



# 2023 Tennessee State Infrastructure Report (January 1, 2023 – December 31, 2023)

June 2024

This report reflects information for the portion of Tennessee within the PJM service territory.

## Planning

- Generation Portfolio Analysis
- Transmission Analysis
- Load Forecast

## Markets

- Market Analysis
- Net Energy Import/Export Trend

## Operations

- Generator Production
- Emissions Data

## In the Tennessee service territory:



### Interconnection Requests:

Tennessee has 156 MW of solar generation seeking interconnection in the PJM queue.



### Deactivations:

Tennessee had no generators deactivate or give a notice of deactivation in 2023.



### RTEP 2023:

Tennessee had no RTEP projects in 2023.

## In the Tennessee service territory:



### Load Forecast:

Tennessee's summer peak load is projected to increase by 0.3% annually over the next ten years, while the winter peak is projected to increase by 0.2%.



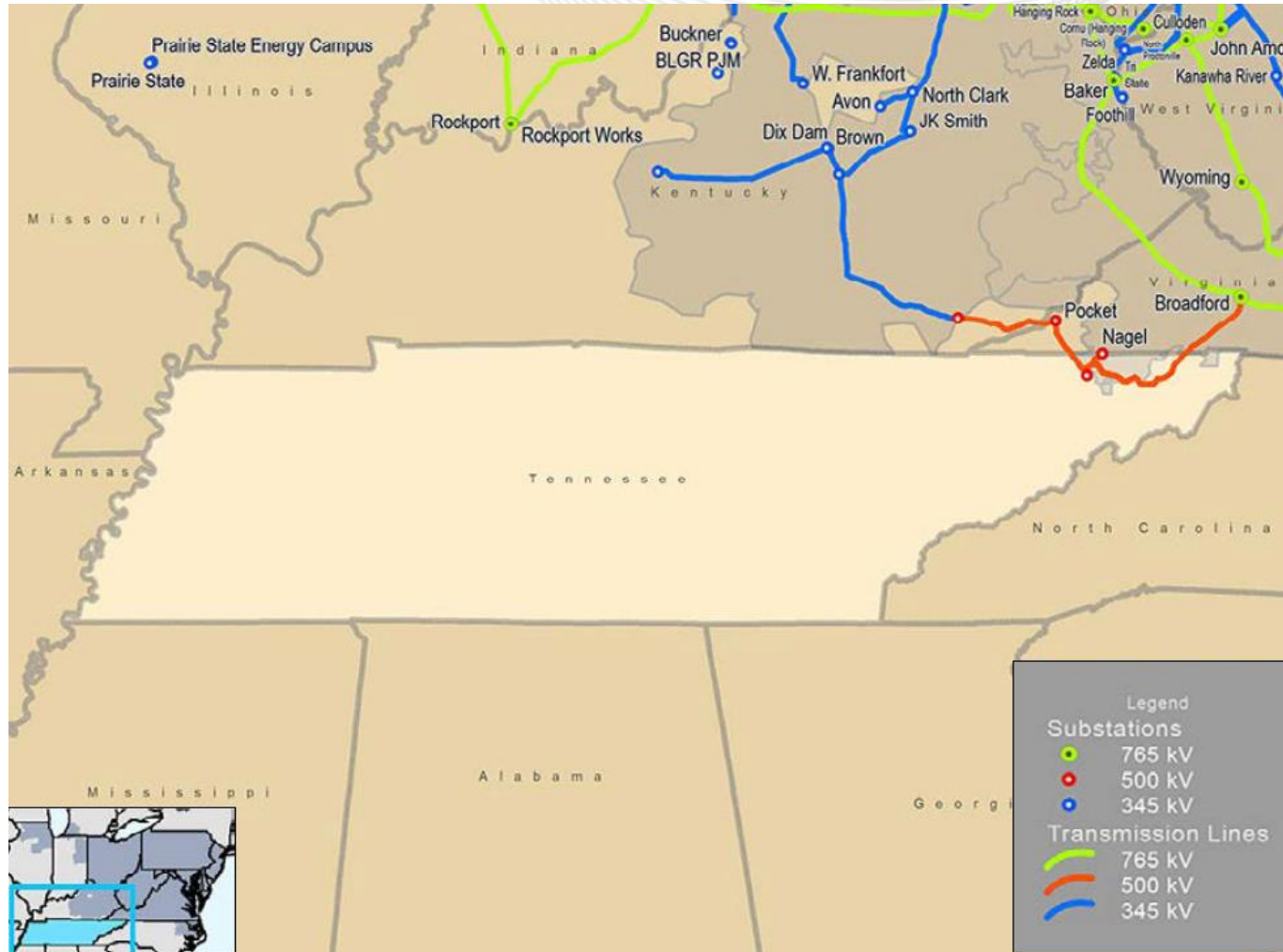
### Capacity Market:

No Base Residual Auction was conducted in 2023. For the most recent auction results please see the 2022 Tennessee State Infrastructure Report.



