2022 Tennessee Infrastructure Report

(January 1, 2022 – December 31, 2022)

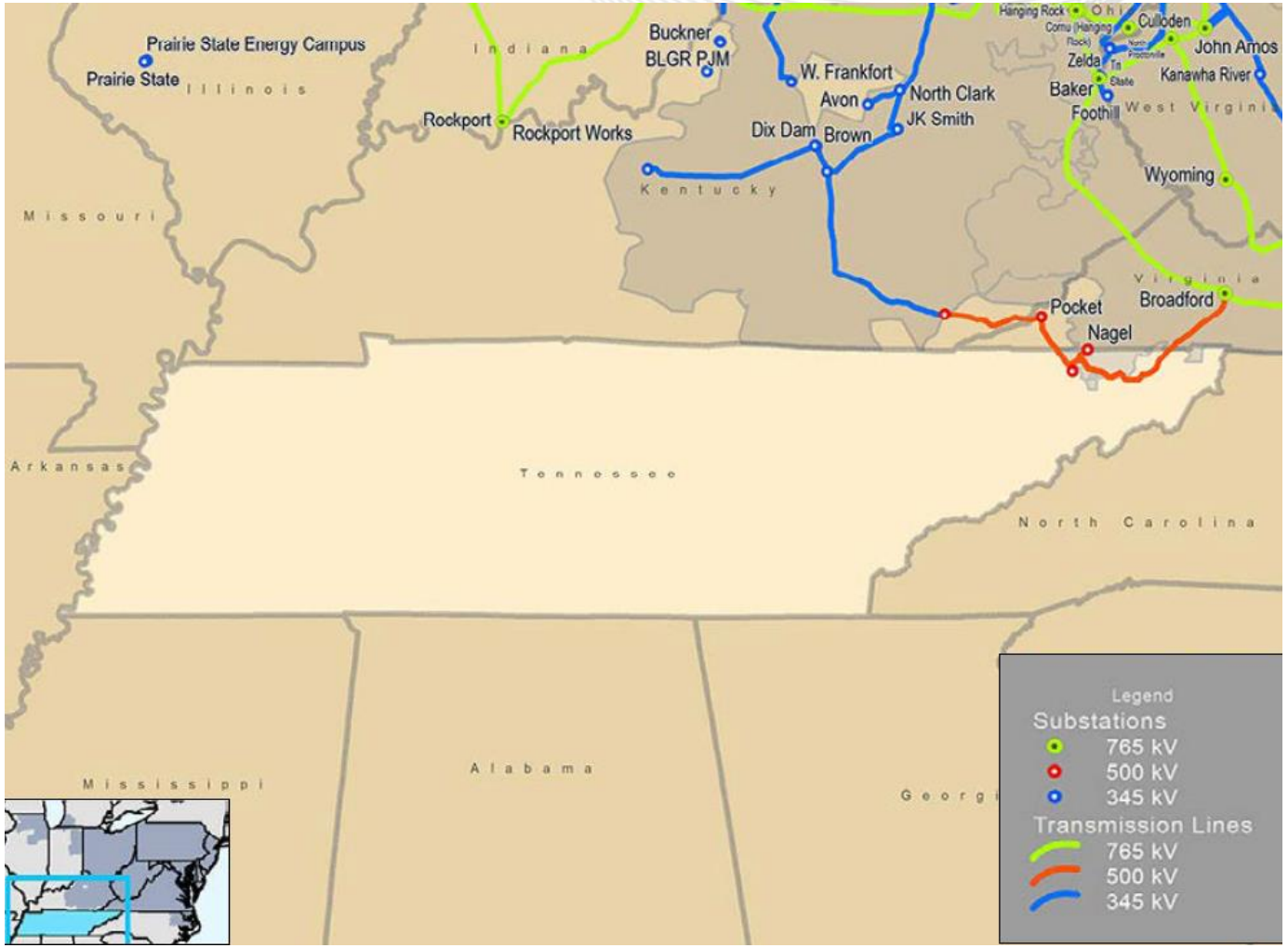
May 2023

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

Table of Contents

- **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 2022.
- **RTEP 2022:** Tennessee had no RTEP projects in 2022.
- **Load Forecast:** Tennessee's summer peak load is projected to increase by 0.1 percent annually over the next ten years, while the winter peak is projected to increase by 0.2 percent.
- **1/1/22 – 12/31/22 Market Performance:** Tennessee's average hourly LMPs aligned with the PJM average hourly LMP.

