

# German coal's long sunset

Germany has revealed its plan to phase out coal by 2038 but disappointment with the result suggests the struggle over when to close power plants may have only just begun.

By **Nathan Witkop** » [newsdesk@montelnews.com](mailto:newsdesk@montelnews.com)

The deal – when it finally came late on the third Wednesday of January – met with swift derision. Federal and state leaders announced their agreement the ensuing morning, almost a full year after a commission presented its hard-fought recommendations on how to wind down a fuel that has powered German industry for well over a century.

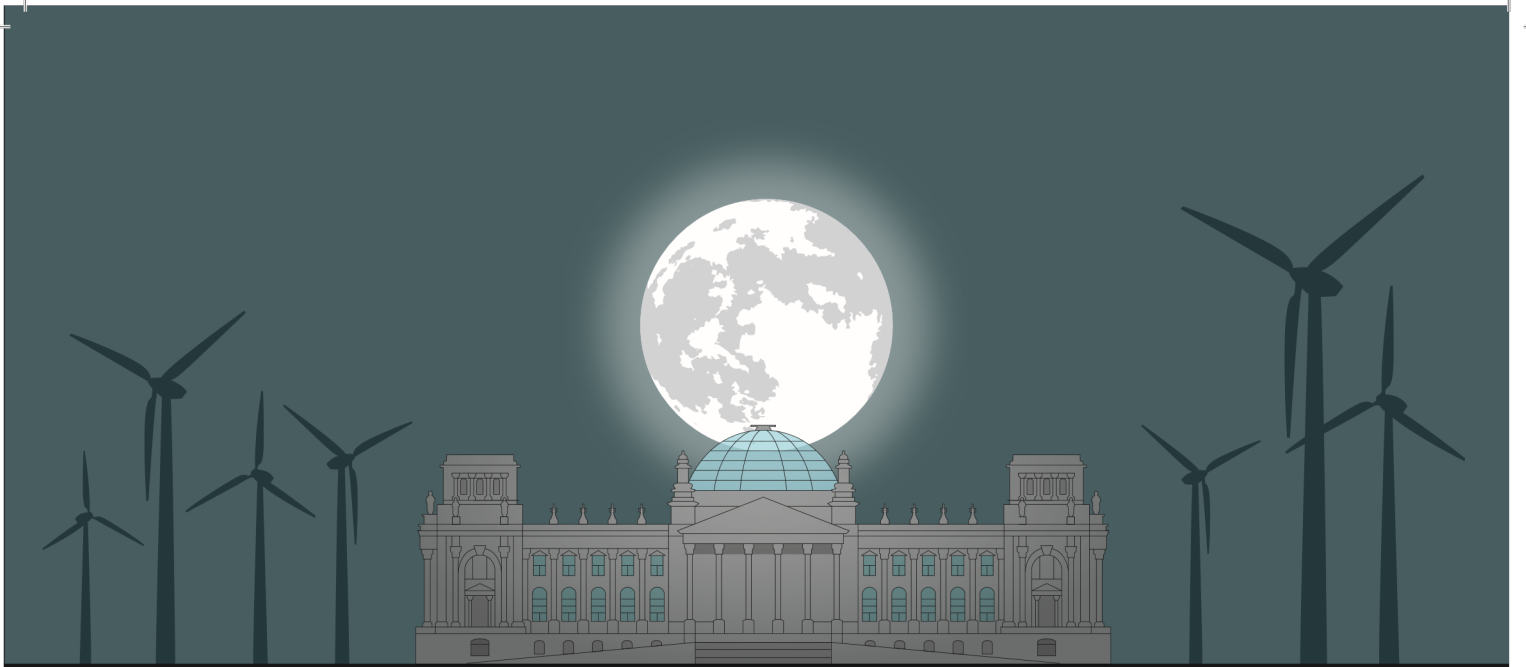
The broad outline of the phaseout has been known for some time. Germany will end coal use by 2038 at the latest. It will shut down hard coal-fired power plants through auctions that find the cheapest units to close first. The owners of lignite plants, linked to sprawling open cast mines, will be paid out directly. What observers had been waiting to discover were the details: the schedule for lignite closures, the level of compensation and how Berlin would match its policy with Europe's emissions trading scheme. Ignoring the impact on the EU's main climate instrument could have substantially eroded the environmental benefits of Berlin's policy.

**Germany has roughly** 20 GW of hard coal and 18 GW of lignite-fired power plants, which together can meet almost half the country's

peak potential power demand. Lignite is the more carbon intensive of the fuels and so the timetable for closing these units is of great significance to climate goals. The so-called coal commission, which had brought together experts and affected parties in 2018 to hammer out a compromise proposal, had recommended a linear path of closures with at most 9 GW of lignite still online in 2030. The government was supposed to turn these recommendations into law, but always reserved the privilege to adapt them.

**Berlin will instead** concentrate the bulk of closures toward the back end of three periods, though if all goes well, it could pull the exit date forward to 2035. According to the plan it will close almost 3 GW of lignite by 2022, another 6 GW by 2029 and the final 9 GW over the subsequent decade – leaving as much as 6 GW still online in the last year of shutdowns.