### Market Performance:

Tennessee's average hourly LMPs aligned with the PJM average hourly LMP.



The PJM service area in Tennessee is represented by the shaded portion of the map.

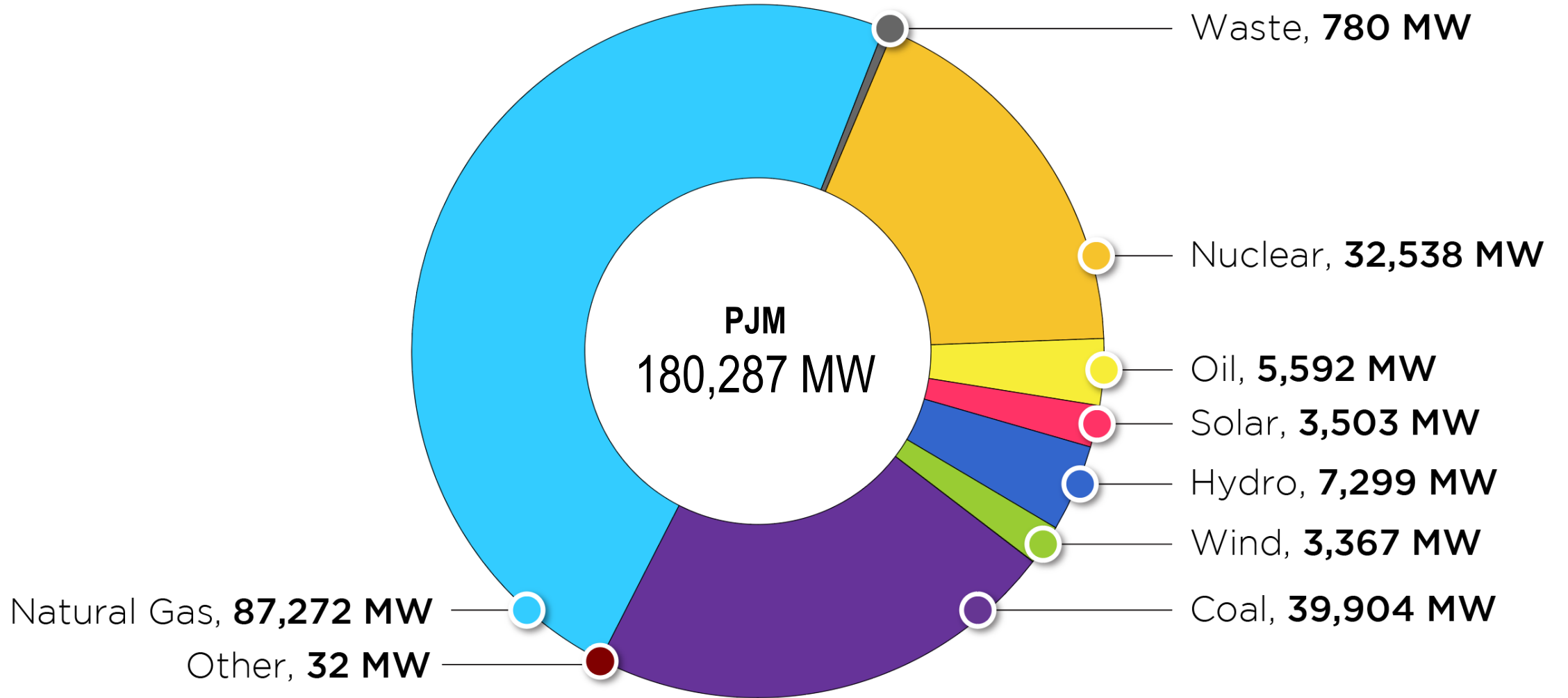
PJM operates transmission lines that extend beyond the service territory.

