



Citizens dressed for Mardi Gras in Abita Springs, Louisiana, celebrate a plan for 100% renewables. Republicans have a huge majority in the town's county.

POLITICS

Energizing the people

Community power projects in Denmark and Germany have inspired politicians worldwide but have failed to translate to other countries. Sometimes the first step is to let people say no.

BY CRAIG MORRIS AND ARNE JUNGJOHANN

In June 2008, George Smitherman was sworn in as the energy minister of Ontario in Canada. The province was already low-carbon, generating one-quarter of its energy from hydropower and more than half from nuclear. But the reactors were ageing, and Smitherman was keen to push renewable energy further.

One of his first actions was to go on a fact-finding mission to Denmark and Germany. Danish renewable-energy campaigns that began in the 1970s had inspired a movement in Germany known as *Energiewende* ('energy transition'). Smitherman encountered innovations such as ways to turn municipal and agricultural waste into electricity and heat. And in Freiburg, Germany, mayor Dieter Salomon introduced him to the country's Renewable Energy Sources Act. Passed in 2000, the act gives everyone from utility firms to individuals the right to produce renewable electricity and sell it to the grid — even if conventional power plants have to ramp down to accommodate it.

Smitherman told his advisers to "imagine a world where we could emulate their success". So in 2009 the Ontario Green Energy Act was passed in an attempt to foster community-run renewable-energy schemes.

As a result of the act, by the end of 2016,

Ontario was home to nearly 40% of Canada's wind-power capacity and 98% of its solar capacity. This success, however, did not stem from a German-style grass-roots movement for renewables.

Instead, the subsidies provided by the act attracted big foreign firms. "Companies like Samsung C&T and Pattern Energy of California were the big winners in Ontario for renewables," says an industry insider who prefers not to be named. "The process favoured those who filed first," he says. "No community project could act as quickly as a commercial project, with paid staff to watch the process."

The Green Energy Act placed communities in the reactive position of having to accept projects nearby — they had no veto, only a right to consultation. In the end, the only grass-roots movement the act engendered was one of fierce opposition to wind power. "The government has had a devil of a time trying to get people in the rural parts of the province to put up wind turbines," explains Ontarian TV news anchor Steven Paikin, who has followed developments closely. Several of the strongest opponents of large renewable-energy projects in Ontario are former proponents of community schemes that were shut out by industrial giants from outside the province.

Ontario is not alone in failing to replicate the

German model. More than 100 jurisdictions worldwide have adopted policies similar to Germany's Renewable Energy Sources Act, resulting in great growth in renewables. But nowhere — not in the Czech Republic, France, Spain, Italy or Ontario — did this growth come mainly through community projects as intended.

The legislation in Germany was instigated by an existing grass-roots movement, but copycat policies attempt to do just the opposite — using legislation to inspire communities. The goal of policymakers the world over is to get people more productively involved, yet how to achieve that goal is unclear.

COMMUNITIES BACK RENEWABLES

It is tempting to assume that the driving force behind all renewable-energy projects is a desire to combat climate change, but in fact they are often driven by more immediate concerns. In the 2016 US presidential election, citizens in St Tammany Parish, Louisiana, voted overwhelmingly for the Republican climate-change doubter Donald Trump. One year on, however, Abita Springs, a town in St Tammany, has adopted a vision for 100% renewables. The town bottles spring water for sale and is also home to an eponymous brewery. When fracking for oil and gas was proposed locally in 2014, the Abita Springs Republican mayor

MARGIE VICKNAIR-PRAY

began looking for alternatives that would not risk polluting the water. He adopted the renewables plan in 2017.

This pattern occurs across the country: for example, wind power is thriving in Republican-dominated states such as Kansas, Texas and Oklahoma. “The left sees climate change and renewables as inextricably intertwined,” says Simon Mahan of the Southern Alliance for Clean Energy, a non-profit, non-partisan organization that promotes renewables in the southeast United States. “But Republicans see business opportunities with renewables, regardless of how they feel on climate change.”

