

# Load Management Addbacks Impact on Planning in PJM

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**AEP - Economic Forecasting**  
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# Implications

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- PJM's load forecast may be understated due to lack of available load management (LM) addbacks data. The current rules for collecting addbacks may be usable for market settlements, but is insufficient for load forecasting.
- Rules are needed to require the reporting of impacts from all LM programs to PJM and utilities. LM programs are those of PJM, Curtailment Service Providers, the utilities and perhaps others in the market.
- Add-backs not provided to PJM will cause RTO and Zones weather normalized peaks and load forecast to be underestimated.
- Normalized and forecast peaks are the basis for determining future year generation and transmission capacity requirements for the RTO and zones.
- Utilities also need addbacks for cost of service and rate design as well as for wires and capacity planning.

# Background

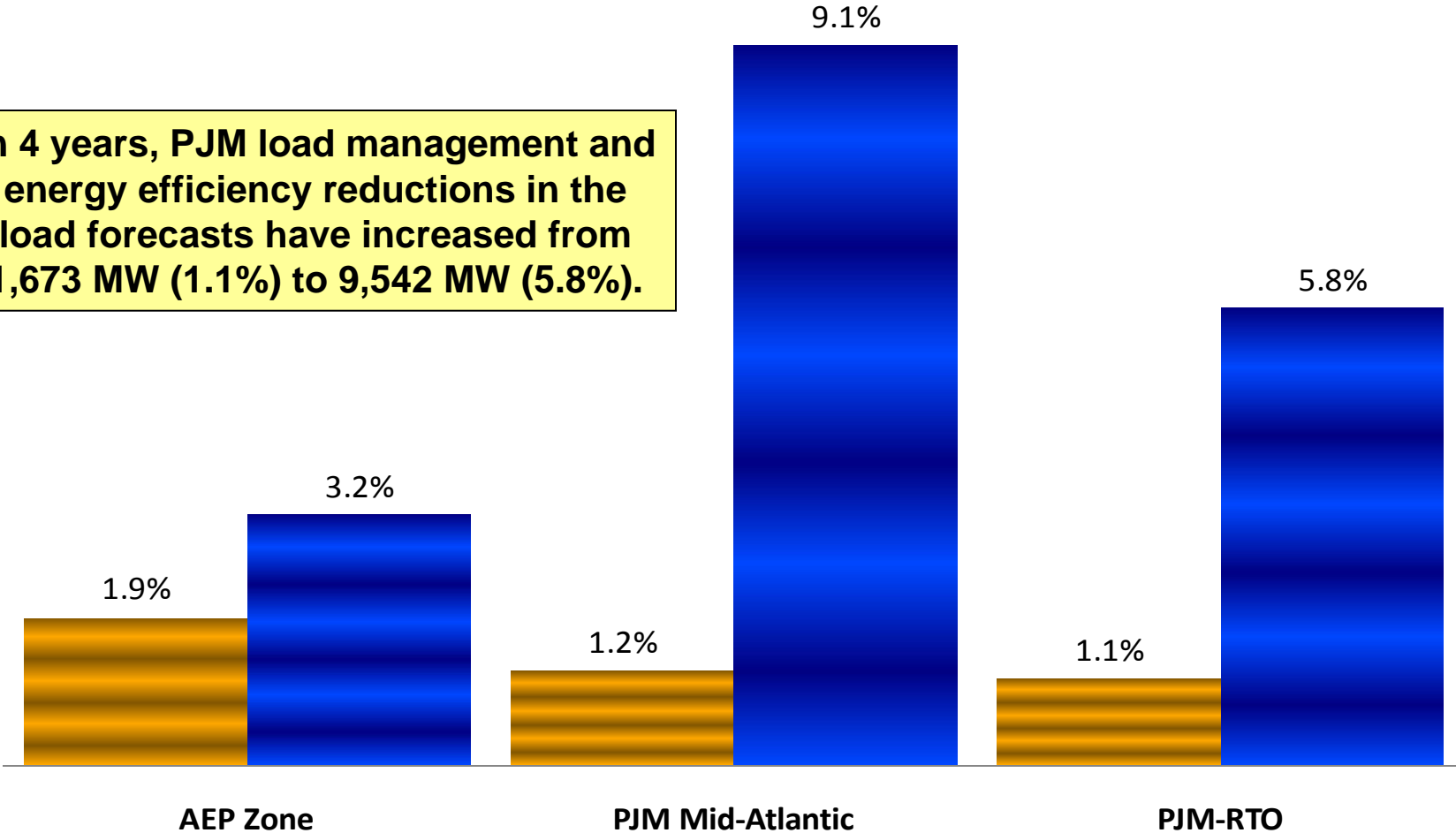
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- PJM-RTO has 9,542 MW of load management in the 2011 Load Forecast report. LM consists of interruptible/demand response (8,286 MW), direct control (693 MW), and energy efficiency (563 MW) in the 2014 load forecast year. The Mid-Atlantic region has 5,094 MW of DR.
- The amount of load not consumed or reduced from normal operations due to a load management event is often referred to as an addback. This is because curtailed load is added back to historical system loads to 1) properly calculate the relationship between load and weather and 2) to eliminate potential double counting of LM that is historically used and is planned to be used again in the future.
- Rules around addbacks are currently written with a focus on their market implications and not planning. Currently, PJM requests addbacks from PJM called events during the 5 RTO peaks be identified for determining peak load contribution (PLC). Otherwise, PJM paid events are the only events available for consideration in the load forecast.
- Addbacks for all affected hours are needed to effectively model the load-weather relationship.
- The addbacks can be driven by events called from all market participant - PJM, Utility, curtailment service provider, etc.