PJM Service Area – Tennessee



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

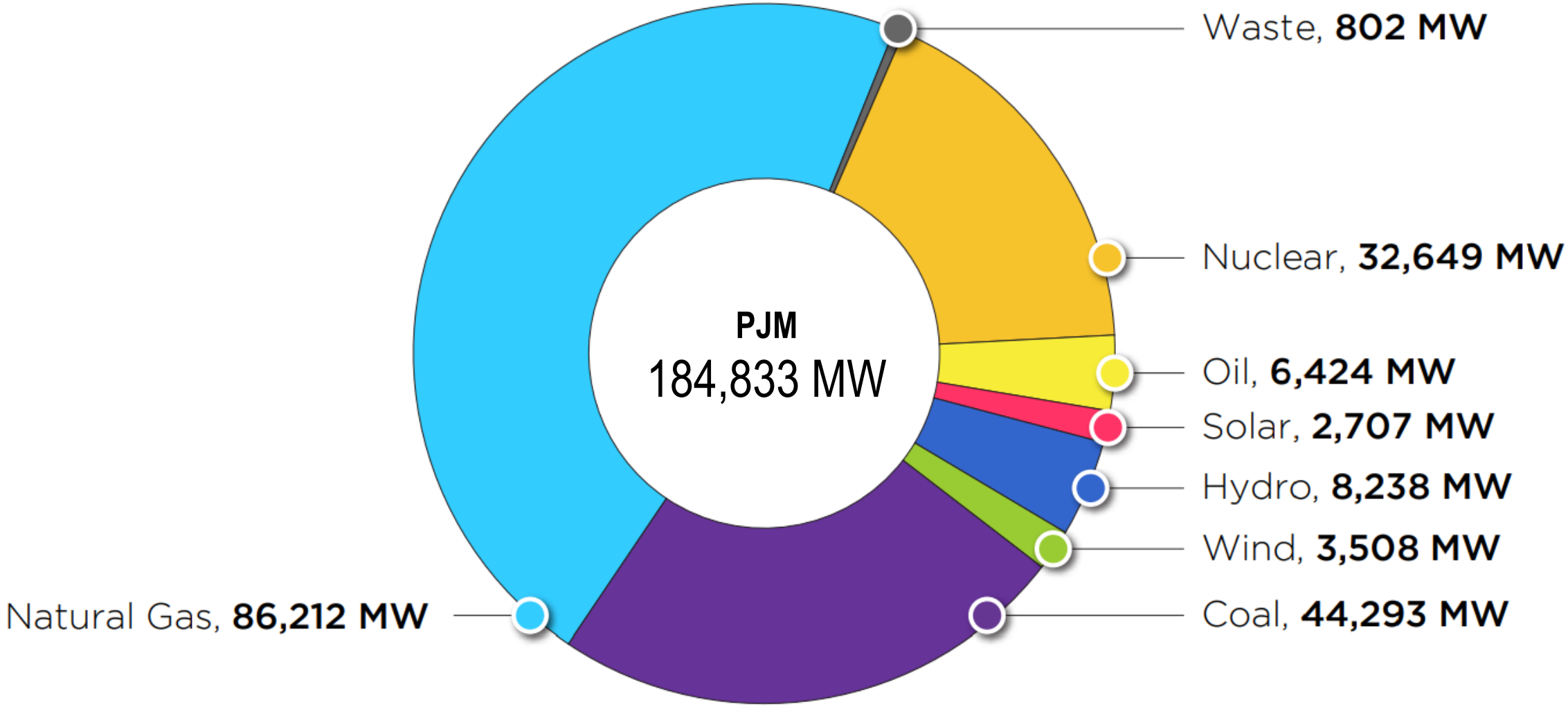
PJM operates transmission lines that extend beyond the service territory.

