Reforming the energy system requires not just technical expertise, but also knowledge of the social structures and processes that support the transition. This is where Oldenburg researchers from various disciplines are giving their input and showing the way forward. They investigate factors such as how the parties involved in the energy transition build mutual trust, and how communities can find ways to cover their own energy demands with local initiatives.

A n idyllic country village: lonely country roads lined with gnarled trees, cornfields stretching all the way to the horizon, rare birds rendezvousing on the forest edge. Here, where there is so much space for nature and humans, a wind farm is to be built. But among the villagers, recent arrivals and long-time residents alike, a row breaks out: What about protecting the birds? Who benefits from the new wind turbines? And where should they be erected?

Wind energy is only the backdrop for Juli Zeh’s socio-critical novel “Unterleute!”. But the old and new disputes that flare up between the inhabitants of a fictitious village in Brandenburg illustrate how producing green electricity to support the “Energiewende” (energy transition) raises not just technical questions, but also human ones. “The energy transition is a social process,” says Prof. Dr. Jannika Mattes. “And social processes are complicated.” Mattes, a social scientist and Professor of Organisation and Innovation at the University of Oldenburg, knows what she’s talking about. In the junior research group REENEA, which is funded by the German Research Foundation (DFG), she is studying the social background of the energy transition on the basis of regional case studies. Although the restructuring of Germany’s energy system is the subject of continual public debate, little is known about the role of the individual parties involved, she explains. And little is known about which factors advance or hinder it. Mattes and her team of three researchers aim to fill this knowledge gap.

Mattes is focussing on the wind energy sector as a case study for her research. The German government wants 60 percent of the electricity consumed in Germany, almost a third of which are in Lower Saxony, along with a growing number of offshore farms. But even though the proportion of wind power in Germany’s energy mix has grown steadily since 1987, when the first wind farm was built in Schleswig-Holstein, land-based expansion is now slowing down – for very diverse reasons.

Providing subsidies on a random basis doesn’t work

One of them is that energy policy has changed significantly since the amendment of the Renewable Energy Sources Act (EEG). Among other things fixed subsidy rates were abolished, affecting remuneration for electricity fed into the grid. “This has upset many companies and left investors feeling abandoned,” says Mattes. Then there’s the fact that public opposition to green expansion measures is growing – for example when they interfere with nature conservation, or when citizens feel their own concerns are being ignored. “Most people accept that the green energy transition is necessary,” the social scientist stresses, “but they don’t want the expansion to take place on their own doorstep.”

Mattes experiences this first-hand in her research: she and her team are laboriously interviewing people who are directly affected by the restructuring of the energy system – from turbine manufacturers, service providers and planners to political decision-makers, conservationists and members of the general public. The researchers also comb through documents and attend public discussions. Yet the massive problems with acceptance are just one aspect they are encountering.

“We’re interested in the roles the affected parties see themselves in, the knowhow they can contribute, the fact that public opposition to green expansion measures is growing – for example when they interfere with nature conservation, or when citizens feel their own concerns are being ignored.”
Most people accept that the green energy transition is necessary. But frequently controversies arise when the expansion takes place on their own doorstep. "We conducting standard empirical social research," says Mattes. Although not all the case studies have been completed yet – Mattes' team is studying the energy transition in five other regions in addition to Oldenburg, including the Uckermark, North Frisia and Hamburg – she has already arrived at certain conclusions. The results show that the social dimensions of the energy transition vary from region to region and that requirements also differ. "Civic energy" is the name of this approach, for which the European Commission paved the way in May 2018 with its latest decisions on the legislative package “Clean Energy for all Europeans”. Under the new legislation, energy producers and consumers will no longer have to follow the specifications of major power grid operators. Instead, they will be able to generate, store and distribute electricity and thermal energy independently. This has not been possible until now, for legal as well as other reasons.

"Civic energy thus offers a genuine alternative to the traditional, centralised energy supply network," McGovern, the project coordinator, explains. "That's pretty revolutionary." This brings the scientists in the COBEN project closer to one of their goals, which is to ensure that ultimately communities and the people who live in them benefit from the results of the energy transition. The idea is that the UK-based renewable energy revenue remains within the community. "But that's easier said than done," says McGovern. So the participants in the six pilot regions first of all work out the requirements of each community: How much heat or electricity do they require? What about mobility? What are the potential energy sources? And what are the advantages for communities of setting up their own value-creation systems, for example. The idea of producing and distributing electricity in new ways also has to be financially attractive, he adds. But the work has just begun. "As a project partnership we are quite proud that the positive initial results of our project have been incorporated into the amended EU resolution," he says. Now the EU member states must implement the new directives into national law. Klenke and McGovern hope that the concept of civic energy will not be watered down in the process, so that efficient, community-run civic energy systems can become a reality. (cb)