



BRIEF

PJM files competing capacity market reforms at FERC

By **Gavin Bade** • April 10, 2018

Dive Brief:

- The PJM Interconnection on Monday filed two competing proposals to reform its capacity market at the Federal Energy Regulatory Commission, asking federal regulators to choose how to proceed.
- One proposal from the PJM staff would create a two-stage capacity market to handle the price impacts of subsidized resources. The other, brought by its independent market monitor, would expand the Minimum Offer Price Rule (MOPR) to cover subsidized resources.
- The dueling proposals have divided PJM's stakeholders, leading its CEO to appeal to FERC for a policy decision. FERC last month approved a similar two-part capacity proposal for ISO-New England in a 3-2 vote.

Dive Insight:

PJM's announcement in February that it would file two competing capacity market reforms with FERC was unexpected in the power sector. Only once before had a regional grid operator taken that step — and it was ISO-NE, which has a specific provision in its bylaws authorizing the action.

In an interview, PJM CEO Andy Ott told Utility Dive he made the decision due to consternation over the capacity proposals in his stakeholder group.

“I talked about it with the [PJM Board of Managers], and we made the decision that the policy call should be made by the regulator, not by us,” Ott said. “I know it's a bit odd, a bit surprising, but we thought it was such a crossroads of which way should we go, and then ... the third option is to do nothing and we need to

make a call on that, too.”

Both capacity market proposals aim to handle the impacts of subsidized resources — like renewables or nuclear — that PJM worries will depress capacity market prices.

In the split auction approach, the first part would operate like today, but a second phase would make adjustments to resources covered by government subsidies. PJM would recalculate prices after the first round by removing offers from subsidized resources and replacing them with reference prices, reflecting PJM’s estimates of a competitive offer.

The expanded MOPR would be a simpler construct, applying a minimum pricing rule to any subsidized resource in the market. That plan was more popular among PJM member companies in the stakeholder process, but most members indicated they would rather stick with the status quo and see neither enacted.

Meanwhile, some market observers question whether either reform is necessary. PJM prices are low because of a capacity glut and the low cost of natural gas, Energy Innovation's Robbie Orvis argued, and not largely because of subsidized resources.

“The cure to low revenue is to remedy the extreme oversupply situation in PJM by letting unneeded capacity retire, not to pay all plants more and encourage new entry,” Orvis, director of policy design at the think tank, emailed.

FERC's recent action on capacity market reforms could hint at how the commissioners will view the PJM case. In their ISO-NE decision, regulators approved a similar two-part capacity market proposal, but also controversially designated the MOPR as the “standard solution” to handle subsidized resources in the absence of other policies.

Liberal watchdog group Public Citizen filed for rehearing on that decision on Monday, arguing the ISO-NE capacity market reform is little more than an excuse to increase payments to fossil fuel generators that would otherwise retire.

Offshore Wind States Beware - IER

Dec 2014

Off of the shore of Block Island on the Rhode Island coast, five wind turbines are operating and supplying power to the island. It took years of state and federal policymaking, environmental impact assessments, and town hall meetings for the 30-megawatt wind farm to come to fruition due to its cost and degradation of vistas. It cost \$300 million—\$10,000 per kilowatt—about 10 times more than the cost of a new natural gas combined cycle unit. Further, it is 55 percent more costly than what the Energy Information Administration (EIA) expects a first-of-a-kind offshore wind unit to cost—\$6,454 per kilowatt. In terms of generation costs, EIA expects a new offshore wind farm to be 3 times more expensive than an onshore wind farm.

And now, fishermen are indicating that the wind farm poses serious threats caused by scattering massive metal shafts and snaking underwater cables across prime fishing grounds. Electricity from the turbines is routed via submarine cables to Block Island and to the mainland. Fishermen complain that the area where the cable lines extend to the mainland is completely devoid of fish, which used to be fruitful fishing grounds. Fishermen also complained that their lines have caught on the concrete casings that cover portions of cables that are not buried.

