

# Power markets on the rocks

Amid shifting market structures, resource mixes and policy sets, some argue that US wholesale power markets are in danger. The coming months and years will prove critical in determining their future, writes Jared Anderson



**US** power markets are in the spotlight amid a flurry of power plant retirements and subsequent efforts by various forces to keep them afloat. Some market watchers suggest the shifts in market structure, resource mixes and policy sets should come as no surprise – and that perhaps the country’s experiment with competitive wholesale markets should be abandoned – while others believe that power markets will persevere and even expand.

US power markets were restructured in the 1990s to introduce more market-based competition and separate monopolies many utilities had on the value chain from generation to transmission and local delivery. But in recent years, the merchant power generation model, in which generators earn profits by selling energy and capacity in wholesale markets, has come under threat – with coal and nuclear particularly hard hit.

Squeezed by abundant shale gas and the growth of renewables, coal plants have been shutting at a rapid clip, with 46.5 GW having retired between 2013 and 2018. That total does not include permanent conversions to natural gas, which might account for about an additional 10 GW, according to S&P Global Platts Analytics.

In addition, 4.8 GW of nuclear capacity has retired over the same timeframe. On a net basis, nuclear plant owners have announced 10.8 GW of retirements by 2023.

While many of these plants are older and less efficient than newer technologies, coal and nuclear power plants have also struggled to make money in competitive markets, where cheap natural gas prices have put downward pressure on power prices.

In order to stem the tide of recent coal and nuclear plant retirements, the US Department of Energy issued a Notice of Proposed Rulemaking last September, calling for cost recovery for power plants that maintain 90 days of fuel onsite. The DOE had argued that select nuclear and coal-

fired facilities needed financial support to remain operational and support power grid resilience.

In January, however, the Federal Energy Regulatory Commission rejected the NOPR, saying that US power markets were not facing a supply risk. But FERC did agree to study the resilience of the US power system, a process that was ongoing as Insight went to press.

In June, US President Donald Trump directed Energy Secretary Rick Perry to take emergency steps to help financially struggling coal and nuclear power plants. Perry has confirmed DOE is considering whether two obscure laws could be used to that effect, but has given no timeline for acting.

Perry told reporters in late June that power market economics are “secondary from my perspective,” when considering grid reliability through a national security lens.

### Markets “on life support”

“I would go so far as to say that the pure restructured model is, at best, on life support in many of the states where it was adopted,” said former FERC commissioner Tony Clark in a recent editorial. “The federal wholesale regulators at FERC designed an entire construct around the restructured market model, but places like New York, New Jersey, Massachusetts and Illinois can no longer credibly be called full retail choice/restructured states,” he said.

Clark’s colleagues at law firm Wilkinson, Barker & Knauer wrote in a recent white paper that the only functioning regulatory constructs for electricity were vertically integrated markets with planned utilities underneath residual energy markets, like the Southwest Power Pool and Midcontinent System Operator. The deregulated model “lays in tatters, trampled by interventions,” they said.

In addition to shifting economic winds fanned by the shale gas revolution and decreasing costs for renewable energy sources, restructured power markets are being challenged by state clean energy mandates, public policies and subsidies.

“I think they’re [power markets] in real danger of unraveling,” David Ismay, senior staff attorney with

the Conservation Law Foundation, said during a panel discussion in May at the S&P Global Platts Northeast Power and Gas Conference in New York.

In the name of addressing climate change and local air pollution, states – particularly in the northeast – have been enacting policies like renewable portfolio standards and, more recently, zero-emissions credit programs to save nuclear power plants that don't release carbon or other smokestack pollutants.

Often described as “out-of-market” subsidies, such policies irritate competitive power markets by favoring certain generation sources. Market purists say these policies have no place in the wholesale markets and regional grid operators have been creating rules to protect market integrity from policy distortion.

This is not without controversy, however, and has led to friction between grid operators, merchant generators and states in New England, New York and the PJM Interconnection. Nuclear plant subsidies and potential action from the DOE to save selected coal and nuclear plants “threaten the foundations of the PJM capacity market and the PJM energy market as well as the competitiveness of PJM markets overall,” the grid operator's independent market monitor, Monitoring Analytics, said in a recent report.