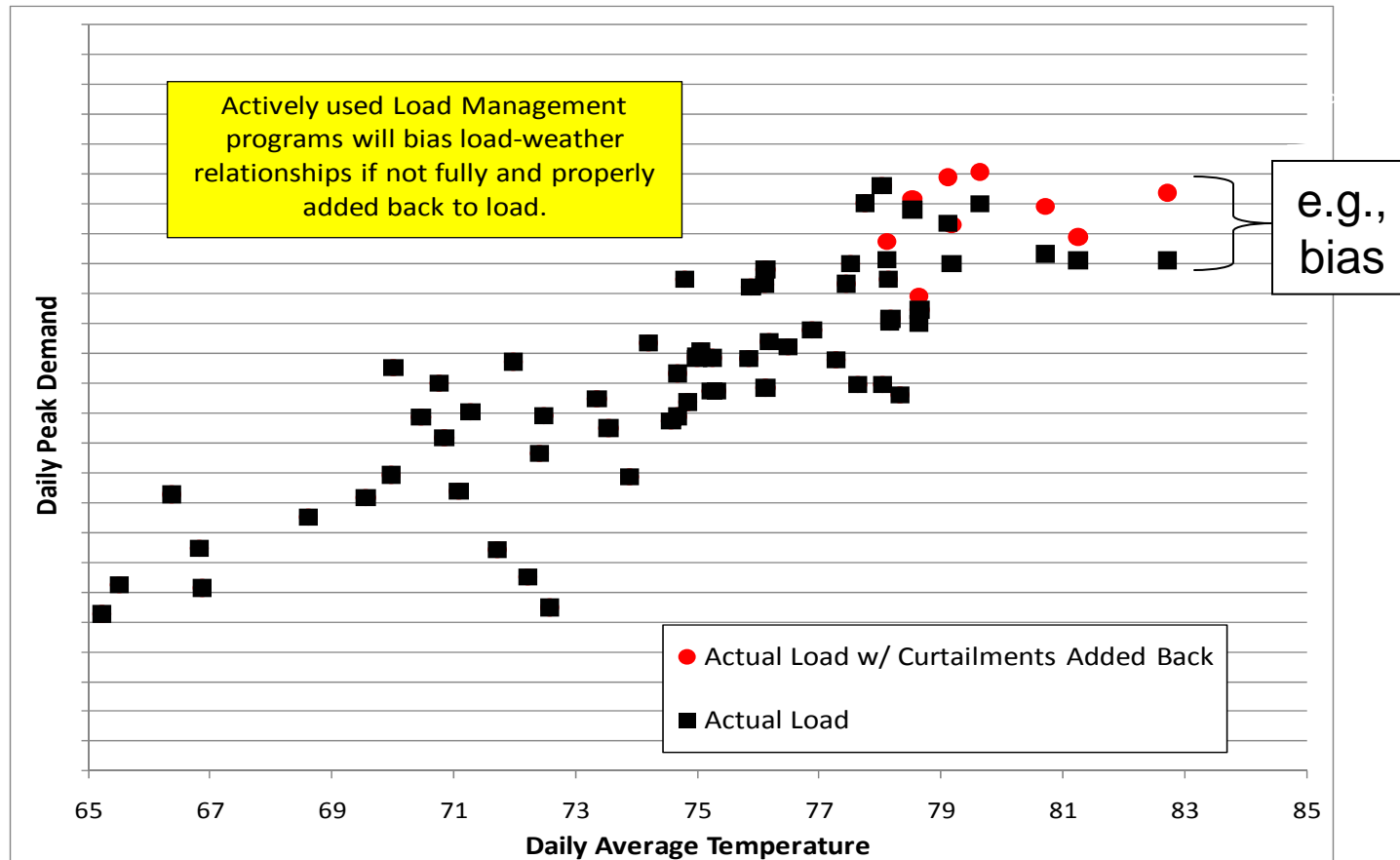
### Load Management and Energy Efficiency as a Percentage of Peak Demand in 2014

■ 2007 PJM Load Forecast   ■ 2011 PJM Load Forecast

In 4 years, PJM load management and energy efficiency reductions in the load forecasts have increased from 1,673 MW (1.1%) to 9,542 MW (5.8%).



# Daily Peak to Temperature Relationship: Hypothetical Example



**Daily peak models are used to weather normalize and forecast peak. The normalization and forecast will be biased if all addbacks are not included.**