Planning

Generation Portfolio Analysis

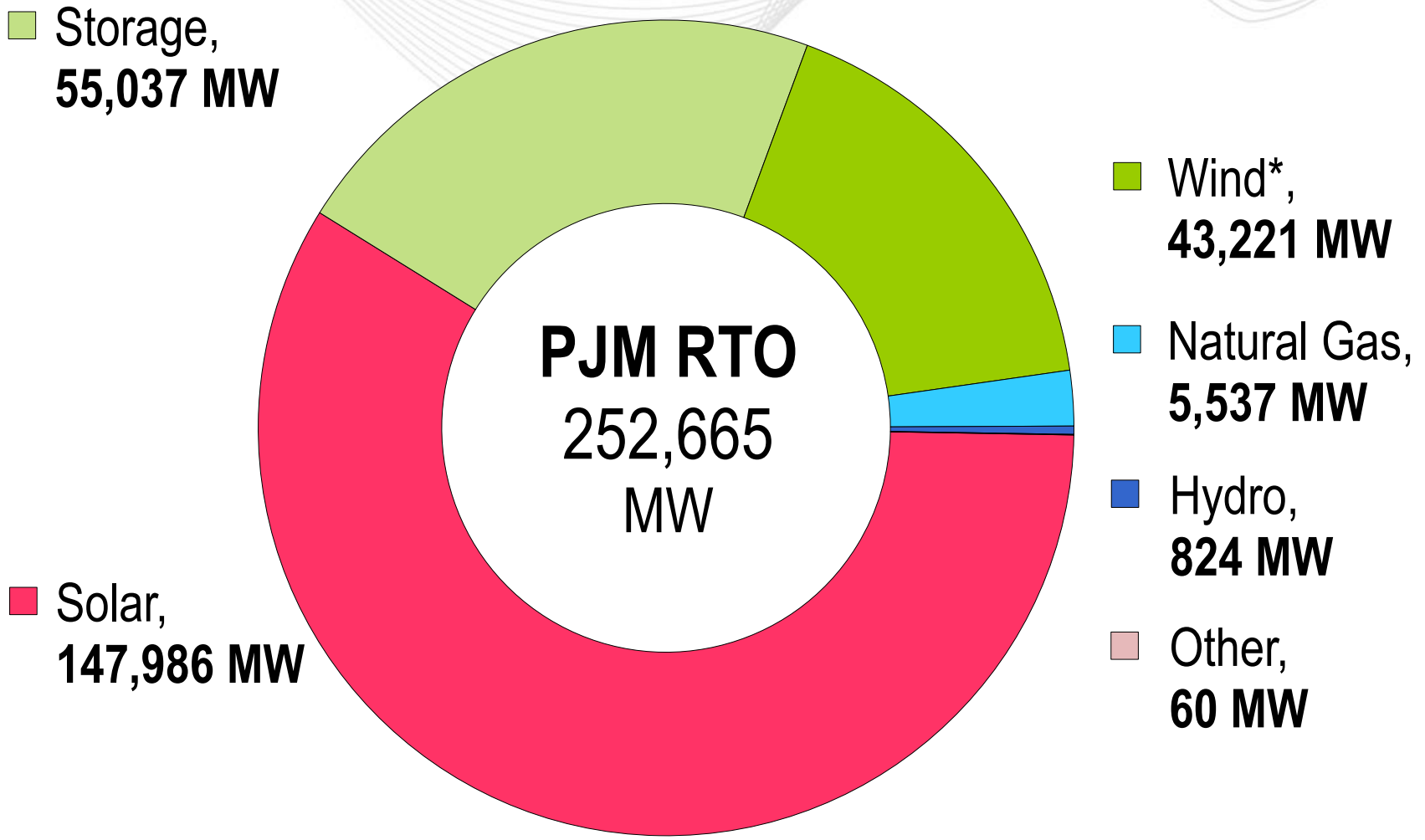
PJM – Existing Installed Capacity

(CIRs – as of Dec. 31, 2022)



