Hanne’s village, I could also attest that I had never smelled anything like it in the area before. It was July 2007 and I had returned to the East Frisian Peninsula to research everyday life in the *Energiewende*, Germany’s renewable “energy turn,” which has transformed the Lower Saxon countryside into an alternative energy landscape. The Energiewende is an experiment in “energy democracy”; by decentralizing the grid and incentivizing people to produce their own power from wind, solar rays, and biomass, the transition’s planners aimed to bring everyday citizens into energy governance. The East Frisian Peninsula has been home to a number of early test sites for alternative energy. By 2007, the energy transition was in full swing: wind turbines covered the countryside, and solar panels were beginning to spread across rooftops in the area.

The pungent scent of fertilizer on the breeze was part of Germany’s biofuel boom, spurred by federal subsidies for biofuel crop cultivation in a series of pro-renewable laws passed from 1990 to 2016. Much of the land here and elsewhere in Germany was planted with fuel crops such as corn, rapeseed, and sugar beets as farmers shifted gears to make the most of the biofuel boom. Amid this *Rausch* or “craze” for renewables, ordinary statements such as Hanne’s illuminated how non-farming rural dwellers—that is to say, the majority of the region’s population—made sense of these dramatic changes.

1 The names of individuals and my field site have been changed to preserve the anonymity of those with whom I worked.

**Figure 1:**

Hanne's house is surrounded on three sides by tracts owned by an absentee landowner and cultivated by tenant farmers. Farming intensified in the area during the last century, when reclamation works raised the low-lying meadowlands above the flood plain. When this photograph was taken (2011), crops planted around Hanne's house included biofuel crops and hay. In the early years of Germany's Energiewende, generous subsidies for biofuel compelled many farmers to plant corn, rapeseed, and other crops to be used in biogas digestion, further intensifying cultivation on former grazing lands.



Despite Hanne's suspicions, the substance that farmers were spreading that afternoon probably came from a "natural" source: liquid manure from farm animals, widely embraced as a more sustainable fertilizer than synthetics. The difference in scent that Hanne noticed was not necessarily a transformation in the fertilizer's chemical make-up, but rather an increase in the scale of its use. Once known for its dairy farming and animal husbandry, Dobbe's farmland had metamorphosed into a bioenergy landscape, with intensive cultivation and increased applications of fertilizer.

But Hanne's description of the stench on the breeze was no less significant for being incorrect. In rural northern Germany, such speculation not only informs how non-farmers perceive the farmers in their midst; it also shapes how they imagine their own possibilities for taking part in infrastructure projects such as the Energiewende. As I explain here, northern Germans' widespread sense that farmers control local politics—and, by extension, local energy governance—stems from historical legacies of stratification that are reproduced anew as landowning farmers become partners in the energy transition. In what follows, I unpack how real and imagined divisions between farmers and non-farmers take shape in everyday northern Germany, and the consequences these have for energy democracy.

## Who are Germany's Energy "Citizens"?

A trend:research study from 2013 suggests that nearly half of Germany's renewable energy installations are citizen owned.<sup>2</sup> This sounds like good news for German energy democracy, but in actuality this much-cited statistic does not qualify who counts as "citizens." Are they landowners who buy wind turbines, citizens who cooperatively share profits from a biogas-processing plant, or single-family homeowners who install solar panels on their roofs? It's difficult to gauge the Energiewende's social impact because there are as many energy transitions in Germany as there are places using renewable energy. The transition was designed to allow communities to make use of resources afforded by their physical surroundings—whether hydropower, solar energy, wind, bioenergy, or some combination of these. Yet the Energiewende unfolds differently in different places, not simply because each landscape has unique natural features but also because each landscape is constituted through unique social relations. These social relations have consequences both for the people who occupy a given landscape, and for how nature is articulated through cultural activity and appropriated for human ends. Examining the Energiewende, where participation in and profit from renewable energy development hinges largely on investment (of money, rooftops and/or land), it is necessary to examine how class distinctions shape people's access to energy democracy, as well as their inclination to take part in it.

