Demand Response and VPPs in Electricity Markets

October 23, 2024 / Emily Orvis / emily@voltus.co

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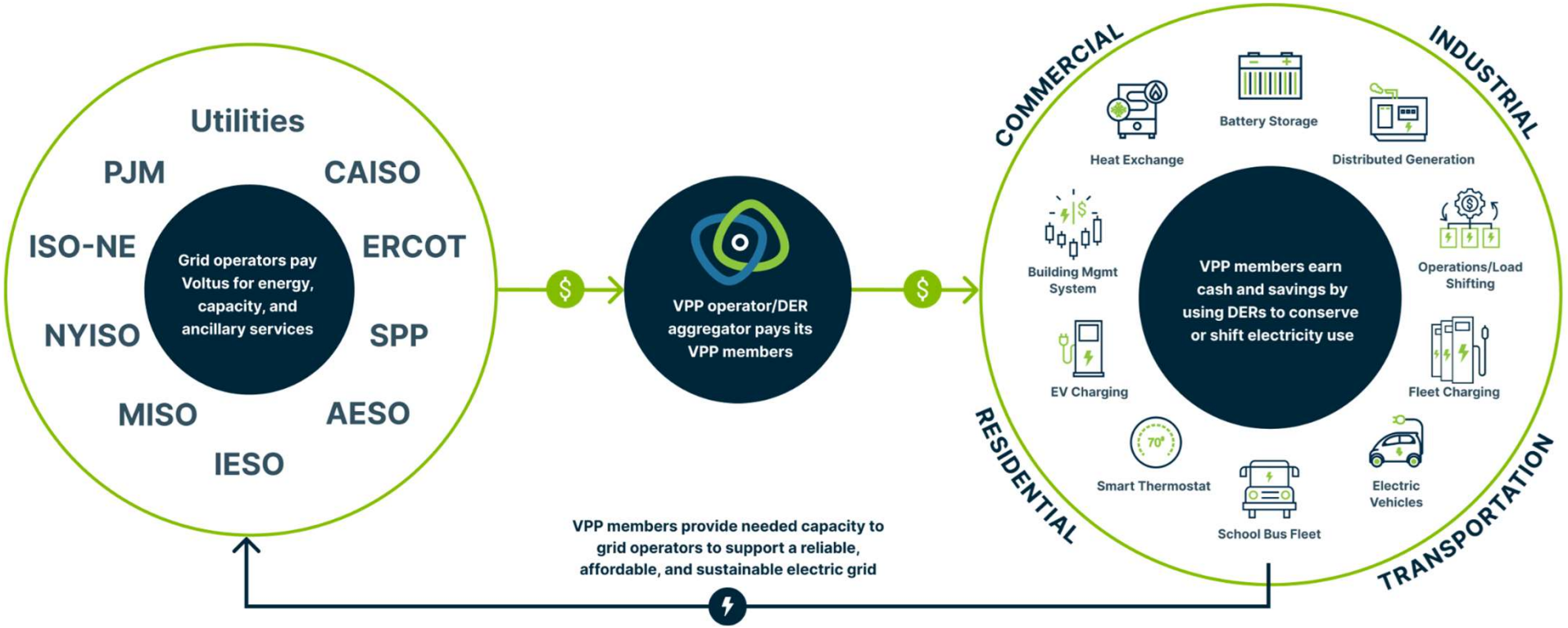
What is a virtual power plant ?

A network of distributed energy resources (DERs) - decentralized and smaller-scale grid-connected energy resources that can generate, store, or manage electricity.