PJM Queued Capacity (Nameplate) by Fuel Type

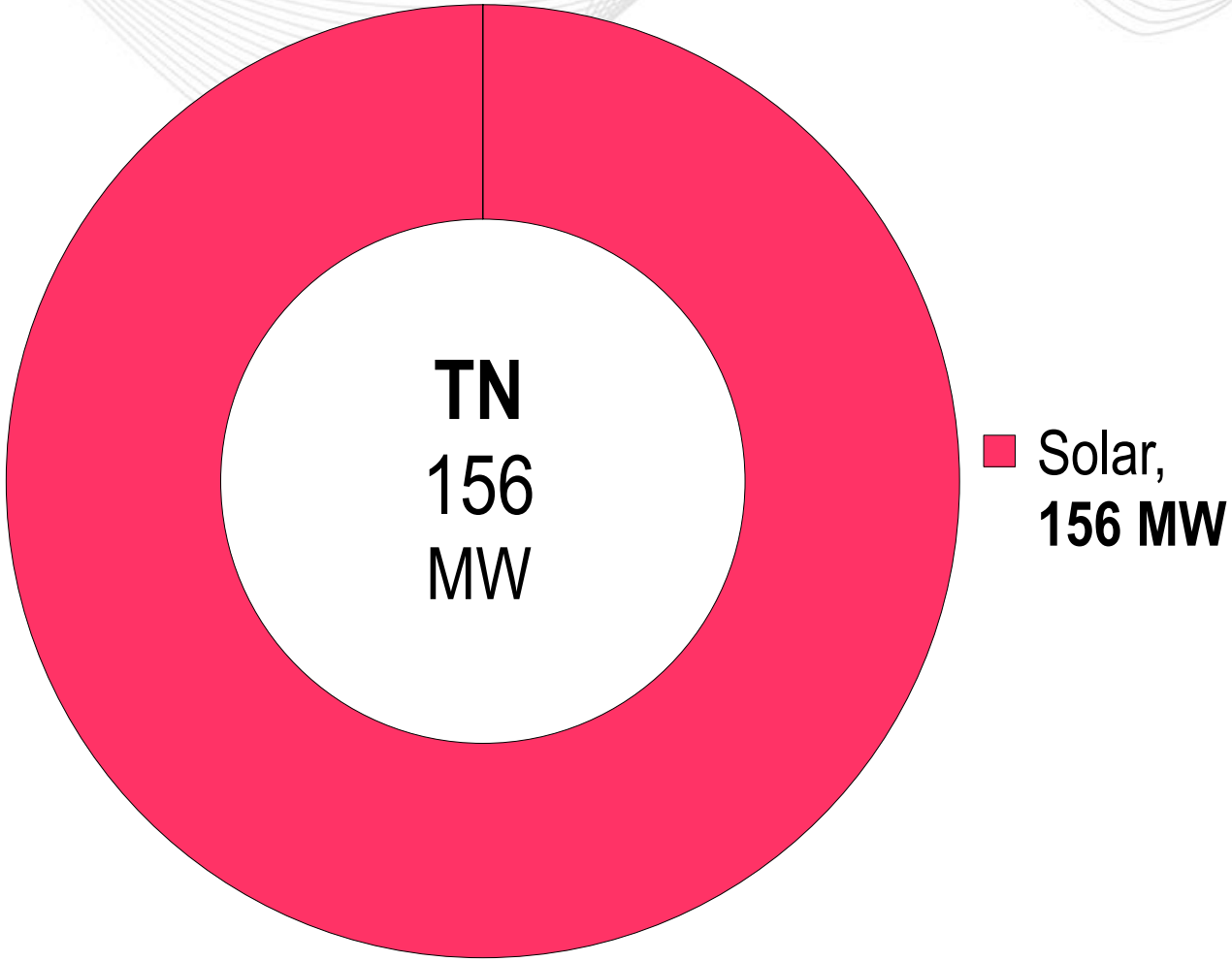
("Active" in the PJM Queue as of April 1, 2023)



*Wind includes both onshore and offshore wind

Tennessee Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of April 1, 2023)



Tennessee – Generation Deactivation Notifications Received in 2022

Tennessee had no generators deactivate or give a notice of deactivation in 2022.