On the East Frisian Peninsula, for example, many people spoke of rural dwellers as belonging to one of two social classes: namely, farmers and non-farmers. Here farmers (*Bauer*) are generally understood as coming from families that have long worked the same lands, with a more patrician status in the community where they farm. Those who do not farm recall the region's historical working class, whose livelihood once consisted of seasonal farm labor, peat cutting in moor colonies, or fishing in the marshes that covered the peninsula before much of the land was raised above the flood plain. The words once used to describe these classes in local dialect reflect their hierarchical placement in rural social imaginaries: farmers were *Buren*, a relative of *Bauer*; non-farmers were *Lüttje Lüü*, which can be literally translated as "little people." Even though these class distinctions no longer correlate to income level, they

2 trend:research, "Definition und Marktanalyse von Bürgerenergie in Deutschland" (Lüneburg: Leuphana Universität, 2013), <https://bit.ly/2FZ8m7c>.

continue to shape economic life in northern Germany as well as its energy transition. When Hanne or others refer to an abstract “they” fertilizing fuel crops on the outskirts of town, they invoke the figure of the Buren. When people express ugly feelings about the massive windfalls that farmers earn from leasing their land to the nearby wind park, it is this image of the farmer to which they react. And when landowning farmers exclusively contact other landowning farmers about investment opportunities in new development projects, it is this class distinction that they ultimately perpetuate.

### **Inequality’s Afterlife in Citizen Energy**

It may seem odd that arcane class distinctions could exert such force in contemporary Germany, particularly in a place so greatly altered since the beginning of the twentieth century. Over the century, vast areas of the East Frisian Peninsula were reclaimed from the North Sea coast, producing land for cultivation and development. In the 1950s, Volkswagen built a factory at the nearby port of Emden, one of multiple manufacturers now offering factory jobs and other positions to which rural dwellers could commute on newly paved roads. Single-family homes sprang up around the peninsula as the availability of jobs enabled many to stay who might otherwise have left to find work. And newer arrivals to the peninsula—whether from other areas of Germany, as refugees from Central Europe (and, more recently, Africa, Asia, and the Middle East), or guest workers from Turkey—have likewise participated in the industries reshaping the East Frisian countryside. Because postwar generations experienced unprecedented levels of social mobility, many descendants of the Lüttje Lüü now earn higher incomes than do descendants of the Bauer. Yet despite these changes, and despite the fact that it had been years since many East Frisians had worked in farming, older residents still remembered farm labor or knew someone who worked on a farm. Hence Hanne’s sense that she could speak with authority about farming practices that had changed since her youth, and her sense that farmers and landowners belonged to the same social class.

With the rise of Enercon—a multinational wind turbine manufacturer—and other alternative energy firms in the area, large numbers of young adults from villages such as Dobbe were able to find production and tech-industry jobs closer to home rather than moving to larger cities to the south and east. These still-forming livelihoods attest to



**Figure 2:** Prior to the land reclamation works that raised this area in the mid-twentieth century, farmers had to drain their lands using small windmills, like the one pictured here (in 2017). Farmers could plant only on a small scale, making their living through animal husbandry and growing hardy feed crops for livestock. After the land was raised, area landowners rapidly consolidated and cultivated it, or leased it for farming. The area became a test site for biofuel crops planted on an industrial scale during the Energiewende.

the importance of industrial work and the knowledge economy in the Energiewende, now Germany's largest postwar infrastructure project. Additionally, solar panels on residential rooftops show how the transition has "greened" middle-class aspiration since the mid-century economic boom, when single-family homeownership became a benchmark of the good life. The Energiewende's effects on Germany's non-landed middle class are evident, if less frequently discussed in terms of local politics.