Other Offshore Wind Projects Being Considered

Officials are about to announce the winners of bids to develop much larger wind farms 14 miles south of Martha's Vineyard. Those offshore wind projects are expected to span hundreds of thousands of acres and generate 1,600 megawatts of turbines within a decade.

Fishermen across the region have been pressing officials for answers to their concerns about where the turbines will be located, how far apart they will be built, and the placement of the cables to the mainland. Commercial fishermen urged regulators to study the potential impact of the proposed wind farms on marine mammals, spawning grounds of herring and squid, and other species that inhabit the area. The fishermen also raised questions about the impact of electromagnetic waves pulsing across the seafloor on species such as sharks, which navigate and hunt in part by sensing electrical currents, and how rotating turbine blades could impede their ability to navigate with radar.

One company (Vineyard Wind), proposing to build a \$2 billion, 800-megawatt wind farm, is considering a different placement of the turbines. Instead of placing turbines in an irregular pattern, which would produce the most energy, the company would position them in rows, eight-tenths of a mile apart that would allow two fishing vessels to drag their nets through the area at the same time.

In 2016, to protect valuable scallop and squid grounds, the fishing industry filed a lawsuit against the Bureau of Ocean Energy Management (BOEM) to stop the development of a 26-mile wind farm off Long Island, New York. Besides scallops and squids, the site for the proposed wind farm includes ocean habitats for loggerhead sea turtles, right whales, black sea bass and summer flounder. Fishermen claim that the government never adequately addressed their concerns and failed to consider alternative locations.

They assert that BOEM's process for awarding the lease failed to properly consider the planned wind farm's impact on area fish populations and habitats, shore side communities, safety, and navigation, which violates the National Environmental Policy Act, requiring an assessment of these impacts before issuing the lease, a full Environmental Impact Statement, and an evaluation of alternative locations. BOEM's failure to consider the impacts to fisheries, safety, navigation and other natural resources prior to moving forward with the leasing process also violates the Outer Continental Shelf Lands Act, which charges BOEM with considering and providing for existing ocean users. And

BOEM's actions violate the Administrative Procedure Act, which prohibits agencies from acting in ways that are arbitrary, capricious, and contrary to law.

The Bureau of Ocean Energy Management is the federal agency located in the Department of Interior that oversees the development of offshore wind projects as well as other offshore projects. Officials at the Bureau indicate that they are conducting studies to address fishermen's concerns.

Statoil, which is two-thirds owned by the Norwegian government, won the bid to develop 79,000 acres of ocean off Long Island through a federal auction, bidding \$42.5 million. Their plan is to erect 80 to 100 turbines 14 miles south of Long Beach, extending south-eastward with a capacity of up to 1,000 megawatts.

Conclusion

States considering offshore wind energy (e.g. Massachusetts, Maryland, New York) need to be aware of the ramifications of constructing and operating wind turbines off their coasts. Not only is the technology expensive, but fishermen believe that the turbines pose a real threat to their livelihoods. The opposition of the fishing industry could prove a hindrance for developers of proposed offshore wind farms.



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Green Failure: German Solar Industry Crashes And Burns...Solar Jobs See Blood Bath!