Planning

Transmission Infrastructure Analysis

For reporting purposes, the 2022 state infrastructure reports provide maps displaying all baseline, network, and supplemental projects for the respective state. The reports also include aggregated project cost tables of these projects by Transmission Owner zone. For a detailed list of each project shown on a state's project map, please see that state's section in the **2022 Annual RTEP Report** on pjm.com: https://www.pjm.com/-/media/library/reports-notices/2022-rtep/2022-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/project-construction

Tennessee – RTEP Baseline Projects

Tennessee had no baseline projects in 2022.

Note: Baseline upgrades are those that resolve a system reliability criteria violation.

Tennessee – RTEP Network Projects

Tennessee had no network projects in 2022.

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 – TO Supplemental Projects

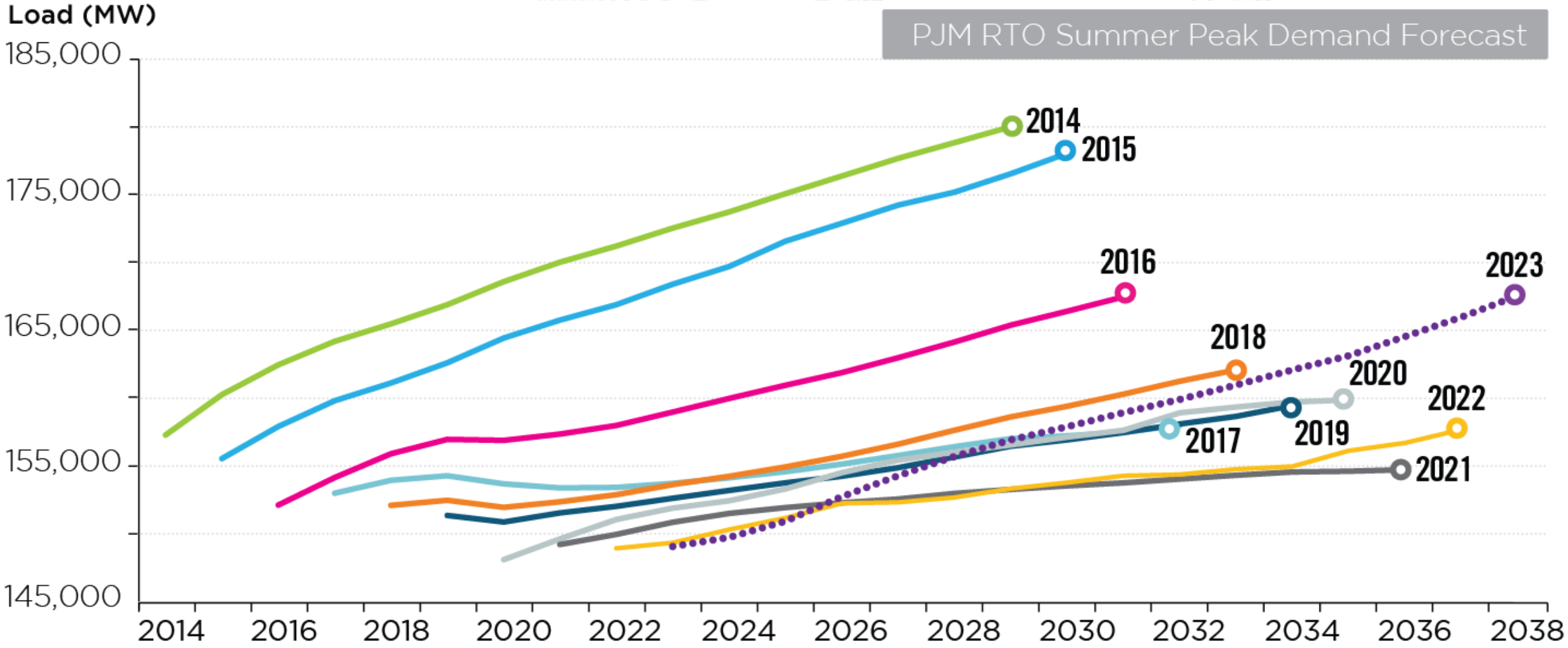
Tennessee had no supplemental projects in 2022.