Local understandings of farmers as elites may seem counterintuitive given that Germany's small farms have long been in crisis from falling milk prices, public health scares over toxins in agriculture, and the bundling of tracts for high-paying industrial farm leases. Renewables are often portrayed as a way for farmers to stay afloat without having to scale up their operations to compete in a Europeanized agricultural market. By installing a wind turbine, solar panels, or a biogas plant, the story goes, farmers can remain productive members of society. Indeed, many farmers have found these installations helpful in meeting costs. But not all farmers are equally able or inclined

**Figure 3:** As farmers intensified cultivation to reap the rewards of federal incentives for biofuel crop production, farmlands were treated with increased amounts of organic fertilizer—particularly manure and liquid slurry harvested from livestock. In this image (2017), clumps of mud and manure are left behind on a farm road from a tractor trailer carrying fertilizer to a nearby farm.



to take part in the initiatives happening in their regions. Even as many Germans imagine farmers owning the land they work, the most recent EU Farm Structure Survey<sup>3</sup> reveals that 59.8 percent of Germany’s agricultural land is actually worked by tenant farmers, and that number is growing as small tracts of land are bought and bundled into leases by large landowners. In some cases, the

Energiewende has posed new challenges for many tenant farmers, such as the dairy and sheep farmers who have lost longstanding leases to biofuel crop cultivators willing to pay rent at a premium.

Yet, beyond a boom in residential solar panels, farmers remain the most commonly identified actors in the Energiewende. Germany’s biofuel economy is predicated on agriculture, and the majority of its biogas plants are owned and operated by farmers using fuel crops and agricultural waste materials to generate thermal energy. Landowning farmers are also visible beneficiaries of the solar boom, with large arrays spanning their barns’ rooftops. In some communities, landowners from longtime farming families are majority shareholders in limited liability companies (in Germany, *Gesellschaften mit beschränkter Haftung*, or GmbH) formed to administer wind parks. One example is Dobbe’s “Citizens’ Wind Park,” which is sometimes mistaken for a cooperative endeavor, though it is privately held. “When they first started the wind park [in 1999], the people who started it offered a share of the profits to anyone in the community who was willing to pay two thousand marks [ca. 1000 euros],” one Dobbener explained to me in 2017. But who knew then what it would become? Today, when new turbines are planned, he continued, “they’re not so forthcoming with investment opportunities.” Many residents learn about these installations only when requests for permits are filed, triggering the process by which authorities are required to notify people living within a certain radius of the proposed site.

3 Eurostat, “Agricultural Census in Germany,” *Eurostat Statistics Explained*, last modified 28 August 2018, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural\\_census\\_in\\_Germany#Further\\_Eurostat\\_information](http://ec.europa.eu/eurostat/statistics-explained/index.php/Agricultural_census_in_Germany#Further_Eurostat_information).



**Figure 4:** Even as German policymakers move to curb subsidies to mitigate the adverse effects of intensive fuel-crop cultivation, as well as fluctuations in bioenergy markets, farmers in many areas of Germany continue to plant crops to sell to biogas digesters. This image (2017) depicts a canal bisecting two tracts planted with fuel crops located a few hundred meters from a residential neighborhood. Area residents, aware that nearby farmers had been cited for dumping excessive amounts of slurry on their lands, pointed to swirls of manure-like matter on the once-smooth surface of the canal—evidence that dangerous quantities of nitrates were seeping into area groundwater.

Many communities across Germany have implemented civic power generation in more equitable ways, with equal opportunities for participation and shareholding. Today, many wind parks and biogas installations are more cooperatively owned and managed. But the fact that more exclusive wind parks could be billed as civic energy projects speaks to widespread confusion—and sometimes equivocation—as to the *social* sustainability of clean energy initiatives. The Bundestag worked to mitigate this in 2006 when it changed the law to promote renewable energy cooperatives rather than GmbHs. But as Energiewende analysts Craig Morris and Arne Jungjohann note, “[t]he lack of a clear definition [of community energy] means that the German government cannot have a specific goal for the share of citizen ownership.”<sup>4</sup> Amid these murky waters, it is necessary to sound the submerged histories of class that shape renewable energy development in order to better understand who is able to participate in energy governance and who is left on the sidelines.

