

## PJM Update Meeting

Please join GPAEE for our upcoming meeting on PJM updates. A PJM speaker will be offering his expert analysis of load forecasts and new developments.

More has been going on in the last two years than at any time in the history of PJM. Some of the recent issues in PJM include:

- Energy prices on the Capacity auctions greatly increasing in the last auction, partially due to the need for onboarding more generation capacity. What can be done in the next year to bring prices down?
- The Energy Efficiency Program ending soon in the Capacity Market, partially due to alleged manipulation, under performance and non-performance by certain bad actors.
- Demand Response Program modifications to deal with under performance and non-performance by alleged bad actors.
- Retirement of large baseload electric power plants due to age and required environmental upgrades.
- Recent PJM solutions to a backlog in the application queue to increase new Capacity. Many of the applications are small and speculative, increasing the reliability challenge.
- Pennsylvania Governor's lawsuit to help implement short term solutions for the Capacity market.
- PJM capacity markets are going from 3 years forward to one year forward due to many reasons.
- After flat growth for 20 years, large increases in generating capacity projected to meet needs of massive new data centers to meet computing needs of data mining (bitcoin and similar companies) and AI (Artificial Intelligence).
- What forecasts are there for future Energy auctions on PJM?

PJM has been held up as an example of a well-run RTO for many years. They have managed reliability, steadied electric rates, and initiated many innovative programs in Energy Efficiency and Demand Response. Coupled with a relatively flat load growth in the parts of the country they manage, the energy and capacity markets have been relatively stable. The many recent issues above have created a "perfect storm" that needs to be solved.

PJM (Pennsylvania-New Jersey-Maryland Interconnection) is the RTO (Regional Transmission Organization) that manages the generation and transmission of energy in thirteen states and the District of Columbia. They provide long-term planning of energy, capacity and reliability. They operate Capacity and Energy auctions with a goal to deliver the lowest cost energy reliably. They organize ancillary services that ensure minute-to-minute reliability and stabilization of the grid.

The cost a customer pays for electricity depends mainly on two costs, the Capacity and Energy Cost. PJM holds auctions for the supply of both Capacity (kW) and Energy (kWh). If the Capacity Supply (generators) is tight, the cost goes up and customer bills go up. For the energy auctions, in PJM, the last bid (highest) needed to meet Energy (kWh) needs at a given hour determines the cost to all customers and the price paid to the generators. In PJM, natural gas generation is typically the last resource in, so people say that “natural gas costs drive the market”. Natural gas prices are at historic lows, so the expectation is that Energy costs can only go up. The boom in natural gas production due to shale gas discoveries came at a time when gas production was in a never-ending decline, driving up prices. Today, the historically low natural gas prices have caused many shale gas wells to become unprofitable. Gas drillers have responded by not drilling new gas wells. Coupled with increasing liquified natural gas exports and the fact that some remaining shale gas deposits are more expensive to recover, there are multiple pressures driving up future gas prices.