# Planning

## Generation Portfolio Analysis

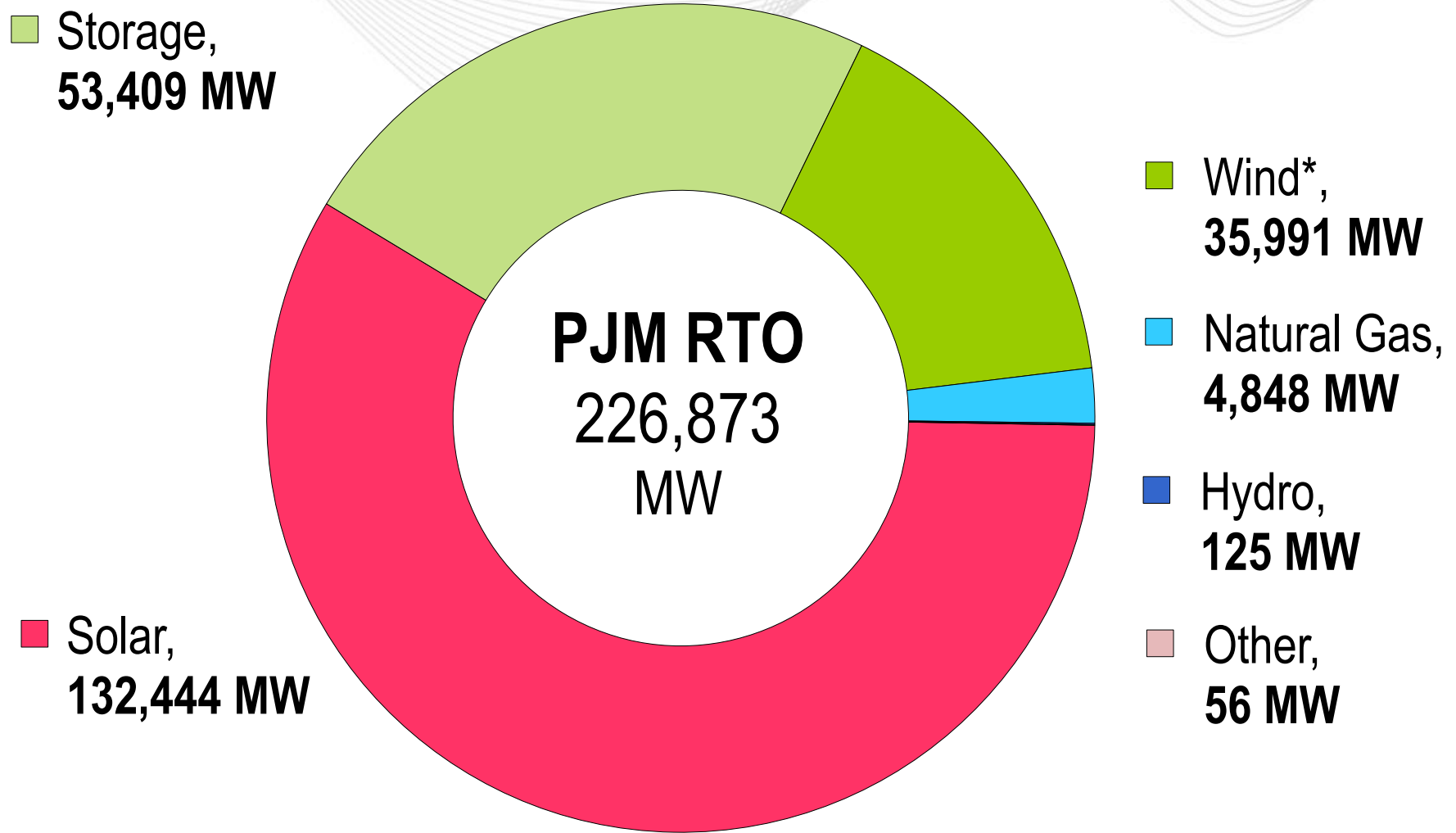
# PJM Existing Installed Capacity Mix

(CIRs – as of Dec. 31, 2023)