4 Craig Morris and Arne Jungjohann, *Energy Democracy: Germany’s Energiewende to Renewables* (New York: Palgrave, 2016).



**Figure 5:**

In this part of Lower Saxony, popular unease about industrial farming is voiced in terms of class resentment, referring to historical legacies of inequality between landowners and workers. Today, farmers are often considered to be the inheritors of the prior landowning class, even though most lease the lands they work, and some farmers are contracted out by larger corporations. Yet legacies of inequality persist, as absentee landowners and landowning farmers disproportionately influence local farming practices, energy governance, and politics. In this picture of an East Frisian churchyard (2007), this legacy of inequality takes on spatial form, with the ornate graves of landowning farmers placed above the flood plain, and, working class graves situated beneath them.



### The Force of Speculation in Germany's Energy Future

People who are sidelined from energy governance may not care or even notice that they've been excluded from it, but they are nonetheless part of the energy development projects taking shape in their midst. Living on the outskirts of Dobbe from 2010 to 2011, I watched as most of its remaining dairy pastures were plowed up, planted with corn and then, eventually, fertilized. The smell of slurry became commonplace, like a climatological force to which we adapted. For the majority of villagers, there was no telling when exactly the farmers would fertilize their crops. But when the tractor pulling the slurry drum appeared on the horizon, we sprang into action, removing laundry from clotheslines and summoning children to play indoors.

Elsewhere in northern Germany, people protested against plans for local biogas plants, citing the ecological effects of fuel monocultures and slurry stockpiling, as well as the potential devaluation of their own property. In the nearby village of Holtrop, a few hun-

dred concerned citizens petitioned the county to block a farmer's permit for a biogas plant across the road from their neighborhood of tract homes. (After going back and forth in the courts, the farmer prevailed, perhaps because he made a case that biogas would allow him to afford to maintain his dairy farm, and that he would sell the heat generated at his plant to the village school at a reduced price.)<sup>5</sup> But Dobbe's two biogas plants were located at a distance from residential neighborhoods, and Dobbeners' everyday conversations never connected the cornfields to the plants. Such things were the business of farmers, not villagers. Villagers complained about the slurry and, like Hanne, speculated as to what "they" were doing, but there was no move to critique the cultivation in our midst, nor did anyone verbally link what was happening around us to the biofuel industry. While these activities affected the health of the community (and led to nitrate runoff in its groundwater and algal blooms in nearby lakes), Dobbeners' annoyance with them failed to translate into formal calls for reform or increased representation in energy governance.

Reacting to biofuel's sensory incursions, Dobbeners drew upon a broader history of inequality as they speculated about farmers' activities and control of the countryside. Their speculations elided the complex realities that farmers continue to face, as well as the role that capital has played in determining which farmers have influence over the transition. But these speculations also point to the fact that much renewable energy development in Germany has relied upon capital investment promoted through existing social networks between landowners. In this way, the *Energiewende* has limited the participation of the would-be "energy citizens" it was intended to enfranchise. And the ways in which non-farmers link existing forms of inequality to prior forms of inequality communicates a sense that exclusion is part of the order of things. In this way, capital and quiescence conspire to discourage non-landowners from staking claims in energy governance, making landowners' domination of development projects a social fact.

As federal support for civic power generation wanes, it is even more crucial to consider how energy governance intersects with localized forms of social stratification, and with the cultural frameworks through which these inequalities are expressed. In

5 Daniela Schröder, "Ärger um Biogasanlage: Kalter Krieg in Ostfriesland," *Spiegel Online* (Last modified 8 January, 2010), <http://www.spiegel.de/wirtschaft/unternehmen/aerger-um-biogasanlage-kalter-krieg-in-ostfriesland-a-664487.html>.

2016, the Bundestag moved to end subsidies for local power generation in favor of offshore, corporate-owned wind parks, making it harder for citizens without start-up capital to invest in onshore development projects. Yet the Energiewende is still young. Market research indicates that many Germans are interested in participating in community energy, particularly as volunteers. It is necessary to diversify avenues for citizen participation not only to generate support for new projects, but also to bring equity to already existing ones. Many rural dwellers who have been sidelined from the Energiewende have cultivated sustainable practices apart from the cutting-edge technology of the transition. Their perspective offers new insights into Energiewende democracy, as it currently exists. But more fundamentally, such a perspective reminds us that vibrant, vernacular forms of environmental politics arise from everyday life, like a blast of slurry on a breeze.

### Further Reading

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