

Notes on... Germany's federal election

Pick and mix

RENEWABLES / Germany's political parties are vying to see what aspects of their various energy policies they can squeeze into a coalition package / **Thibault Laconde, Paris**

On 24 September, when Germans went to the polls to choose the 19th Bundestag, they probably didn't imagine how decisive their vote might be for the future of their country's energy mix. According to opinion polls, Germans overwhelmingly support the current *Energiewende* (literally meaning energy transition) away from nuclear power and towards renewables, but the topic was barely discussed during the campaign. However, as Angela Merkel's centre-right Christian Democratic Union/ Christian Social Union won with the lowest support it's received since 1949, her only option to secure a majority was to begin negotiating a coalition deal with the liberal Free Democratic Party and the Greens. Needless to say, the three parties don't share a common vision of Germany's energy future. If they reach a deal it will shape the country's energy policy for at least the next five years and possibly until the middle of the century.

In the 1990s, the electricity generation mix was dominated by fossil fuels (about 65%, mostly coal) and nuclear (approximately 30%), with a small share of renewables (almost exclusively hydro-electricity). Germany's energy policy

reflected the balance of power between the pro-nuclear centre-right and pro-coal centre-left. But a third way was already taking shape. It originated in the anti-nuclear campaigns of the 1970s and scored its first major victory in the mid-1980s when Germany ordered a moratorium on the construction of new reactors. These protests gradually evolved into a political movement, uniting environmentalists, green energy entrepreneurs and a part of the government.

A milestone was reached in 1990, when the Helmut Kohl government created a feed-in tariff, with renewables granted priority access to the grid. At the turn of the millennium, support for a gradual phase-out of nuclear power grew sufficiently for it to be ratified by a formal deal in June 2000. This agreement between the Green/SPD majority in government and the four companies operating nuclear plants in Germany limited the amount of electricity that could be generated by each reactor. The country had 21.5 gigawatts of nuclear capacity in those days, the equivalent of seven times that of Hinkley Point C in the UK. The plan was to close the last reactor in 2020.

This agreement was criticised by the opposition centre-right party. But its pledge to "phase out the phase-out plan" was never more than a slogan. Up to the 2009 elections, the CDU/CSU was bound by a coalition deal with the SPD, but even after coming to power it granted nuclear operators a grace period. The 2010 energy law (known as the *Energiekonzept*) postponed the end of nuclear power in Germany from 2020 to 2036. It also set ambitious mid-century targets, including: to reduce primary energy consumption in 2050 to 50% of that in 1990; reduce greenhouse gas emissions by 80%; and increase renewables' share to 80%.

But the deferment of the nuclear phase-out was short-lived. In March 2011, the world was shaken by the meltdown and explosion of three nuclear reactors in Fukushima in Japan. This disaster led Merkel and her party to switch positions. The law extending the lifetime of nuclear reactors was suspended on 15 March, only four days after the tsunami; and in June, a package of 11 new energy laws was adopted by the Bundestag. The new legislation sharpened the targets for renewables and efficiency, and ordered



Vying for a deal: Germany's main political parties are negotiating how future energy policy should look

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the immediate closure of the eight oldest reactors. The end of atomic energy use in Germany was decreed to end in 2022.

Renewables surge

What are the results, now that the country is half-way to this deadline? From a technological point of view, the energy transition is undoubtedly a success. Germany has witnessed a spectacular surge of renewables in electricity production: from 6.6% in 2000 to 29% in 2016 and even 38% in the first half of 2017. It's worth recalling that 10 years ago many experts believed that even a small percentage of intermittent energy sources would harm the stability of the electricity network. Today, solar and wind routinely account for 50% of power generation, and the German grid is one of the most reliable in Europe.

