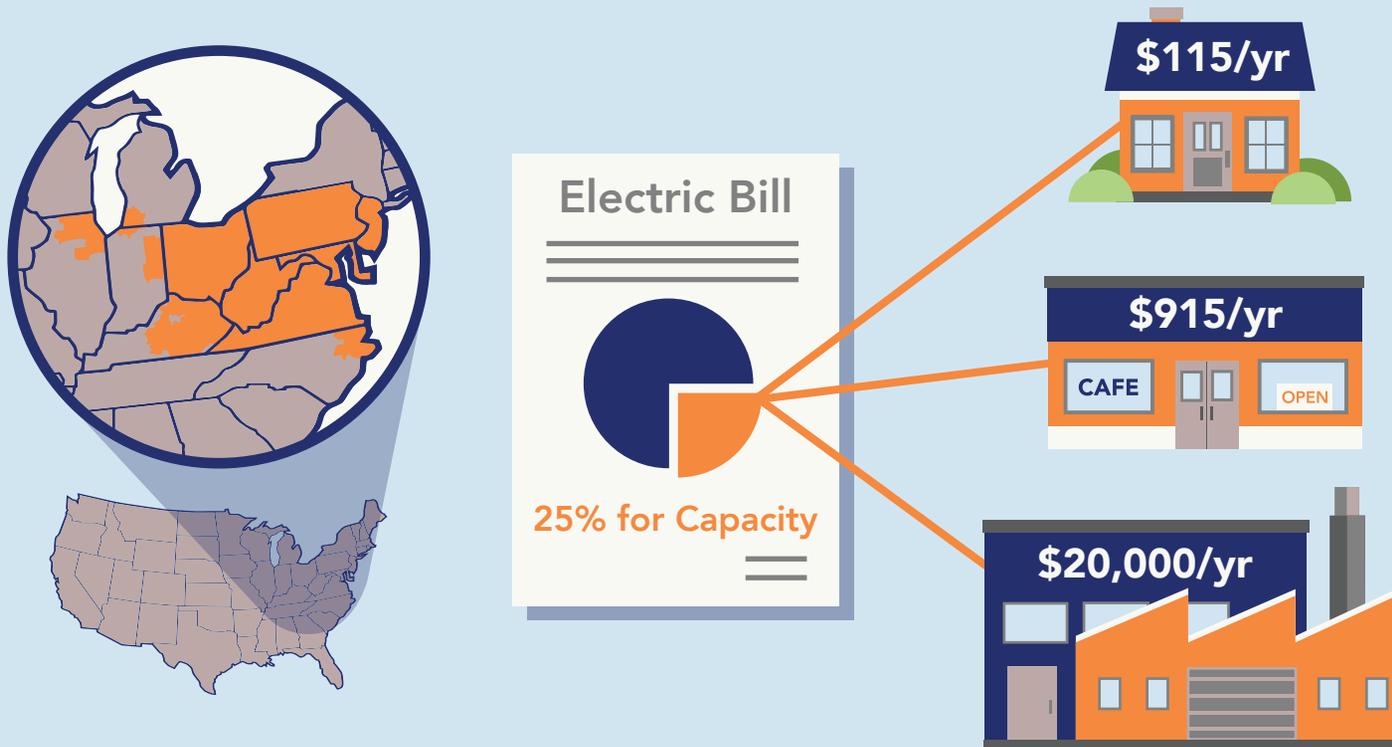


# PJM's Capacity Market

What it is, what it costs consumers, and key issues for states

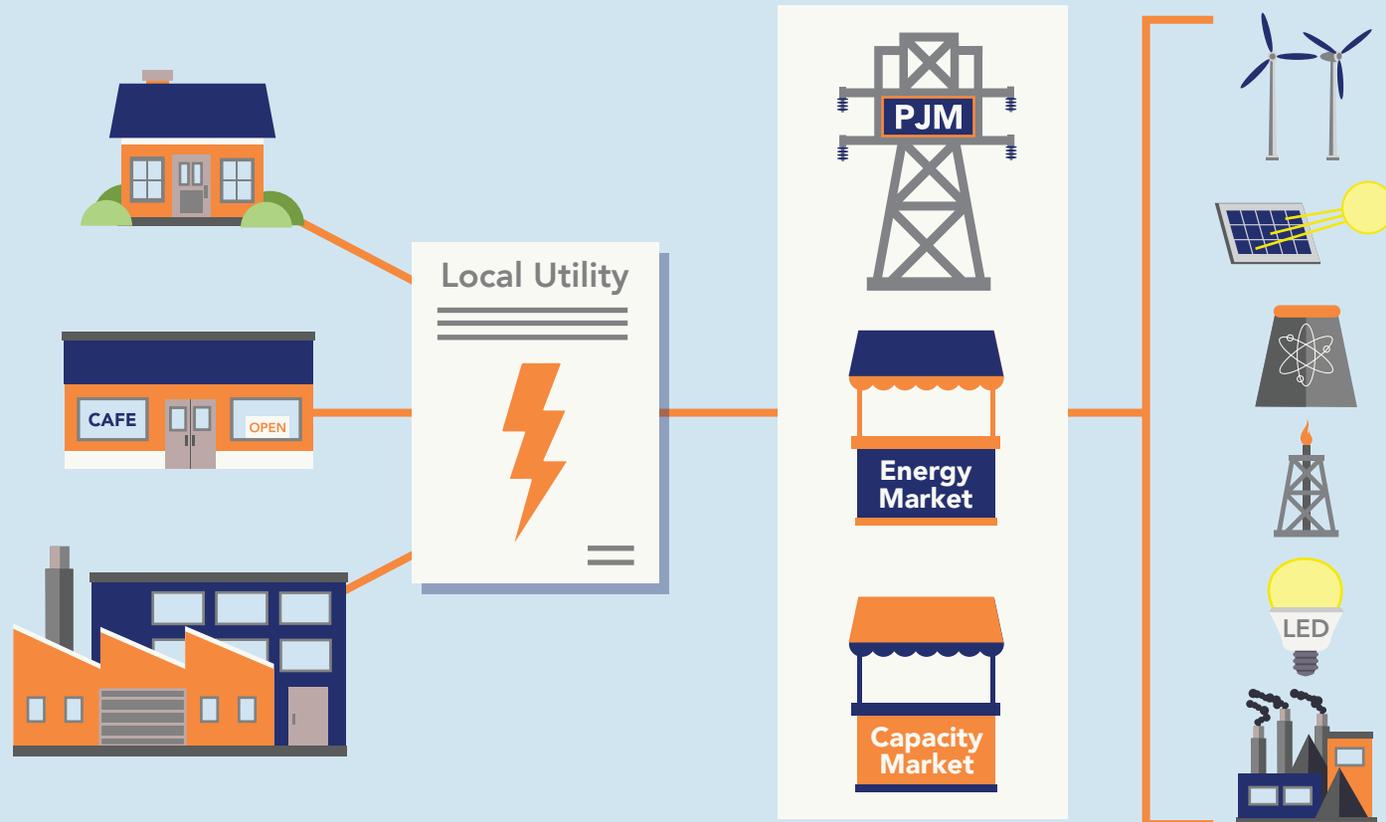
## Consumers pay a lot for a little-known feature of their electricity supply

It's not listed separately on most bills, but for about 65 million people in a region stretching from New Jersey to North Carolina to Illinois, one of the biggest electricity charges is for a little-known product called "capacity." In 2017, capacity charges in the region averaged \$115 a year for homes, \$915 a year for retail businesses, and \$20,000 a year for industrial facilities — approximately a quarter of the total power bill. In addition to its large impact on bills, capacity and the market where it's bought also influence what mix of energy sources generate our electricity.