VPPs provide both **routine** and **emergency capacity** to utilities and grid operators



VPP vs. traditional power plants

Virtual power plants

Make power available to grid operators

Help reduce carbon emissions

Help scale renewable energy

Can scale and adjust their capacity quickly

Portfolio aggregation balances over- and under-performing VPP members

Traditional & virtual power plants

Offer and sell grid operators capacity, energy, and energy reserves

Connected to the grid

Support both routine and emergency grid reliability

Operated and controlled by dedicated staff

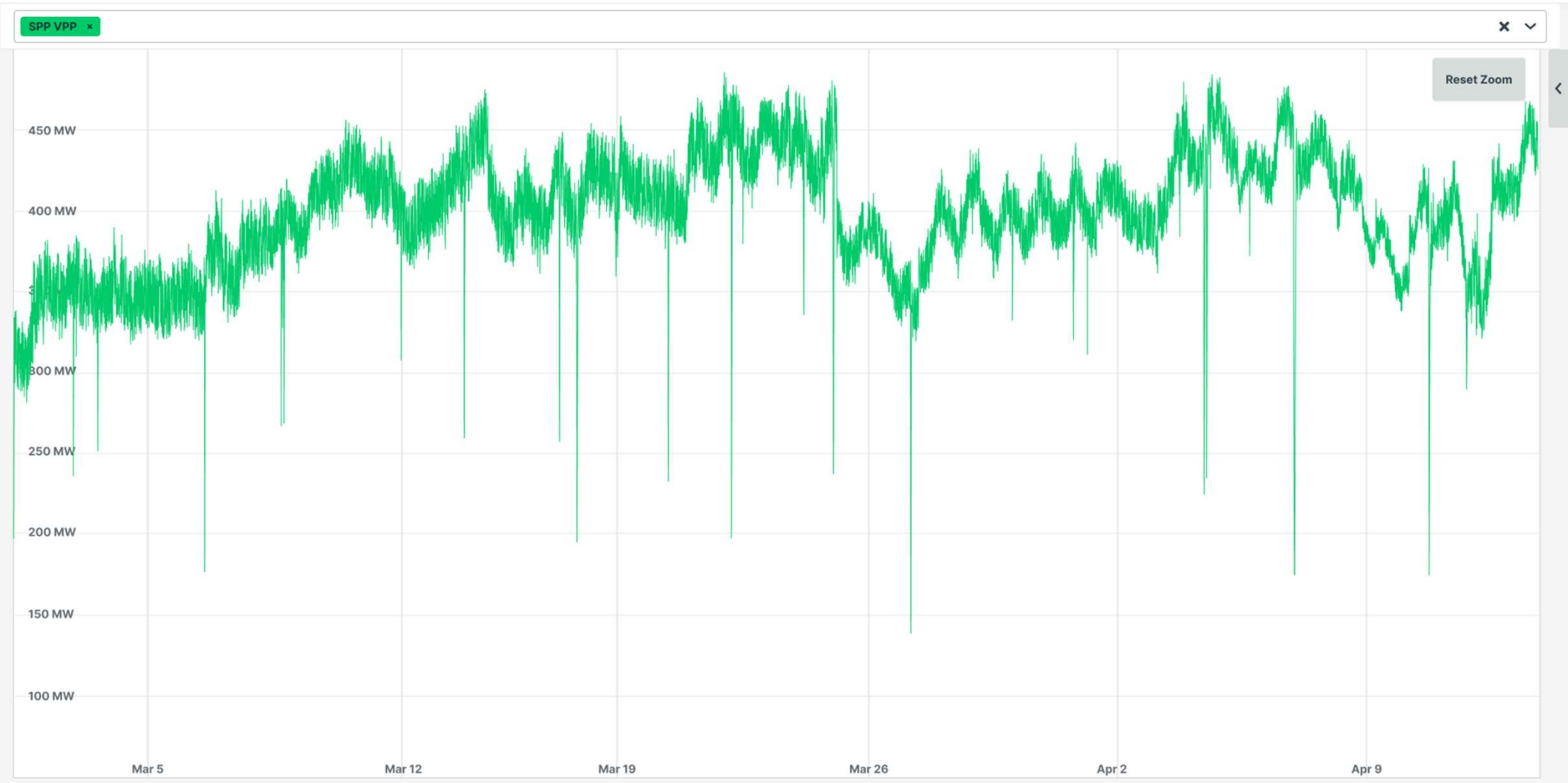
Traditional power plants

Central power production

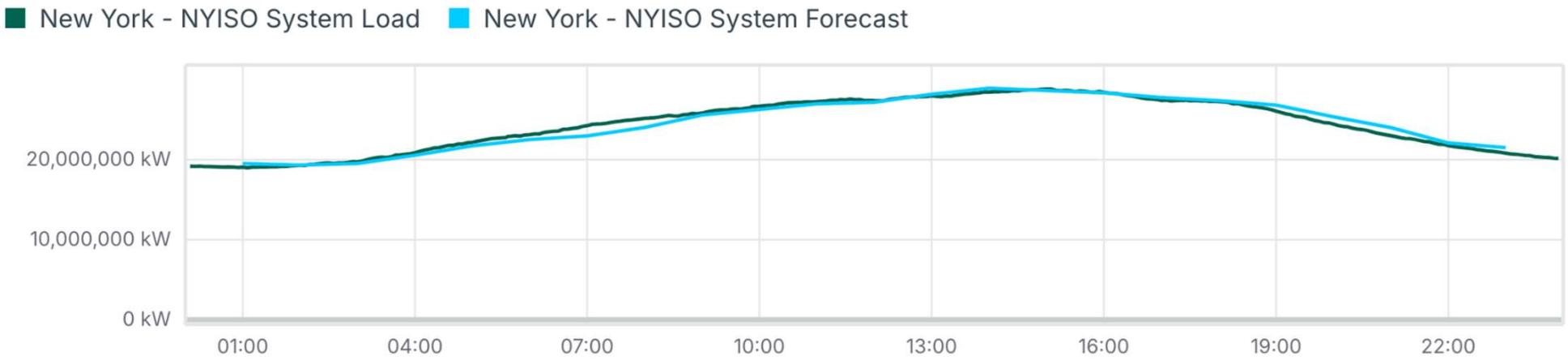
Often rely on fossil fuels

Can take years to build with fixed capacity

Can have a single point of failure / are often unavailable in extreme weather conditions