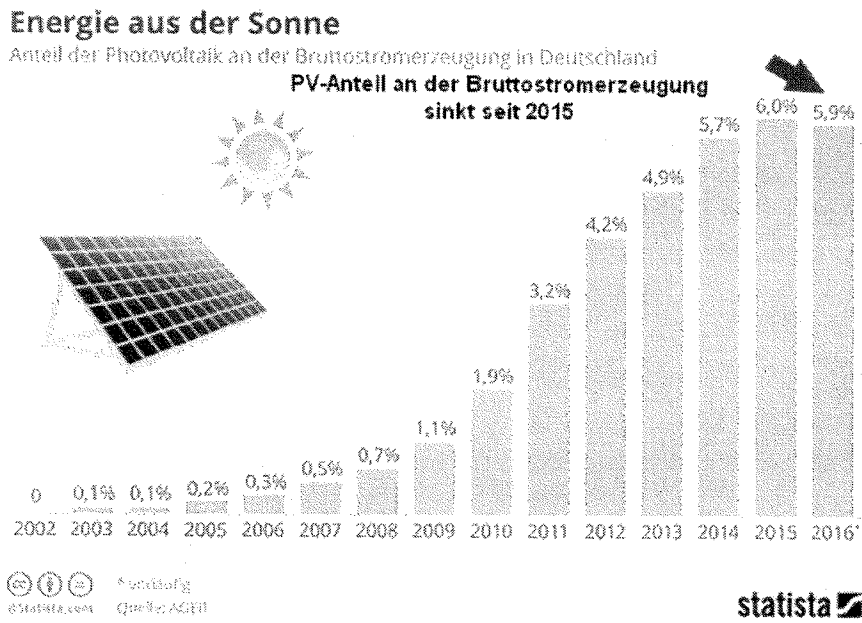
By P Gosselin on 21. April 2018

Michael Kruger at German skeptic site [Science Skeptical](#) here writes about how solar energy industry in Germany has disintegrated spectacularly.

What follows are 4 charts that show us some shocking trends, and how in reality the German solar industry has seen a bloodbath that can be rated as one of the worst in a long time. The reality is that Germany's green revolution is far from being a model for the world.

Solar share of electricity falls

The first chart shows solar energy as a share of gross electricity production:

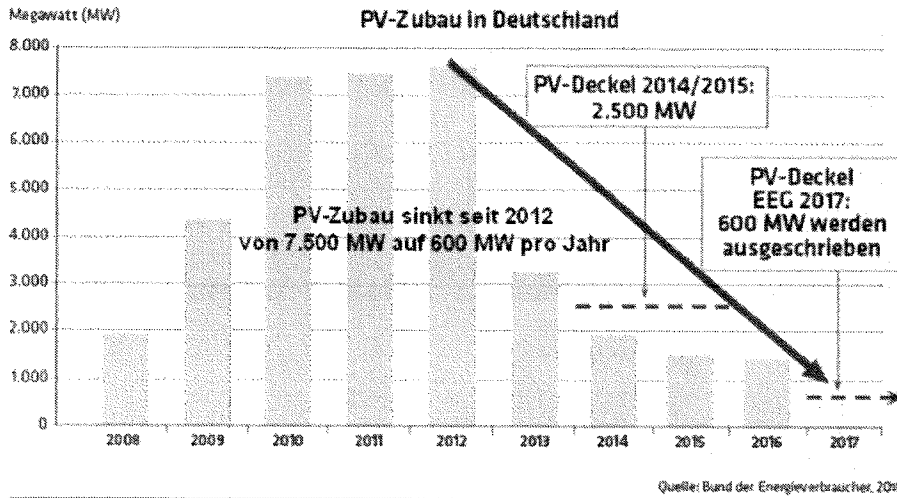


Share of German electricity produced by solar power fell in 2016. Chart: Statistica

The chart above shows the share of solar energy of total electricity production peaked in 2015 and the trend has since levelled off.

Subsidies and investments get slashed

In the next chart, the rate of the addition of new solar power production systems has plummeted. In 2012 over 7000 megawatts of new solar capacity were added.



German solar boom crashed into a wall. Chart: Bund der Energieverbraucher.

But in 2012 the boom ended abruptly as new laws on feed-in rates were enacted in order to keep the solar energy supply from going out of control. In 2017, only 600 megawatts of new capacity were expected to be added. That's a 90% drop!