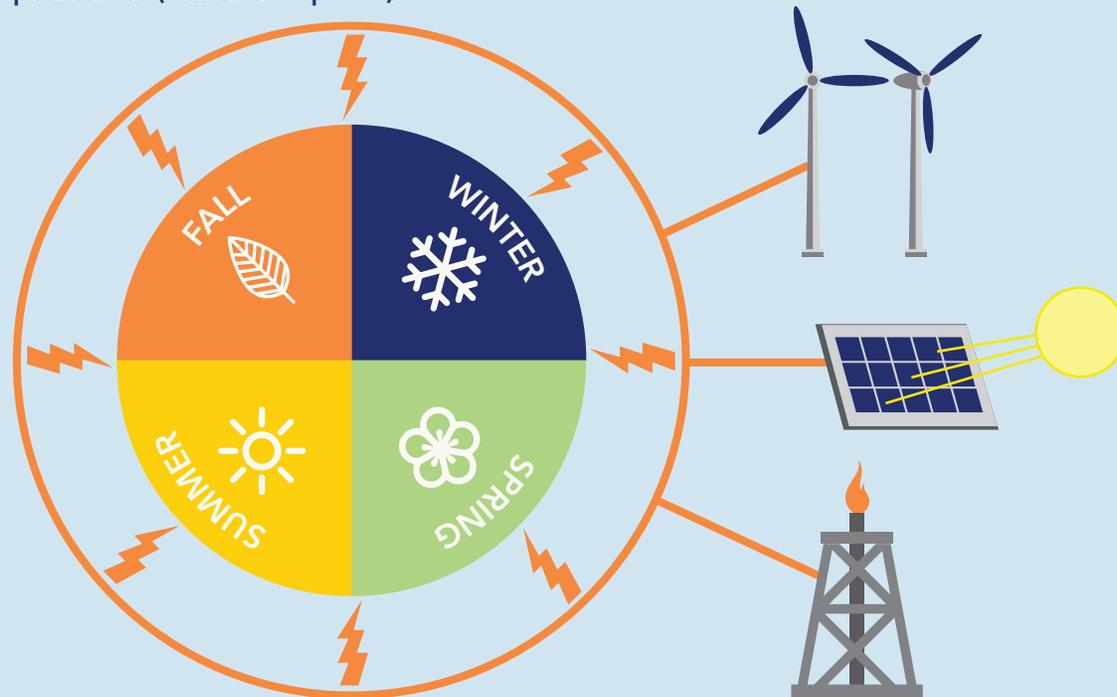
## Electricity supply in the PJM region involves several wholesale markets

To learn about capacity, it helps to start with a wider view. An organization called PJM Interconnection manages the power lines that carry electricity long distances across and between states in its region, and also facilitates competition among power sources by running several different electricity markets. In its energy market, PJM buys electricity from the lowest-priced energy sources every day and resells it to local utilities to sell to their customers. In its capacity market, PJM buys commitments that electricity will be available in the future.



## “Capacity” is a source’s advance guarantee of its ability to produce electricity

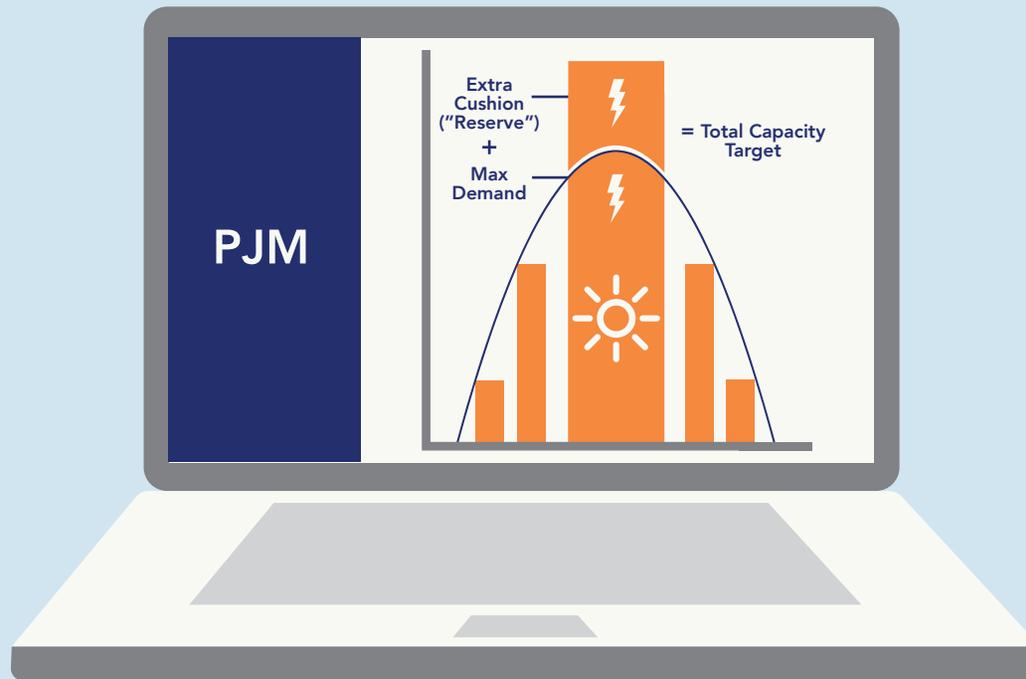
In PJM’s market, “capacity” is a commitment by the owner of a power source — three years in advance — that a specific amount of its generation capability will be available all year long. Capacity can be offered by generating facilities like solar, wind, gas, coal, hydro or nuclear. It can also come from services that lower or shift demand for electricity, such as through energy efficiency or by rewarding customers for reducing usage at peak times (demand response).