NYISO



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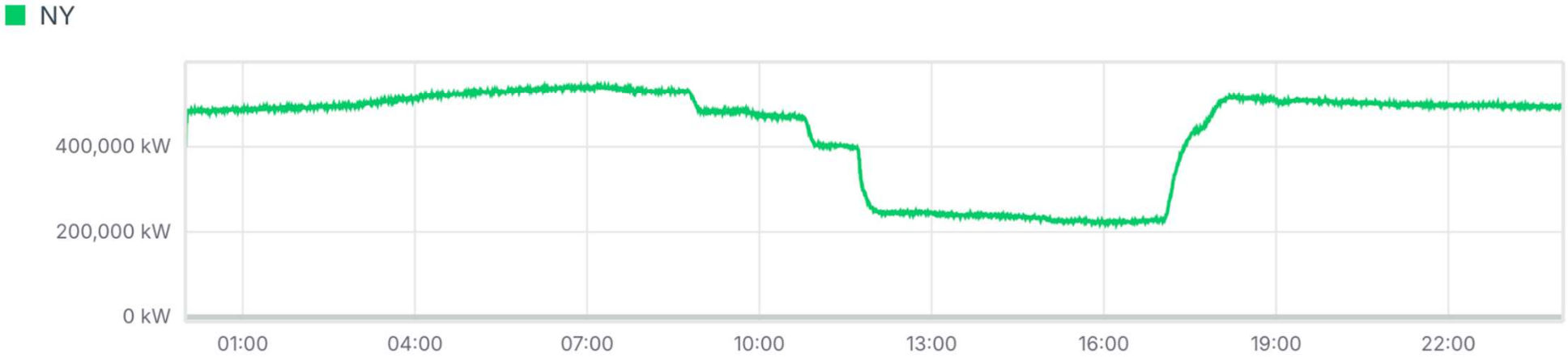
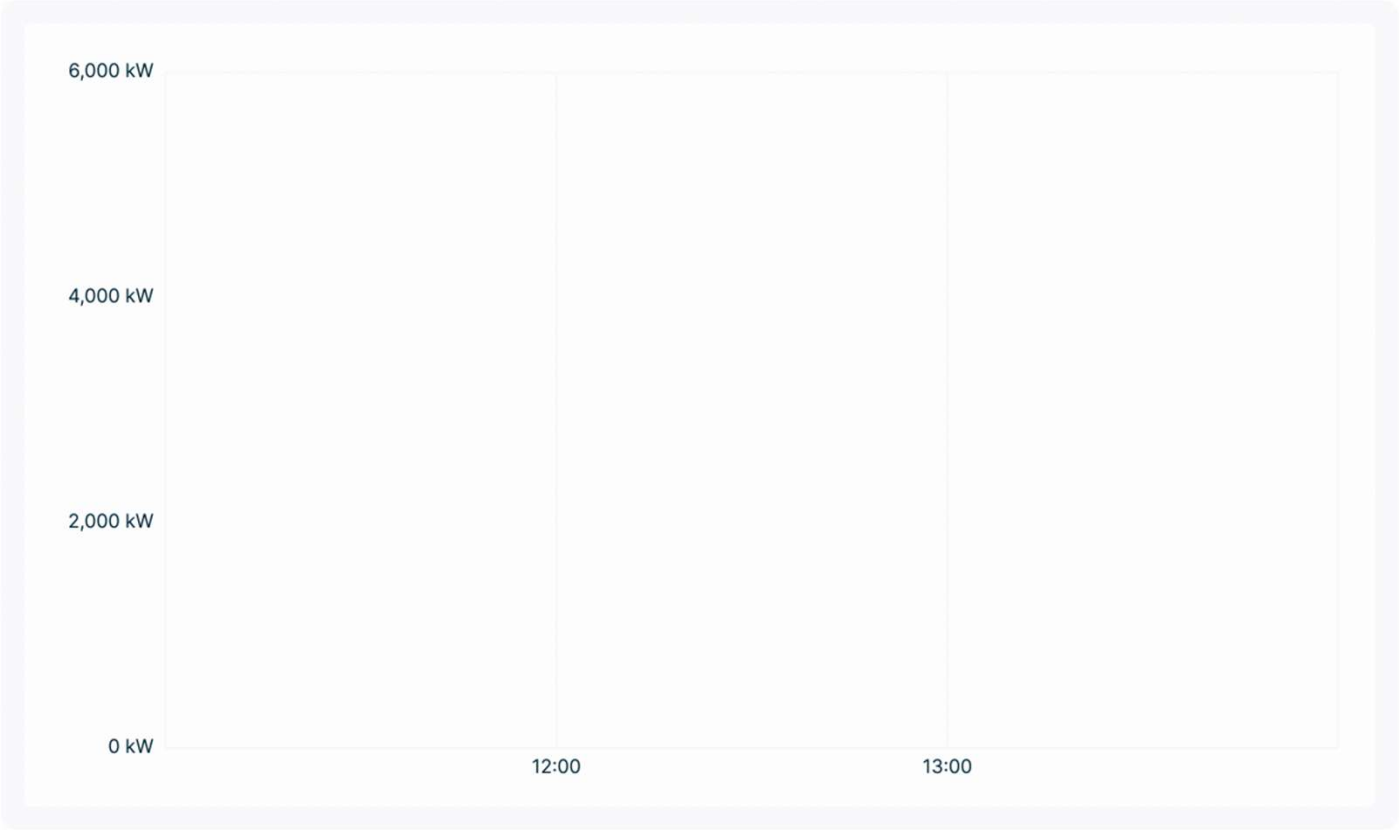


A few of our customers

Demand response, **simplified**

The Voltus platform speaks the language of cash and simplifies the complexities of market participation.