Germany’s *Energiewende* didn’t start with concern about global warming, either. In 1974, a conservative farming community near the French border successfully blocked plans to industrialize the region. This resistance inspired other small towns to stand up against big development and come up with community-based renewables and energy efficiency as an alternative to top-down fossil fuels and nuclear energy. By the time carbon emissions entered the public consciousness in the late 1980s, the movement was already well established and calling for democratic accountability in the energy sector. And because Christian Democrat voters — the centre-right party in Germany — helped to launch the *Energiewende*, renewables enjoyed support across party lines.

Today, there are around 1,000 renewable-energy cooperatives in Germany, which have collectively invested more than €1.8 billion (US\$2.1 billion) in wind farms, solar panels and biogas plants. Its early start meant the *Energiewende* had space to grow before the big push for decarbonization. Germany’s big utility companies showed little interest in renewables until recently; as of 2012, they owned only 3% of solar capacity and 10% of wind capacity in the country. Most other countries, however, started with large-scale wind farms and solar

arrays, skipping community-level projects altogether.

No utility company today will fail to take renewables seriously. But they will fight renewable investments in their own territory by competitors — including consumers. It’s no wonder that Ontario attracted developers from abroad; utility companies frequently use renewables to enter a competitor’s territory. One of the biggest investors is Florida Power & Light, which has built almost no renewables in Florida (the ‘Sunshine State’) but is a leader in other parts of North America. Likewise, France’s EDF has built more wind capacity abroad than at home, as have Germany’s Eon and RWE.

EDUCATION AND DEMOCRACY

However, there are a few community-led power projects in the United States. Anya Schoolman, executive director of the non-profit Solar United Neighbors based in Washington DC, has organized 35 buying groups of residential solar homeowners, covering more than 865 solar installations in the wider Washington DC area. Whether they are Democratic, Republican or independent, “people feel that monopolies are sucking our communities dry”, she says. Her projects face pushback from utility companies. “Some are trying to shut down rooftop and community solar movements before too many folks benefit from the technology. But once the word is out, there will be no way to shut it down,” Schoolman says. “The main driver, I think, is education.”

Education has many benefits. Through decades of community projects, the German people have amassed a wealth of knowledge about power generation. Today, German energy experts do not seek to sway decisions by claiming that the public lacks expertise. Instead, there are clear signs that informed public opinion sways the German government. In 2012, Germany’s environment minister, Peter Altmaier, stopped supporting research

into carbon capture and storage (CCS), saying: “You cannot store carbon underground against the will of the population. I don’t see any support for coal plants with CCS in any German state.” Lack of public support for energy projects is less of a concern in other countries. Philip Johnstone, an energy-policy researcher at the University of Sussex in Brighton, UK, points out that “local opposition to fracking in the United Kingdom gets overridden at the national level”.

Germany’s phasing out of nuclear power is another case in point. Begun in 2002, the process was sped up under Chancellor Angela Merkel in the wake of the nuclear accident in Fukushima, Japan, in March 2011. To guide her accelerated phase-out, Merkel put together a 17-member ethics committee that included three bishops, a sociologist, a philosopher and an education expert, among others. The composition reflects Germany’s current focus on a broader, more inclusive process. The ethics committee provided indirect social input that helped Merkel consider the wider societal