**KEY ISSUE:** Capacity procurement could be based on other attributes besides year-round production ability. For example, PJM could focus on securing capacity specifically for summer, when demand peaks are highest — and specifically for winter, when extreme cold can disrupt power plant operations. That could help with reliability and enable more participation from sources like solar that produce more in summer or wind that produces more in winter.

## The amount of capacity to be acquired is based on maximum future energy demand, plus extra

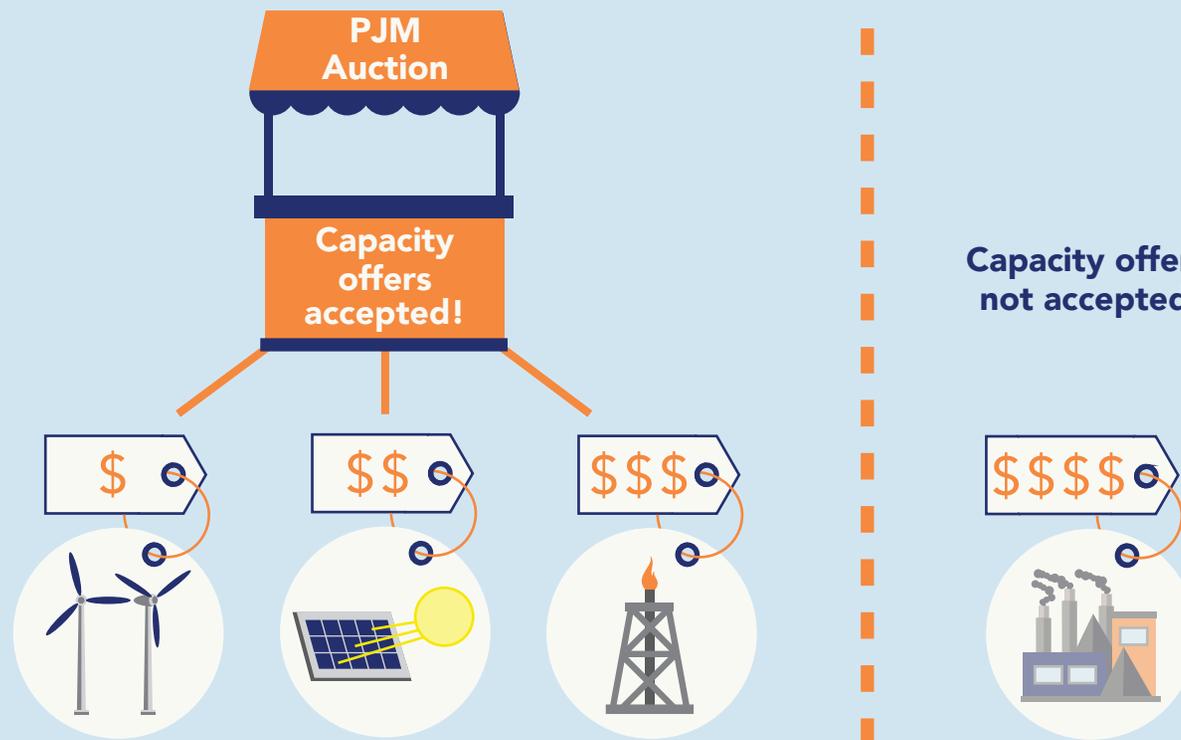
Every year, PJM publishes maximum prices it will pay for capacity and estimates how much capacity its market should acquire. Local utilities and their customers are required to pay their share of the total. To estimate what's needed, PJM forecasts maximum possible demand in three years — which typically occurs during hot summer days — and then adds on an extra cushion, or “reserve,” to accommodate anything unexpected.



**KEY ISSUE:** In recent years, PJM has overestimated future demand and created market pricing that attracts and accepts too much capacity, which makes consumers pay billions of dollars for excess reserve. From 2016 to 2018, for example, PJM's market paid for 30-43 percent more reserve than PJM targeted as necessary.

## Capacity is procured at an "auction" that prioritizes lowest-cost sources

During PJM's annual capacity "auctions," sources offer capacity at the price it costs them to have the power generation available. PJM then accepts these bids in order from least to most expensive, although location of sources also plays a role given limitations in the transmission system. All sources whose capacity price offer is below the market clearing price for the year are accepted and paid.



**KEY ISSUE:** Because every producer whose capacity offer is accepted gets paid at the price of the very last bid that clears PJM's market pricing, it could help reduce capacity prices — and consumer electric bills — if additional low-cost sources are able to participate in the capacity market in more locations.