



Demand response – the means by which retail consumers can respond to wholesale electricity prices or to reliability needs of the system – is integrated into PJM Interconnection’s wholesale electricity markets. By participating in demand response, retail customers can transact in PJM’s energy, capacity and ancillary services markets in order to receive payments for reducing demand.

How Demand Response Works in PJM

At PJM, there are two broad categories for customers to participate in PJM markets as demand response, or DR, with the ability to participate as both:

- Load management (Pre-Emergency and Emergency DR) providers make a commitment in the capacity market to reduce load when required by the system or receive a financial penalty.
- Economic DR providers participate in the energy and ancillary services markets when it is economic for them. If the Economic DR offer price is less than the marginal price, they will be deployed similar to a generator.

The choice to participate in DR programs is voluntary. Participants must meet certain requirements in order to qualify for payments for reducing their demand for electricity. DR does not include reductions in electricity use that follow normal operating patterns or behavior.

Qualified PJM Market Participants who act as agents, called Curtailment Service Providers (CSPs), help eligible customers identify opportunities and determine the equipment and systems required to benefit financially from DR participation in PJM markets.

CSPs aggregate customers’ curtailment capability, register that capability with PJM, offer it in the appropriate market, submit load data to verify the reductions and receive payment from PJM. Subsequent allocation of PJM payment between the CSP and the retail customer is a matter of private agreement.

Demand Response in the Capacity Market

Most demand response activity in PJM takes place in the capacity market, called the Reliability Pricing Model. Both DR resources and Energy Efficiency (EE) Resources participate in PJM’s capacity market. These resources can receive payments for committing to reduce electricity demand or for implementing energy-efficiency measures, such as more efficient lighting, heating and other building systems, up to three years in the future.

The ability to dispatch DR gives PJM greater flexibility to manage the grid during summer heat waves and other challenging conditions. In the capacity market, DR participants must reduce load when requested by PJM or receive a significant financial penalty.

Key Points

- When electricity customers participate in demand response programs, they commit to reduce electricity usage in exchange for compensation derived from PJM markets.
- During times of peak stress on the grid, electricity reduction offers can help support grid reliability.
- Curtailment Service Providers act as brokers for eligible electricity consumers. They aggregate customer bids and offer them into PJM wholesale electricity markets.
- To increase access to PJM markets and promote grid efficiency, PJM is working to broaden opportunities for more electricity customers to participate in DR programs.



***Economic Demand Response in PJM's Energy and Ancillary Services Markets***

Customers may participate as Economic Demand Response in the energy and ancillary services markets through a Curtailment Service Provider. Curtailment Service Providers will offer the load-reduction capability into the PJM Day-Ahead or Real-Time energy markets. They may also offer into the ancillary services markets for shorter periods of curtailment flexibility – such as minutes or seconds.

Economic DR participants in the Energy Market will only be compensated for load reductions that are not part of normal operations. In other words, if the customer already manages their electricity usage to help lower their retail electricity bill, these reductions would not be eligible for compensation through PJM's energy markets.

PJM clears the energy and ancillary services markets on a least-cost basis based on the resources that are available. If a DR resource is competitive, it will clear in the market in the same way as a generator. Ancillary services participation includes Synchronized Reserve, Regulation and Secondary Reserves markets.

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