The crash in new installations of course are the direct result of massive cutbacks in subsidies and investments in solar facilities, as the next chart shows:

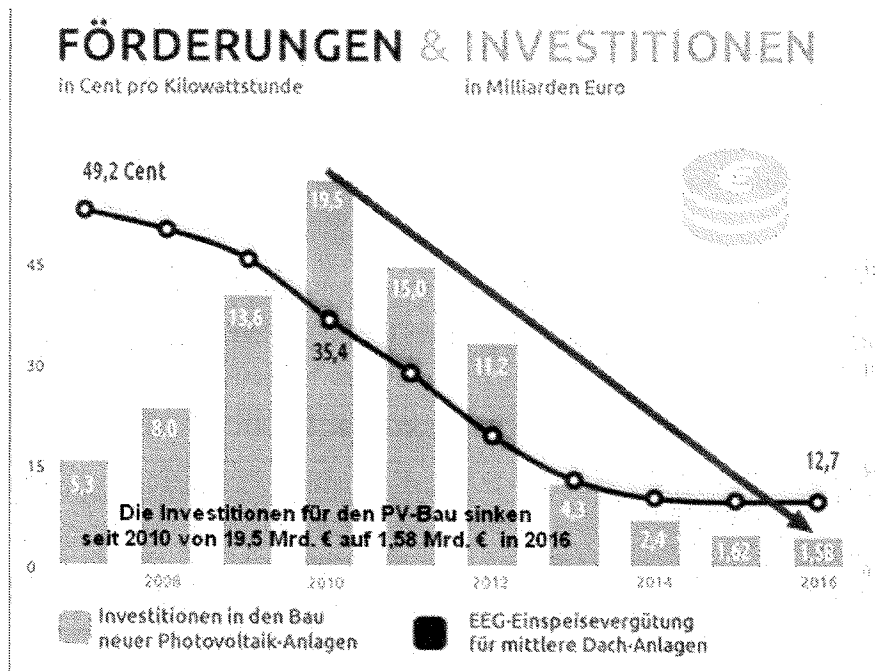


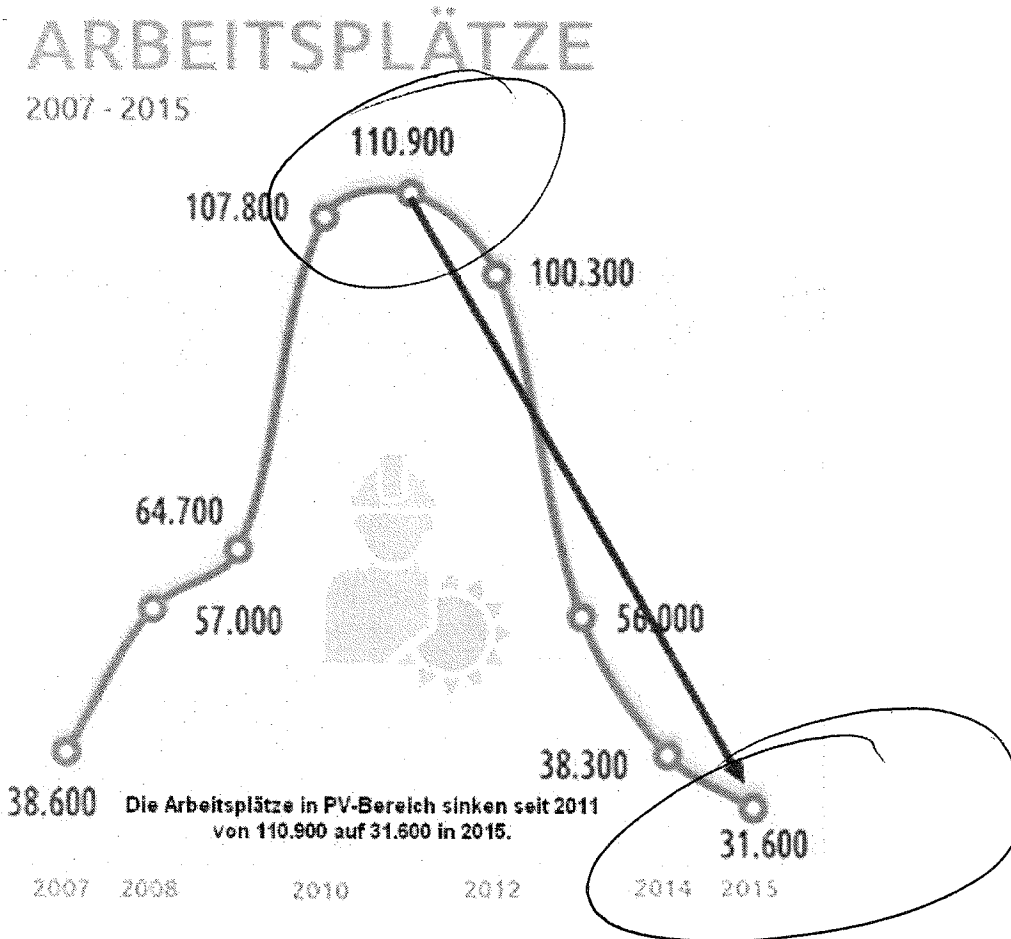
Chart: Bund der Energieverbraucher

As the above chart depicts, feed in rates guaranteed to solar panel operators (Förderungen) fell from a whopping 49.2 euro-cents per kilowatt-hour in 2007 to just 12.7 cents today.

Although solar systems are generally much cheaper, they are much less attractive as investments. While 19.5 billion euros were invested (Investitionen) in solar systems in 2010, only 1.58 billion euros were invested in 2016!

The solar jobs bloodbath

Finally the fourth chart depicts the number of jobs (Arbeitsplätze) in the German solar industry. Here we clearly see a bloodbath.



The number of jobs in the solar industry peaked at some 110,900 in 2011, before crashing spectacularly thereafter. In 2015 there were only 31,600 jobs – a roughly 70% plunge. This naturally was a bitter disappointment for the roughly 80,000 people who lost their jobs, but once had been promised a bright, green future by politicians who had touted a grand master plan.

Moreover, almost every single major German producer of solar systems has gone insolvent.

Kruger summarizes at [Science Skeptical](#):

The solar transformation has failed. Investors are flocking away in droves because of the cancelled feed-in tariffs/subsidies. New additional installations are hardly taking place. The first installations are now being taken offline and the share of solar power in Germany has fallen under 6 percent. The power consumers, who ended up footing the bill for the solar expansion, will however no longer have to pay as much.”

JOHN A NICHOLS
JOANNE NICHOLS
 Account number: 5500 2373 458