# PJM Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of April 1, 2024)

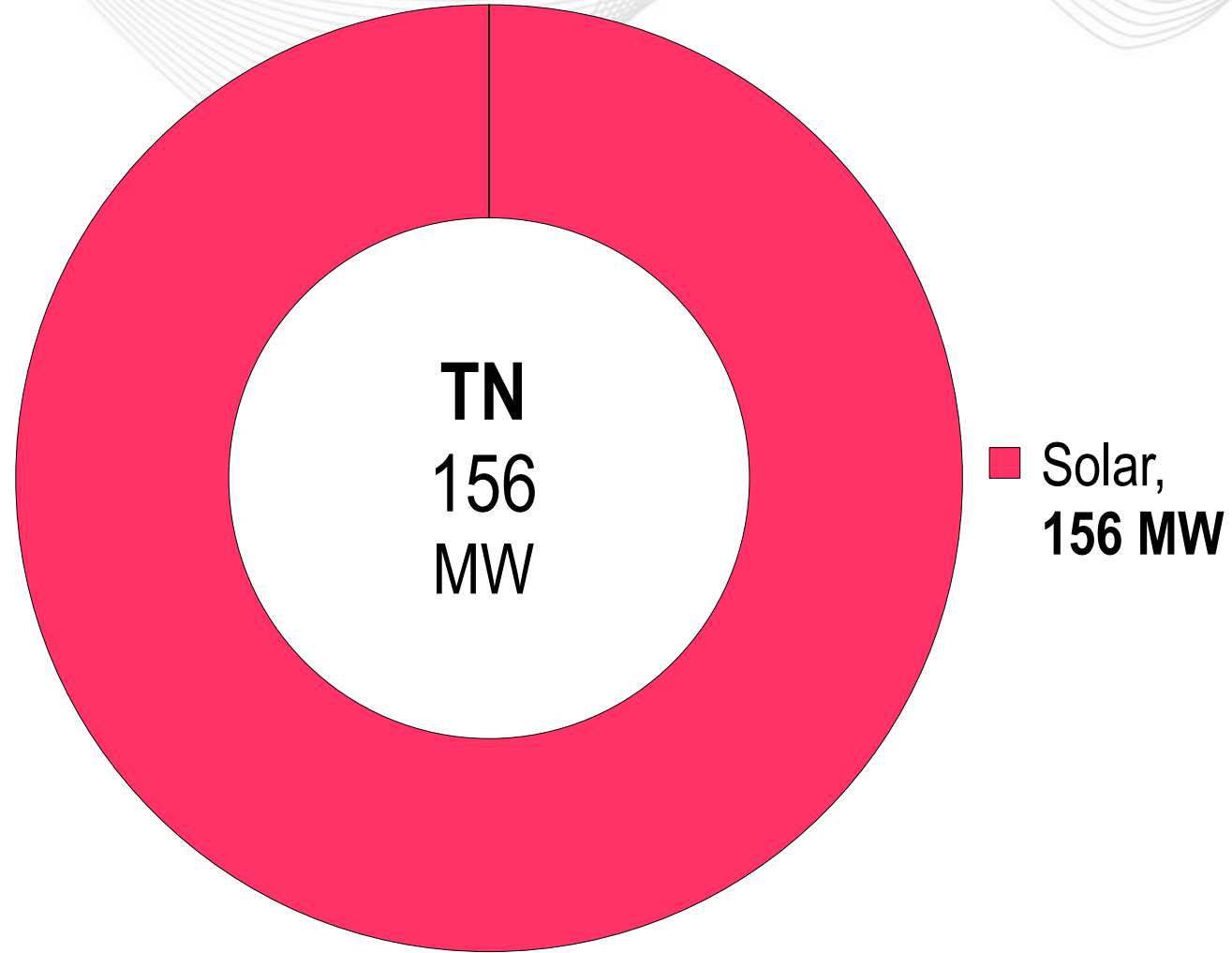


\*Wind includes both onshore and offshore wind



# Tennessee Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of April 1, 2024)



# Tennessee – 2023 Generator Deactivations

Tennessee had no generators deactivate or give a notice of deactivation in 2023.

# Planning

## Transmission Infrastructure Analysis

For reporting purposes, the 2023 state infrastructure reports provide maps displaying all baseline, network, and supplemental projects for the respective state. The reports also include aggregated project costs for each type of project within each state. The costs listed in the state infrastructure reports and 2023 Annual RTEP Report are not indicative of each project's cost allocation.

For a detailed list of each project shown on a state's project map, please see that state's section in the **2023 Annual RTEP Report** on PJM.com: <https://pjm.com/-/media/library/reports-notice/2023-rtep/2023-rtep-report.ashx>.

The complete list of all RTEP projects in PJM, including those from prior years, can be found at the **RTEP Upgrades & Status – Transmission Construction Status** page on PJM.com: <https://www.pjm.com/planning/m/project-construction>.

Tennessee had no baseline projects in 2023.

Note: Baseline upgrades are those that resolve a system reliability criteria violation. Baseline projects listed in the annual RTEP report reflect project costs within a specific location and are not indicative of the project's cost allocation.

Tennessee had no network projects in 2023.

Note: Network projects are new or upgraded facilities required primarily to eliminate reliability criteria violations caused by proposed generation, merchant transmission or long-term firm transmission service requests, as well as certain direct connection facilities required to interconnect proposed generation projects. The costs of network projects are borne by the interconnection customer.

Tennessee had no supplemental projects in 2023.

Note: Supplemental projects are transmission expansions or enhancements that are not required for compliance with PJM criteria and are not state public policy projects according to the PJM Operating Agreement. These projects are used as inputs to RTEP models, but are not required for reliability, economic efficiency or operational performance criteria, as determined by PJM.