For the economy, however, the *Energiewende* has brought costs as well as benefits. The development of renewable energy has dragged wholesale electricity prices down: in 2016, the average spot price in Germany was €28.98 (\$34.13) per megawatt-hour, while in France it was €36.75/MWh and in the UK €49.12/MWh. Germany's price, among the lowest in Europe, boosts industrial competitiveness and has enabled the country that was a net importer of electricity in 2000 to become in 2016 the world's third-largest exporter.

But cheap electricity doesn't reach households: retail prices are among the highest in Europe as individual consumers finance the feed-in tariff via a tax on their electricity bills. This tax rose from 2.1 cents per kilowatt-hour in 2010 to 6.9c/kWh in 2016 and is projected to increase until 2023. Even though recent tenders show that renewable energy can now be developed with virtually no subsidy, German households will continue to pay for the investments made when costs were much higher.

Finally, Germany's proactive energy policy has shaped a strong small-and-medium-enterprise base and has enabled the country to become the world leader in the field of green energy: in onshore wind turbine manufacturing, for example, three of the world's top 10 manufacturers are German. The energy policy has also revived

a tradition of local energy management with many cooperatives taking on electricity generation. Today, about half of the renewables capacity is owned by individuals or small enterprises like farms, while only 7% is controlled by large utilities. But this decentralisation, coupled with the decline of coal and nuclear power and low wholesale prices, has also weakened big electricity producers, which are still critical for the country's energy security.

The environmental picture is also mixed. The share of fossil fuels in electricity generation has continued to decline. Coal, in particular, accounted for 50.5% of electricity production in 2000, 42.9% in 2010 and 40.3% in 2016, showing clearly that the closure of nuclear plants hasn't led to a shift to greater use of coal, as some had expected. But the share of coal in the German mix remains higher than the OECD average. Coal-fired plants are now the elephant in the room: no one wants to talk about them because the mining industry still plays an important economic and social role, especially in the disadvantaged Länder region of the east. But, unless Germany abandons its climate goals, the topic will ultimately have to be addressed.

Party platforms

Despite some difficulties, it's now very likely that Germany will reach its target and replace all its nuclear production with renewable energy in 2022. Which raises the question: what will come next?

That's where the most recent elections come into play. The CDU/CSU, FDP and Greens have very different opinions on what the next step for the *Energiewende* should be. If they reach an agreement on a coalition, the deal will certainly include trade-offs that will become the foundation stone for Germany's new energy policy.

During the campaign, the CDU/CSU politicians advocated what's probably the mainstream view in the country: they acknowledge that the renewables support scheme should be reformed, but are committed to the current nuclear phase-out goal, green energy and the reduction of greenhouse gas emissions. But they won't budge far beyond that. The phasing out of coal is regarded as a long-term objective, but contingent on economic alternatives

being developed for mining regions. In addition, they want Germany to protect its industrial leadership, not least in the automobile sector, implying that internal combustion engines (ICE), even diesel ones, are here to stay.

Unsurprisingly, the FDP's slogan is that energy policy should be based on market not state intervention. They want to cancel renewables targets and support schemes, believing that fossil fuels will remain indispensable for the foreseeable future. However, they support climate accords, as long as greenhouse gas emission targets remain reasonable, and back market-based carbon pricing.

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The Green party advocates a much more aggressive climate policy. During the campaign their leaders pledged to close immediately the 20 most polluting power plants in Germany and introduce 100% of renewables in the power sector by 2030. The Greens plan to phase out coal and ban ICEs in new vehicles by 2030. To achieve these targets they envisage a tougher version of the European carbon market and a vehicle tax based on CO₂ and NO_x emissions. However, they admit that electricity costs are a burden for households and want to find new ways to support renewables.

Finding a common ground will be difficult, but not impossible as German policy-makers have long experienced this type of deal-making: last June, the three parties overcame their divisions and reached a joint agreement on governing Schleswig-Holstein, a state bordering Denmark. But negotiations on all the fine details of a future coalition are likely to take weeks, if not months. Only then, will we have an idea of what's coming next for German energy. **PE**