At the end of June, in a vote divided along partisan lines, FERC handed down a sweeping order that will impact electricity markets in a wide swath of the country. — likely at the expense of renewable energy and nuclear power. Unfortunately, like Trump's power plant bailout, the result may be to delay the closing of coal-fired power plants. That's a serious problem. A new study by researchers at Resources for the Future shows that a two-year delay in plant closings would cause 353-815 deaths and release 22 million extra tons of carbon. A two-year delay would cause one death for every four or five coal mining jobs it saved for those two years.

The FERC order applies to PJM, which operates a vast part of the national grid encompassing much of the mid-Atlantic, upper South, and Midwest. My first thought was that the order was basically a different version of Trump's bailout plan for coal, but that's unclear to me on closer examination. For one thing, besides taking a swipe at renewables, the FERC order targets nuclear plants that receive state subsidies of the very kind that Trump wants to mandate. But it's clear that both Trump and the GOP majority on FERC look with disfavor on renewable energy.

The FERC order involved what are called capacity markets, which I've discussed at length in an earlier post. As I explain in the earlier post, they're complicated and hard to understand, which also frees policymakers like FERC from much oversight. But I'll do my best to explain how the markets work, what FERC wants to do, and why.

Capacity markets are distinguished from "energy markets," which utilities actually use to buy the power they need when they need it. Capacity markets are artificial constructs designed to ensure that there will be enough power to meet peak demand. The basic idea of capacity markets is that utilities say how much power they'll need, and FERC then compensates generators for being available to serve the total requirement. The amount of compensation is based on an auction. Generators state how much power they are willing to commit to at what price. The price is set by the marginal bidder – that is, the one that offers to supply the last kilowatts of power needed to top up the necessary capacity. That means that sources that bid in at lower prices – often including renewable sources because their generation costs are low – get paid more than they bid. The utilities then pony up their shares of the total price, which they then pass on to their consumers. This is a very complex system, of unknown effectiveness in incentivizing new power generation. States like California and Texas get by just fine without capacity markets. But for whatever reason, some regional grid operators like PJM prefer to use them.

FERC's concern is about how capacity markets interact with state policies supporting renewable (and in some places nuclear) energy. Many renewable sources in PJM and some nuclear reactors are also receiving revenue from selling renewable energy credits, which utilities in many states buy to satisfy state renewable energy mandates. The GOP majority on the Commission sees this revenues as double-dipping if the generators of renewable energy also get revenue from the capacity market.

The FERC order sketches out a two-prong approach. The first part, called MOPR, would add revenue from state subsidies to capacity market bids. (There's a clear explanation of how MOPR works in a case involving an earlier PJM rule in a Third Circuit opinion.) In some cases, the result would be that renewables and nuclear would be assigned bids above the price that clears the market, meaning they would get no revenue from the capacity market. By itself, however, this adjustment would distort the market by paying other generators for providing generation capacity that will never in fact be needed. Because nuclear and renewables tend to have very low operating costs, they will in fact end up providing a good deal of power to the grid, and there is no point in paying other generators for being prepared to supply power that in fact will never be needed. Thus, the second part of the FERC order (called FRR), which would allow subsidized sources to opt out of the capacity markets entirely. Opting-out would also mean that the power they provide will no longer be counted as part of the system's capacity needs or those of their customers.

How any of this would work is very vague, and the Commission gave the parties an absurdly short timeframe to present their positions on the details. The demand for speed may be intended to allow the new system to be launched before the new big capacity market auction in May, 2019. Or it may be an effort to head off Trump's more heavy-handed bailout plan for coal-fired power plants, which the commissioners oppose.

The FERC order is very unclear about just why this remedy is needed. The goal of capacity markets is to provide an incentive for investment in additional generation needed for the future. But PJM has plenty of excess capacity now, and demand is flat. And the Commission provides no evidence that current construction of new capacity is inadequate or will even be increased by the order, as opposed to simply shuffling capacity payments around between existing generators. FERC also touches on some other justifications, both in the majority opinion and in a concurring opinion, but they aren't fleshed out in any detail. The basic idea is simply that subsidies distort markets, which is a bad thing, but the Order is short on

explanation of just how these particular subsidies adversely affect new investment. FERC also fails to rebut the argument that the subsidies are actually just correcting other market distortions and therefore improving the market. And it leaves open the question of what subsidies will be covered, a big question because subsidies are rife in the electricity sector.

One argument given for the Order is that the PJM capacity market as currently operated requires other states to financially support energy sources that get one state's subsidies. The idea of an unfair burden on other states sounds good but falls apart on closer examination. First of all, while other states may be making payments on the capacity market to the subsidized generator, they also benefit from getting very cheap power on the energy market from those generators. So this seems like a wash. Second, many of those states have similar incentives for renewables, so they don't have much room to complain. And third, FERC's whole goal is to *raise* prices on the capacity market, so those other states will actually end up paying more than they were paying already. It's just that their money will go to fossil fuel plants rather than zero-carbon plants. In short, one state's subsidies benefit other PJM states twice: once by lowering prices on the capacity market and once by lowering prices on the energy market.

The FERC majority's fundamental mistake is thinking there is some competitive ideal that can be applied to an artificial construct such as a capacity market. Purchasers would not voluntarily enter this market — they are essentially forced to contribute to a FERC fund for compensating generators, and the purpose is to set a price that will provide the right incentive for other firms to enter as needed to supply power demand. And like everything to do with the energy sector, firm behavior is influenced by host of taxes and subsidies. The only real test for the success of this "market" is whether the final price is accomplishing what it is supposed to do, which is to ensure demand is met over the long term at the lowest possible price.

Assuming it is upheld by the courts, how the Order will ultimately impact electricity markets and renewables is quite unclear. Some states may choose to withdraw from PJM. Depending on how the rule is ultimately structured, many renewable resources may end up simply operating outside the capacity market, cutting that market adrift from the actual realities of power generation. Some experts speculate that capacity markets might dwindle away in some areas. That could really hurt coal and nuclear plants, which depend on revenue from the capacity market. For that reason, as E&E News reports, experts find the effects of the order unclear:

> “What FERC decides next could keep more coal and gas plants online at the expense of nuclear and renewables. Or it could mean a wider shift away from the capacity market, a move that may favor renewables and nuclear — all of which helps explain why climate activists are tracking the decision so closely.”

There will also be tremendous regulatory uncertainty until the whole proceeding is resolved, which could take a long time. FERC is about to lose one of the majority commissioners, which may leave a 2-2 deadlock on the Commission about how to implement the Order. So there’s a chance that the whole proceeding will stall. If FERC does move forward, the courts may well reverse its actions. And of course, there’s a chance that Trump will jump in with a whole bunch of new subsidies for coal and nuclear, which will upset the entire apple cart. In other words, FERC seems to have taken an already messy situation and made it worse.