# Planning Load Forecast





# PJM Electricity Demand Growth

Load (MW)

195,000

185,000

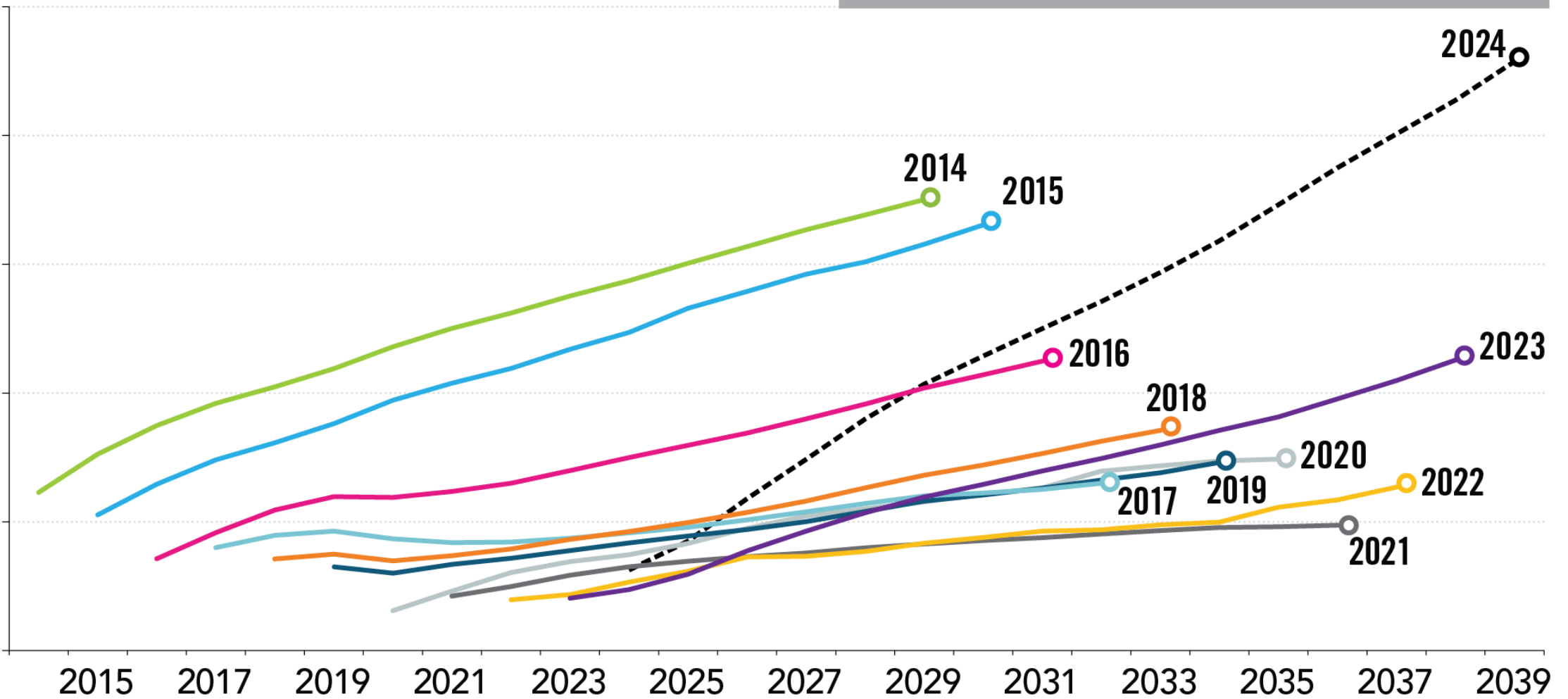
175,000

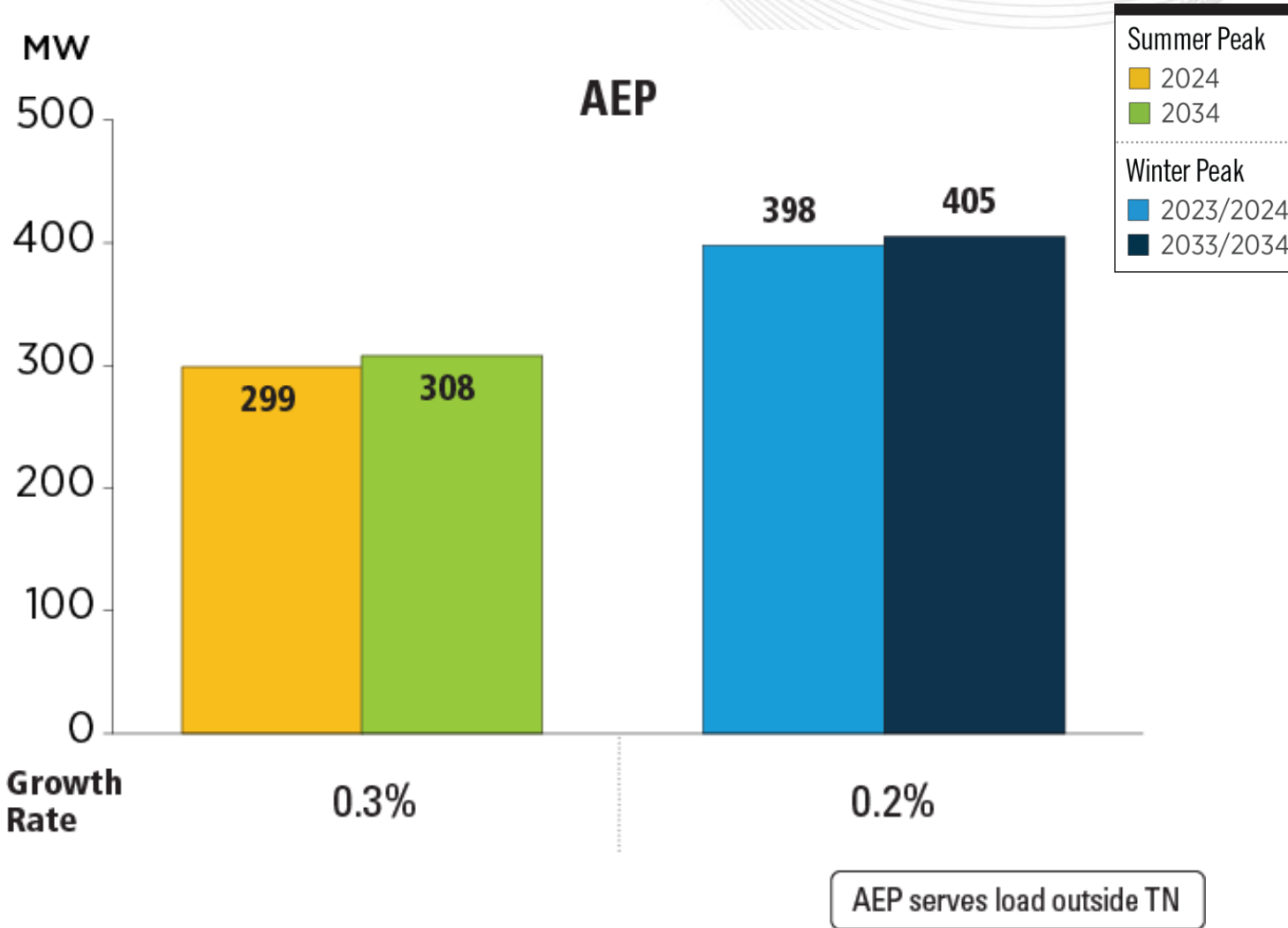
165,000

155,000

145,000

PJM RTO Summer Peak Demand Forecast



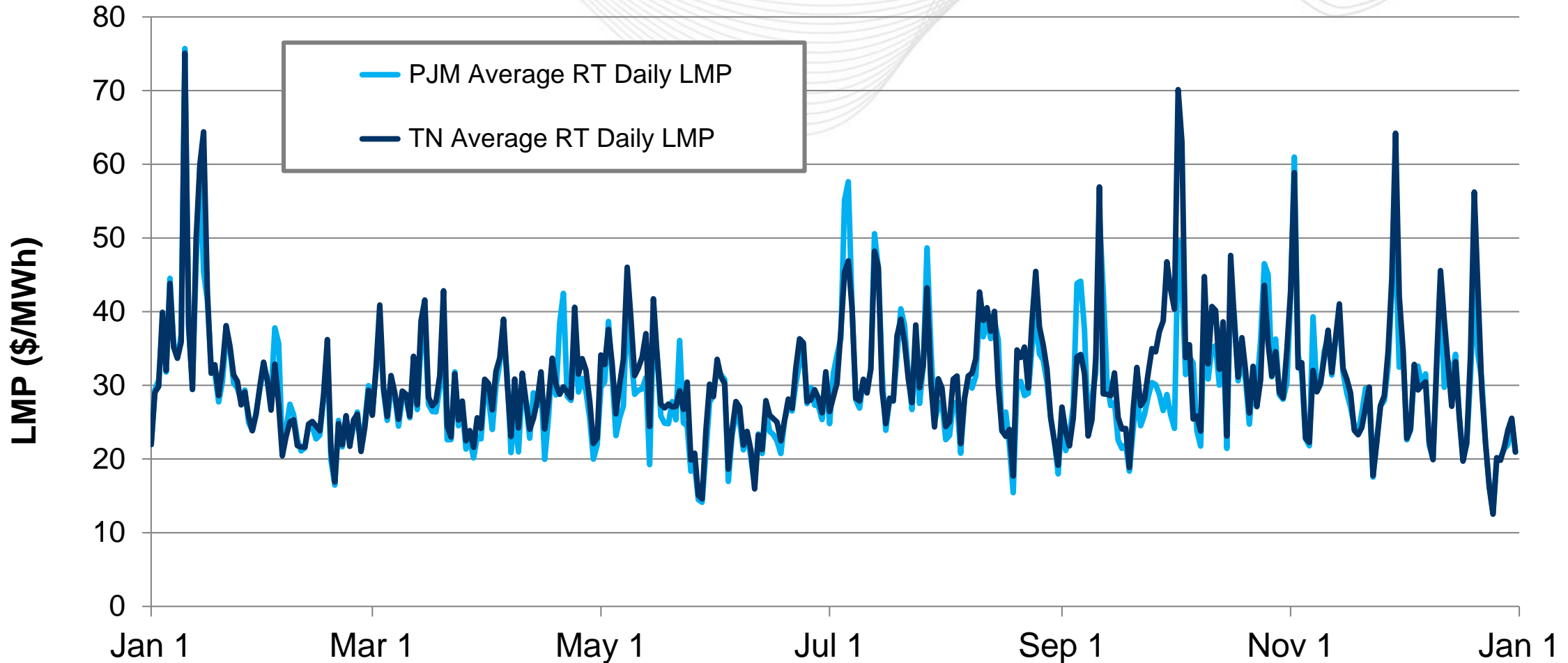