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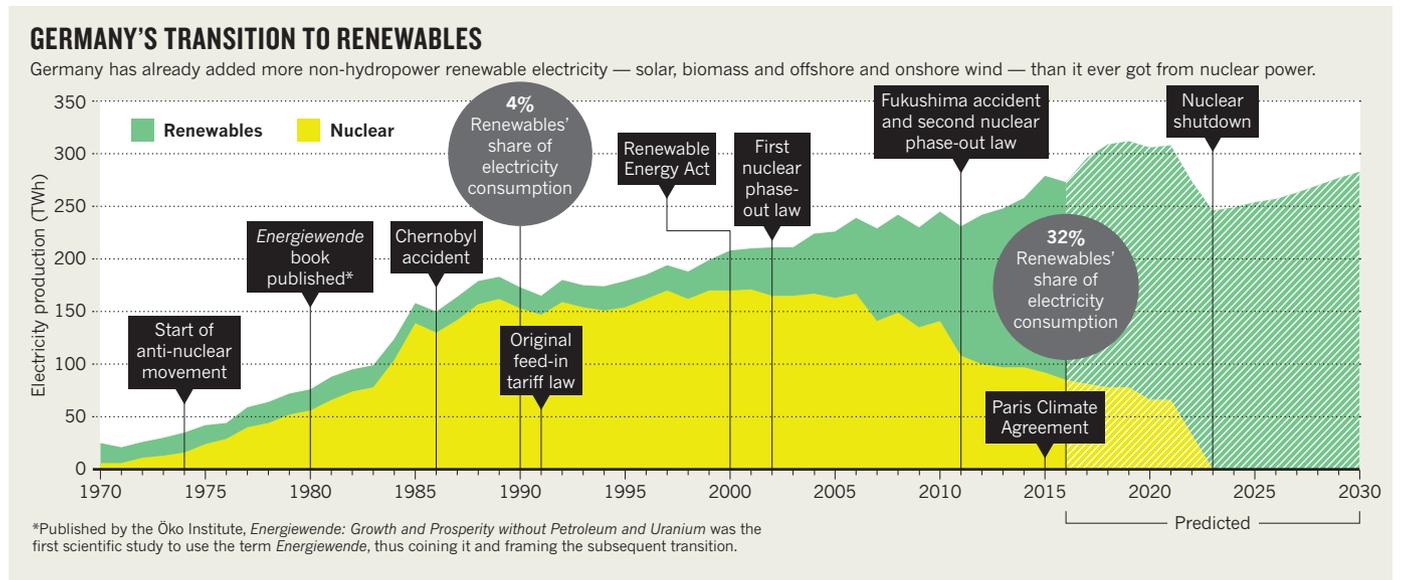
concerns surrounding the energy sector alongside the technological issues.

The German strategy contrasts with the British response to the Fukushima disaster: the Weightman review. The

review was led by the Office for Nuclear Regulation, and its advisory panel consisted only of technical experts; civil society did not have a seat at the table. As a result, Johnstone notes, only technical issues were dealt with: “We weren’t able to ask what society wants.”

Johnstone says that citizen input in the German energy sector is fostered by the structure of its political system. “In addition to cities and the federal government in Berlin, German

SOURCE: AGORA ENERGIEWENDE 2018 (FORTHCOMING) BASED ON AG ENERGIEBILANZEN, STATISTICAL YEARBOOKS OF GDR (AGORA ENERGIEWENDE/ÖKO-INSTITUT, 2017)





A German protest in around 1975. The signs read “no nuclear plant in Kaiserstuhl”, the region’s name.

SASBACH ARCHIVE

Of course, community projects still install solar panels made by corporations: citizens can’t do everything alone. But the reverse is also true: not much can be done without citizens. The crucial step is to find a way to get citizens involved constructively.

LESSONS FOR THE FUTURE

Bill Irwin, a policy researcher at Huron University College in London, Canada, argues that cultural attitudes affect innovation. Ontario suffers from short-term thinking and complacency, he says, whereas Germany plans for the longer term. “The German tenure with going green is in fact 35–40 years in the making,” he says (see ‘Germany’s transition to renewables’). *Energiewende* is a generational project that requires time to gestate. Irwin is hopeful that the current popular backlash against wind power in Ontario is a “necessary step already taken by Germany” in an evolution towards community renewable energy.

Granted, no one wants their project blocked by nay-saying locals, but at least protesters are engaged. For their protest to be productive, people who say no to a project should be required to say what they want instead. The Germans said no to nuclear, and experts demanded to know the public’s preference. The answer was renewables and efficiency.

Nine years after its Green Energy Act, Ontario has its first success stories, and they sound similar to those in Germany and Denmark. Oxford County, an hour west of Toronto, has a plan to go 100% renewable. The county started with ten wind turbines in 2016. At first, locals were concerned about the impact of the turbines, but “now that they are up and everyone can hear how quiet they are, the debate has died down considerably”, explains Miranda Fuller of Future Oxford, a local campaign group that seeks a sustainable community.

