



Interview: “In Germany, people want to produce electricity themselves”

The interview by Petr Lukáč was originally published in the Czech newspaper “Hospodářské Noviny” on March 26, 2017 [here](#).

Introduction

Arne Jungjohann is an energy analyst and co-author of Energy Democracy. The book is about one of the phenomena Energiewende: community energy. It is a situation where municipalities and citizens can produce their own energy and enter the energy infrastructure together with farmers and local entrepreneurs and crowd out energy companies.

After the nuclear accident in Fukushima, Japan, Germany strongly began to focus on renewable energy sources. Several state programs were implemented. The German government contributed to a massive expansion of these resources especially among ordinary citizens. Today, therefore, the energy companies are only controlling 13 percent of all electricity generated from renewable sources. That means farmers

and local entrepreneurs are taking a big part in the renewable sources. Financial incentives play a role but more significant is the appeal between residents to help their community.



Photo by Michaela Danelová

Arne Jungjohann is coauthor of Energy Democracy, which among other things deals with precisely this phenomenon of community energy embodied in the concept of the Energiewende.

Interview

HN: Your book deals with Energy democracy. What do you mean by energy democracy?

It is the right of citizens to produce their own electricity. The term is based on the German energy transformation called the Energiewende. It gained a lot of attention especially after the accident of Fukushima. Germany committed to a rapid shutdown of nuclear power plants and the construction of renewable energy sources. This also happens other countries. In Germany that transition goes bottom-up which is unique. The transformation is not driven by large companies. Investments in renewable sources are made by many individuals, households and others.

HN: How many people up to date have invested in their own small renewable power?

It is difficult to provide exact numbers. But we have seen a large increase in the investments. The German law enables cooperatives. Over the last decade more than a thousand of these cooperatives were founded. Practically, this means that citizens unite to produce electricity, heat or to invest in renewable energy sources.

HN: How does such a community usually

look like? A small village? Neighbors? Employees of the company?

It could be anything. Five friends can agree in a rural bar and say that they want to invest in their own wind turbine on a nearby farm. But today we have cooperatives who are selling energy in millions of euros. They began as very small groups, but gradually grew and invested in more and more resources. Sometimes it ends up with 90 percent of the population of the village investing. People can join at shares of 500-1000 euros. A further element of its democratic character is that no matter how many shares you have, the rule is 'one member one vote'.

HN: Did the state support help? Does the state support investments in renewable energy sources?

Yes, the state supports such investments. The second proof that the German energy sector is being democratized is that currently new renewable energy sources are installed. Policies were open to everyone and used by almost everyone - from domestic farmers through banks and funds. The only ones who stayed out of it and observed the progress from the outside were our large energy companies. So, in 2012, 47 percent of the newly installed capacities of

renewable resources were owned by either cooperatives or citizens. Now this ratio could change. Recently large energy companies began to invest into the renewable energy – for instance by building offshore wind farms. And those are too expensive for small investors.

HN: What is the most popular associations you can invest in? Where do citizen cooperatives most often invest in?

Most investors in general start with wind power. But it varies over time, depending on how the exact policy incentives. For example, after 2000, much has been invested in biogas plants and biomass burners. But then instead of crop, corn was cultivated on the farms to burn. So, the support was directed elsewhere. It can also be noticed that for most people it is important that the source they invest in are situated near their community. To mention are also many initiatives who have grown a lot - for example, the community of Schönau are known as the “Power Rebels”. They started as a local initiative, but today it's a national green energy trader. In addition, some of their profits are used to educate and support other emerging associations.

HN: Why do people invest in own resources? And how high is the amount

of an investment on average?

We have researched the question of why people join energy cooperatives for our book. Everyone would expect that the financial incentive would be the main driver. But studies show that profits come out only in fifth or sixth place. More often people say they want to help their community and they want to be a part of it. For that reason, I say that people outside Germany often do not realize that our energy transition has been going on for 30 years. It started in the 1970s as a resistance to nuclear power plants that the government had been trying to force onto communities. Nuclear accidents such as Fukushima or Chernobyl were catalysts on the way later. But of course, if we look at the current growth of renewable energy, for example, small photovoltaics, the renewable investment has also become a good investment option. And that's why the Energiewende has great public support.

HN: Will the support be diminished? Even the government recognizes that subsidy programs are too generous. And it goes from direct subsidies to auctions.