PJM RTO Summer Peak		PJM RTO Winter Peak	
2024	2034	2023/2024	2033/2034
151,247	176,822	134,659	163,069
MW	MW	MW	MW
Growth Rate 1.6%		Growth Rate 1.9%	

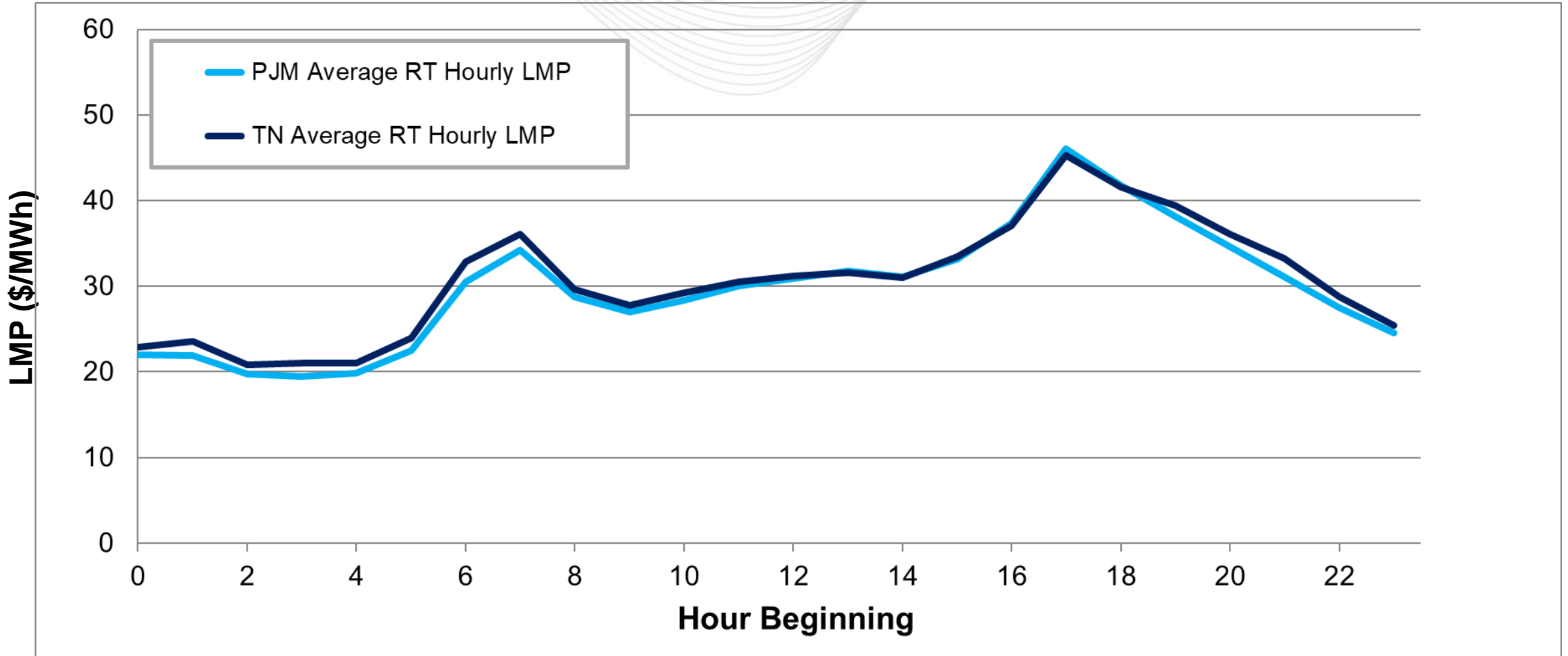
\* PJM notes that American Electric Power Company serves load other than in Tennessee. The summer and winter peak megawatt values in this table each reflect the estimated amount of forecasted load to be served by American Electric Power Company solely in Tennessee. Estimated amounts were calculated based on the average share of American Electric Power Company's real-time summer and winter peak load located in Tennessee over the past five years.