Your electric bill for the period
February 21, 2018 to March 20, 2018

Details of your Electric Charges

Residential Heating - service number 0550 0237 3458 7000 9720 23
 Electricity you used this period

<u>Meter Number</u>	<u>Energy Type</u> Use (kWh)	<u>End Date</u> Mar 20 <u>Reading</u> 251704	<u>Start Date</u> Feb 21 <u>Reading</u> 249610	<u>Number Of Days</u> 28 <u>Multiplier</u> 1	<u>Total Use</u> 2094
1ND340907806					

Your meter records electric energy use in hourly intervals. Your bill is the total of all hourly intervals recorded during your billing period.
 End and start date kWh meter readings are provided for informational purposes only.
 Please visit My Account at delmarva.com to view your energy use data.

Your next bill period is scheduled to end on April 19, 2018

Delivery Charges: These charges reflect the cost of bringing electricity to you.
 Current charges for 28 days, **winter rates in effect.**

<u>Type of charge</u>	<u>How we calculate this charge</u>	<u>Amount(\$)</u>
Customer Charge		11.84
Distribution Charge	First 500 kWh X \$0.0323200 per kWh	16.16
Distribution Charge	Last 1594 kWh X \$0.0323526 per kWh	51.57
Low Income Charge	2094 kWh X \$0.0000950 per kWh	0.20
Green Energy Fund	2094 kWh X \$0.0003560 per kWh	0.75
Renewable Compliance Charge:		
Wind & Solar	2094 kWh X \$0.0043570 per kWh	9.12
Qualified Fuel Cells	2094 kWh X \$0.0043570 per kWh	9.12
Total Electric Delivery Charges		98.76

Both the "Wind & Solar" and "Qualified Fuel Cell" portions of the Renewable Compliance Charge above provide compliance required by Delaware's Renewable Energy Portfolio Standards Act. The Qualified Fuel Cells provide customers with approximately 39% of that compliance annually. For more on renewable and clean energy, visit delmarva.com/renewable-energy-portfolio-standards-act.