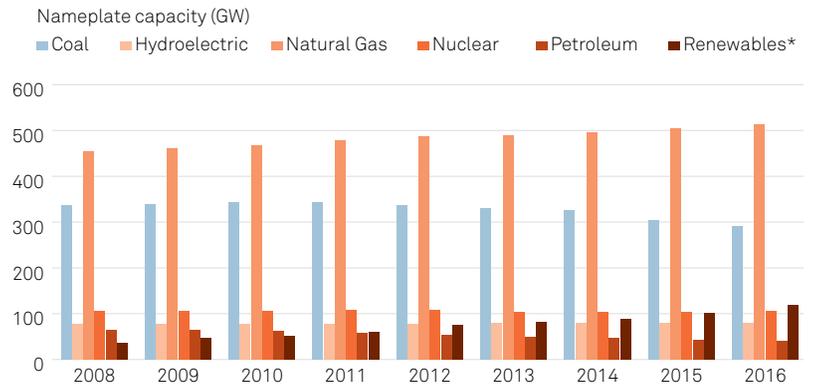
## Carbon price needed

Multiple experts pointed to the lack of a carbon price as a strong contributor to competitive power market stress. “The primary issue remains the failure to implement means of pricing carbon, and the corresponding failure of state governments to rely on such mechanisms in lieu of technology-specific targeted incentives,” said AJ Goulding, faculty affiliate of Columbia University's Center for Global Energy Policy and president of London Economics International.

“More broadly, the issue that competitive electricity markets need to grapple with is how to economically dispatch a growing mix of zero marginal cost resources and storage as these resources increase their share of the overall installed capacity base,” he said.

Due to the absence of a coherent carbon pricing policy, states have been using second- and third-

## US power generation fuel mix



\*Renewables include wind, geothermal, solar thermal and photovoltaic, wood and wood derived fuels.

Source: EIA

best methods to direct investments, said William Hogan, the Raymond Plank Professor of Global Energy Policy at Harvard University's John F. Kennedy School of Government. “As always, the confused situation sets the stage for special interest pleading for government to subsidize or mandate investments that would otherwise be uneconomic but have powerful supporters,” he said.

Scott Miller, executive director of the Western Power Trading Forum, said there was a “push me, pull you” effect with regard to states pushing renewable portfolio standards, federal policies of tax credits and other subsidies that are now producing inexpensive renewables that knock traditional thermal baseload generation out of the dispatch.

“Markets will survive because they make the most sense over time as macroeconomic effects that are unknown now eventually cause a return to rationality and market economics,” Miller said. “However a lot depends on what FERC does in the short-term,” he added.

## Renewables optimism

Beyond the current challenges, there is some optimism about the potential for wholesale power markets to ensure a more efficient allocation of energy resources in future. If small-scale distributed generation and renewables became more widespread,

Harvard University's Hogan said that markets and price signals would likely play a key role. "If the future implies expansion of distributed energy resources that are going to facilitate operations, then it is hard to conceive of success here without a market and improved pricing signals," he said.

"Hence, from the perspective of short-term wholesale markets, the experiment has not run its course. If anything, we are on the cusp of a great expansion of the importance of markets in the future electricity system," Hogan said. The short-term markets needed improved pricing, most notably in terms of treating scarcity conditions and providing the right signal at the right time, he added.

Power markets are clearly at an inflection point where they could devolve into more regulated structures, or new hybrid models. The next few months will be critical, as some market participants pursue their agendas and others brace for the impact of potential federal intervention.

"The future of competitive wholesale markets is not preordained but will play out case by case, issue by issue, market by market," John Shelk, president and CEO of trade group Electric Power Supply Association, told S&P Global Platts. "That future will hinge on whether the DOE succeeds in bailing out coal and nuclear, whether states take markets for granted with out-of-market subsidy schemes, whether courts allow states to intrude on FERC's regulatory space, whether FERC acts boldly to mitigate federal and state out-of-market payments, and ultimately whether consumers and others band together to defend the markets. If markets fall, consumers lose," he said.

Whatever the outcome, US power markets appear set for considerable change over the coming months and years. ■

*Additional reporting by Mark Watson*

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### Power perspectives

"Competitive wholesale power markets are here to stay. There are always regulations and incentives on markets which shape the competitive framework, and harm or incentivize generation sources. While politicians and regulators may be able to tweak, or even more than tweak markets, most of them know instinctively not to take it too far as ending competitive power markets would be perilous."

*Matthew Cordaro, trustee at Long Island Power Authority, former utility CEO*

"After twenty years in the competitive power market business, my view is that the US power markets have been a stellar success. The markets as structured do an exquisite job in allocating resources in the short term and providing the data needed to value resources in the longer term. The insights we glean from market data are rich with detail."

*James Carson, principal at RisQuant Energy*

"As we look to the future, electricity markets must adapt to deal with a rapidly changing supply base that is incorporating more renewable capacity as well as a demand pattern that includes increasing energy efficiency and demand side resources. With more stakeholders than ever trying to influence this sector, we expect the competitive electricity markets to continue to evolve in new ways, and that regional variation will remain a fixture across the industry. However, we believe the wholesale electric markets are far from failed experiments. They will persist."

*David Cherney, energy markets expert at PA Consulting*