# Markets

## Market Analysis

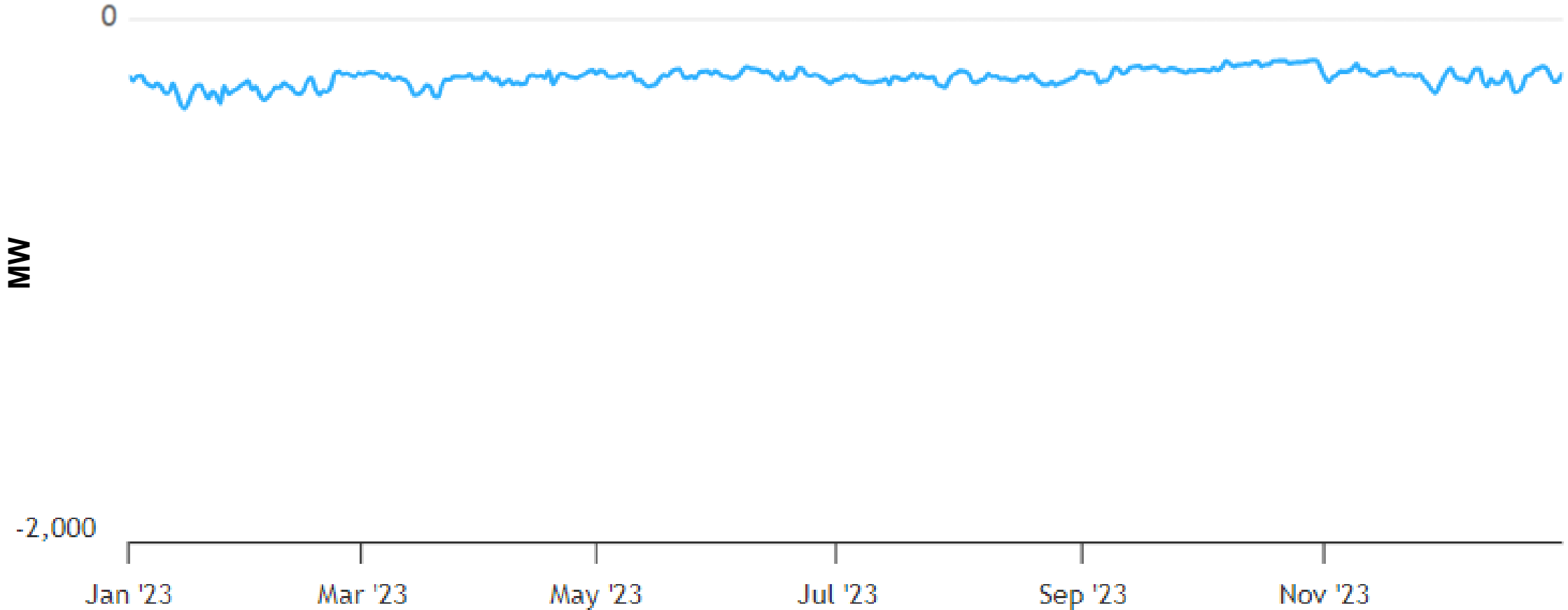


Tennessee's average hourly LMPs were consistent with PJM average hourly LMP.



# Tennessee – Net Energy Import/Export Trend

(Jan. 2023 – Dec. 2023)



This chart reflects the portion of Tennessee that PJM operates. Positive values represent exports and negative values represent imports.

# Operations



# 2005–2023 PJM Average Emissions

(March 2024)

**CO<sub>2</sub>**  
(lbs/MWh)

**SO<sub>2</sub> and NO<sub>x</sub>**  
(lbs/MWh)