Electric Summary	
Balance from your last bill	\$0.00
Budget Installment	\$253.00
New electric charges	\$253.00
Total amount due by Apr 11, 2018	\$253.00

Status of your Budget Billing Plan

Service number: 0550023734587000972023
 Start date Dec 2017 End Date Nov 2018
 Electric Charges \$1,319.19
 Budget Installments billed \$1,012.00
Budget difference \$307.19

Bloom ENERGY
18%

Check here to enroll in the Direct Debit plan Sign and date here _____

By signing here, you authorize Delmarva Power to electronically deduct the amount of your monthly bill from your checking account each month. The check you send with this signed authorization will be used to set up Direct Debit. You understand that we will notify you each month of the date and amount of the debit, which will be on or after the due date stated on your monthly bill. You understand that to withdraw this authorization you must call Delmarva Power. You understand that Delmarva Power does not charge for this service, but that your bank may have charges for this service.

Electronic Check Conversion

When you provide a check as payment, you authorize us either to use information from your check to make a one-time electronic fund transfer from your account or to process the payment as a check transaction.

A NICHOLS
ANNE NICHOLS

Your electric bill for the period
February 21, 2018 to March 20, 2018



Account number: 5500 2373 458

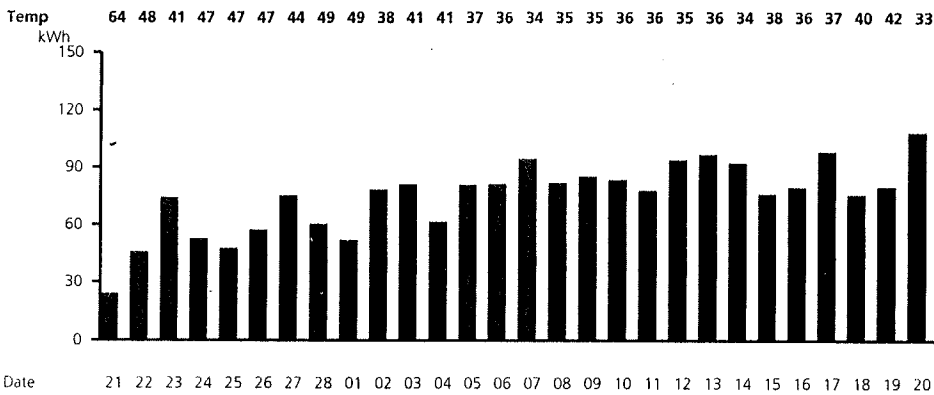
Supply Charges: These charges reflect the cost of producing electricity for you. You can compare this part of your bill to offers from competitive suppliers. The class average annual price to compare is 7.60 cents per kWh.

Billing Period: Feb 21, 2018 to Mar 20, 2018 (28 days)

Type of charge	How we calculate this charge	Amount(\$)
Transmission Capacity Charge	5.98 kW X \$3.0817740 per kW	18.43
Standard Offer Service Charge	First 1200 kWh X \$0.0645100 per kWh	77.41
Standard Offer Service Charge	Last 894 kWh X \$0.0645100 per kWh	57.67
Total Electric Supply Charges		153.51
Total Electric Charges - Residential Heating		252.27

Your daily electricity use for this bill period. Visit My Account at delmarva.com to see your hourly electricity use.

Meter Number 1ND34090/806



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