When you look at different studies, the answers differ, but overall, the support is relatively large. The government may change the view, it traditionally listens to the big energy companies.

HN: Former E.ON Fritz Vahrenholt called the Energiewende the worst harakiri that a country could commit to. Can it be right that the transition is a little too fast and your network is not ready yet?

I don't understand how anyone can come to such a conclusion. The transition in Germany is fast, yes. The only concern of the big companies is that their own assets – conventional power plants - are losing value. The problem is that there are too many power plants on the market. Neither growing exports nor the planned shutdown of nuclear resources will resolve this case. I understand that big companies do not like it, but that does not mean that the transformation is too fast.

HN: I rather refer to the extreme situation that occurred this January during a cold period. Both wind and sunshine were totally minimal. So, in all Central Europe, it was necessary to burn coal, oil, anything, everything what could be burned. Does this show the weaknesses of energy based on renewable resources?

These are the situations that are difficult to manage when we are going to move our system towards renewable sources. It is a question of perspective. Today, renewables produce 33 percent of electricity in

Germany, an annual average. Sometimes it's more, sometimes less. And while it was cold, biomass and water supplies were supplying, so we ran around 10 percent of electricity from renewable sources. But even though the country was the largest consumer, it still exported electricity. So, we're far from blackout. In my opinion, we still need to shut down more conventional power plants.

“Baseload does not have a place in the future. Over the next decade, wind and solar will become the biggest pillar of Germany's electricity supply.”

(Arne Jungjohann)

HN: How will your energy industry react to such a crisis?

It's an economical, not a technical question. In Germany, we began to realize that the age of baseload will end eventually. That was the time when energy was supplied by large stations that run 24/7. Baseload does not have a place in the future. Over the next decade, wind and solar will become the biggest pillar of Germany's electricity supply. Both fluctuate and depend on the weather. And that requires conventional power plants to be much more flexible to be able to start and stop continuously. The flexible system has more gas power plants and fewer coal and nuclear ones. But it also

means more flexibility on the side of consumers. We already see it today. Industrial users such as large refrigeration companies have special contracts to adjust their production to prices. They draw most electricity at times when the price is low and cut back demand when prices are high.

It is also necessary for greater flexibility to strengthen the grid with our neighbors. In January, a new link to Sweden was announced. In 2019 NordLink, the first direct connection between power markets in Germany and Norway, will start. Both countries have large shares of hydro power, so they can serve as back-up for mutual benefit.

HN: The Czechs will probably not be addressed when you talk about cooperation with neighbors. Our Transmission System Operator ČEPS has complained about the lack of cooperation and arrogance of the German party in dealing with the overflow of your electricity across our territory. It came so far that there are two transformers on the border that could cut us off from your grid at any time ...

This conflict is more a political question. If German companies use the Czech grid to sell electricity further south, compensation should be set to cover costs. Otherwise low-

price electricity from Germany could be an advantage for industry and households in the Czech Republic. So, there is room for cooperation.

HN: You talked about linking with other countries. But it would help us if Germany did its own homework - linking the north and south of the country so that electricity does not have to flow through your neighbor countries ...

That's what works now. The main need will arise in 2022 with the shutdown of nuclear power plants in the south of Germany.

“Renewables are winning the cost race – in Germany and around the world.” (Arne Jungjohann)

HN: You said earlier that switching to renewable energy is not a technological but economical task. Clearly everything is possible when a person / government is willing to pay. But is the Energiewende too expensive?

The expensive part of the transformation is behind us. It was the growth of the solar power plants in 2011 and 2012. We will pay these prices for 20 years, then the costs will decrease. Today, new renewable sources are much cheaper. Renewables are winning the cost race – in Germany and around the world.

HN: I have something else on my mind. I'm going back to this January. How do you replace electricity from wind turbines and solar panels while there are not producing when conventional power plants are not available anymore?

It's a mathematical question of how much you need. Our calculations are based on brown coal-free sources and should tighten coal and gas power stations. I would not worry to shut down nuclear power plants either. There will be several technical developments in the next years, namely

battery development and other energy storage options. Furthermore, the transition of heating to environmentally-derived energy from renewable sources will change the game. The focus will be more on system services. It will be necessary to have conventional sources in the system. They may be off, but the owners will have to keep them ready to run. And they cannot do it for free. So, there will be more ways to fight crisis situations. It is about how to change not only production but also demand.

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