Fuller outlines the other community benefits of Oxford County’s scheme. “Homeowners along the edge of the wind farm were won over by the argument that farmland would be protected,” she says. Farmers were worried about the sprawling town of Woodstock encroaching on their land; now, the wind farm will protect their land for at least 20 years (the service life of the turbines). The county has also built a biogas unit, fired with locally sourced bioenergy and waste, to provide new revenue streams and warm local homes through district heat lines. The impetus for this transition to renewables was that it promised improvements to the community: local jobs and citizen input in infrastructure planning. The side effect was climate protection. As Anya Schoolman would say, once word gets out, people engage. ■

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citizens have strong representation in their 16 state governments,” he points out. “The Scots and Welsh have similar regional representation in their parliaments,” says Johnstone, who is from Scotland, “but the English only have Westminster and city councils. There is a democracy deficit in England.”

Scotland has used its regional voice to set out its own energy agenda, which has included community projects for several years; the Community and Renewable Energy Scheme has a goal of generating 500 megawatts annually from community renewables by 2020. Regional decision-making has strengthened community renewables elsewhere in Europe as well. Paris-based energy consultant David Bourguignon says the systems of governance in Brittany, which has a unique identity in France thanks to its Celtic culture, resemble those of Germany. “Local and regional governments work hand-in-hand with citizen-led efforts in order to achieve in-depth transition,” he says. France otherwise has mainly state-driven endeavours, with less grass-roots action. Likewise, the Catalonia region of Spain adopted a plan for 100% renewables this year, but the region cannot implement the plan without approval from the central government in Madrid. Renewables have thus become part of Catalonia’s call for independence.

Regional and municipal decision-making leans towards renewables and efficiency. But when a national government sets the course, “national interests, such as keeping nuclear skills for national security, play a large role”, Johnstone explains. He argues that regions push for local development, which often means promoting renewable-energy start-ups. “In terms of technology, Germany is thus more open to new pathways sometimes blocked in the United Kingdom — partly because the various tiers of German democracy make the country’s markets more open.”

BOTTOM-UP INNOVATION

Communities can be crucial innovators, but business interests can stymie innovation. Policymakers therefore have to help cash-strapped communities act, even when the private sector

cannot expect a return on investments. District heat is one such example.

The heating sector consumes around 50% of total energy supply in cold countries such as Denmark and Germany, compared with about 30% for mobility and only 20% for electricity. Traditionally, each building — and sometimes each dwelling — has its own furnace to generate heat. By contrast, a district heat network can efficiently share heat energy across local buildings through connecting pipes. Such a network is effectively a shared natural monopoly, and access to it can be granted equitably to heat suppliers — no matter the size. “In the beginning, power generators used the pipes to sell their excess heat, which makes fossil-fuel consumption more efficient and power production cheaper,” says Brian Vad Mathiesen, an energy systems researcher at Denmark’s Aalborg University. “Gradually, renewable heat providers come on board: we make heat from excess wind power, and add more solar thermal and geothermal.” Because smaller firms can compete with the big players, there are opportunities for new businesses and innovation; no big utility company can simply refuse to buy the energy.

Firms that sell fossil-fuel power might not promote district heat because they then sell less energy, which has stymied development in some countries. The Netherlands, for instance, is only now rolling out district heat networks, because it is running out of domestic natural gas. Denmark is also an oil exporter, but the Danes solved the conflict by developing consumer-owned, non-profit heat networks. People like the arrangement because they know profits are going back to the community. “Consumers may resent a corporation making profits out of a local natural monopoly like district heat lines,” says Mathiesen.

Equal access to the heat network was thus crucial for renewable heat in Denmark. In the power sector, the grid served a similar role, allowing wind and solar power sellers of all sizes to be profitable. The Danish power grid is state-owned, but if regulations are stringent enough, state ownership of the grid is not necessary — Germany has four investor-owned grid networks.