PJM Capacity Price Pop

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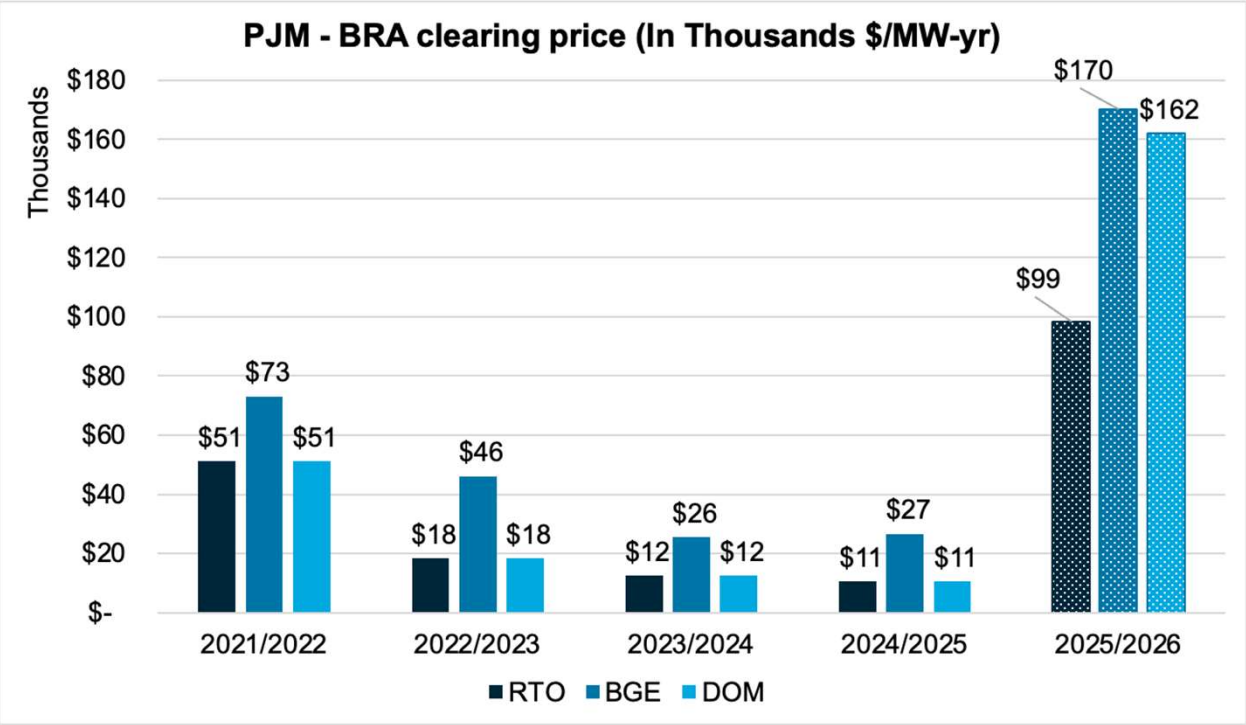

- 900% increase in majority of PJM zones
- 630% increase in Baltimore Gas & Electric
- 1473% increase in Dominion

ELCC Class Ratings for the 2025/2026 Base Residual Auction

The following table provides the ELCC Class Ratings applicable to the 2025/2026 Base Residual Auction (BRA) as calculated under the methodology approved by FERC on January 30th, 2024 in Docket No. ER24-99.

	2025/2026 BRA ELCC Class Ratings
Onshore Wind	35%
Offshore Wind	60%
Fixed-Tilt Solar	9%
Tracking Solar	14%
Landfill Intermittent	54%
Hydro Intermittent	37%
4-hr Storage	59%
6-hr Storage	67%
8-hr Storage	68%
10-hr Storage	78%
Demand Resource	76%
Nuclear	95%
Coal	84%
Gas Combined Cycle	79%
Gas Combustion Turbine	62%
Gas Combustion Turbine Dual Fuel	79%
Diesel Utility	92%
Steam	75%

- Demand response participation is more lucrative than ever.
- Pricing increase more than compensates for decreased accreditation.

But didn’t my capacity costs just go up 9x?

Maybe not…

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DIVE BRIEF

Dominion says ratepayers will be insulated from PJM capacity auction impacts

Despite the PJM Interconnection’s 2025/26 capacity auction seeing record high prices, Dominion Energy has the “natural hedge” of its own generation, said CEO Bob Blue.

Published Aug. 7, 2024

By Diana DiGangi
Reporter

But didn’t my capacity costs just go up 9x?

If they did we can help…

Voltus can help you maximize revenue and reduce capacity costs by weaving together different programs:

- **Participate in peak saver**
  - Peak avoidance for “transcap” peaks
  - Peak avoidance for “gencap” or “5CP” peaks
- **Participate in capacity demand response program**
- **Stack additional revenue** from participation in Synchronized Reserve and Energy markets


Thank you!
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