“This obviously violates the spirit of the recommendations agreed upon by the commission,” says Christoph Maurer, head of Consentec, a Berlin-based consultancy that frequently advises government on ►



energy policy. Maurer doubts Germany will be able to meet its climate objectives given the cumulative difference in emissions released by delaying power plant closures as long as possible. Germany aims to cut its emissions by 55% on 1990 levels by 2030 and become carbon neutral by mid-century.

## **“The much-anticipated power supply crunch... will very likely not happen”**

In a nod to the EU carbon market – which is heavily oversupplied with emissions allowances – Berlin has promised to cancel permits of power plants that are closed, thereby preventing them exacerbating the glut and making it cheaper for others to keep emitting. However, this comes with a caveat. The cancellations will only be carried out above the effect of a new mechanism on the ETS aimed at mopping up excess supply, the so-called Market Stability Reserve.

**The compensation scheme**, meanwhile, will see the country’s biggest power producer, RWE, and Mibrag, an eastern German miner, receive a cumulative EUR 4.4bn for closing their lignite assets. Coal mining states will receive EUR 40bn in federal investments to offset structural change. “What might have justified the vast amount of compensation payments to various stakeholder groups was the overall objective to reach a long-term agreement which could not easily be dismissed by any future government. My fear is that such long-term

consensus might now be out of reach,” says Maurer.

Some of the most savage criticism has come from those who took part in the coal commission. Barbara Praetorius, an energy economist who served as co-chair, immediately took to Twitter to label the result “really disappointing”. The idea it aligned with the commission’s recommendations was “hubris”. Another economist on the panel with long experience advising Berlin on carbon markets, Felix Matthes, says it potentially adds another 180m tonnes of emissions from lignite plants alone.

A willingness to allow Germany’s last new hard coal-fired power plant to come online – Datteln 4 – could swell this further, unless the government tenders for significantly more hard coal plant closures, Matthes says. Patrick Graichen, the head of Germany’s Agora Energiewende think tank, says the plan is so devoid of ambition it will inevitably be reopened by the next administration. “The next battle will be the next government,” Graichen says.

**Markets initially responded** with muted surprise – carbon prices rose, and power sold off. This unusual combination suggests traders previously expected Germany would need fewer emissions permits in future, and that more power plants would close earlier. “The much-anticipated power supply crunch... will very likely not happen,” says Yan Qin, an analyst for Refinitiv. Berlin consultancy Enervis has revised its outlook. It now sees the coal exit inflating benchmark power prices by EUR 2.50/MWh relative to business as usual through to 2026. This is EUR 1 lower than its prior assumption. German power began the year at just over EUR 44/MWh. Analysts polled by Montel expect the benchmark to rise to just over EUR 48/MWh this year, mostly due to carbon market reforms.

Rising prices should be welcome. After all, Berlin is relying on them ►



to send a signal to investors to build replacement power plants – and clean ones at that. Wholesale power prices are yet to do this. “We have 40 GW of coal left, if you take all of that out by 2040 you need to replace most of it with gas,” says Julius Ecke of Enervis. “It is not as if Germany has huge overcapacities left anymore.”

Gas plants are likely to go from having several thousand operational hours a year this decade to less than a 1,000 per year over the 2030s as renewables dominate the power mix, Enervis expects. Building such plants will be a hard sell to investors without a guarantee they can turn a profit. Not least because they too will need to decarbonise over the next 30 years. According to BDEW, an energy industry association, Germany has just 0.6 GW of gas capacity under construction.

In fact, scarcity is already upon Germany, says Marc Oliver Bettzuege, a director of Cologne’s Institute of Energy Economics (EWI). In their latest annual assessment, grid operators identified a potential 5.5 GW shortfall of secure capacity next winter. Germany will have to bridge this by contracting for potential backup supply from abroad. The urgency of ensuring energy security will become increasingly clear

this year, especially in the country’s south, Bettzuege says. Network bottlenecks here make the region particularly vulnerable to the loss of further power plants. Southern Germany is on track to lose its last 4 GW of nuclear capacity over the next three years.

**Berlin will have** to find ways to reassure investors they can get a return on critical infrastructure – scarcity pricing will not cut it, Bettzuege says. “Large-scale programs in power have regularly taken place under some form of government commitment.” Whether in the post-war years, or more recently to develop renewable energy, successive governments have had to use some form of “cost-plus” approach to build desired infrastructure. This will be all the more important to decarbonise the gas system that is likely to be Germany’s bridge to a clean future. And hydrogen, according to Bettzuege, will play a key role.

Hydrogen combustion emits no CO<sub>2</sub> and the fuel can be created both synthetically and without emissions. It is a promising long-term solution for a clean energy system – perhaps the only one. “There is no credible scenario for an industrialised Germany without hydrogen.” Yet the future is uncomfortably near.

**The natural gas** industry needed three decades to gain a 25% market share of the power sector. But at least it started with a competitive fuel, Bettzuege says. The hydrogen economy has three decades to build its own supply, demand and infrastructure and is starting without the same advantage.

“Power and hydrogen will have to be the major final energy carriers,” Bettzuege says, adding it will be up to governments in Berlin and Brussels to put the necessary incentives in place soon. “The state has a major role to play, because the state has taken on so much responsibility for shaping the market.” ■