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.

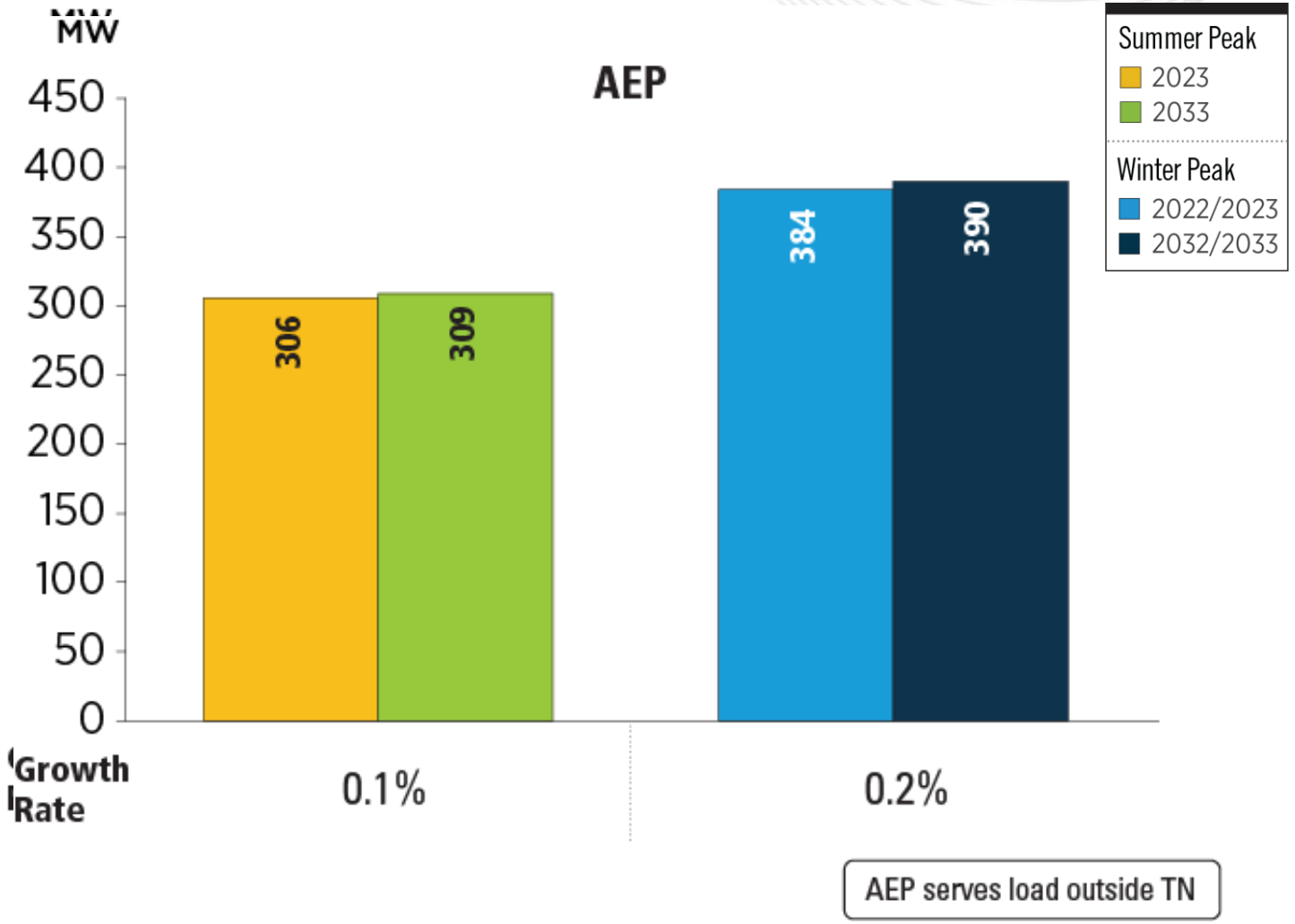
Planning
Load Forecast

PJM Annual Load Forecast

(Jan. 2023)



Tennessee – 2023 Load Forecast Report



PJM RTO Summer Peak

2023	2033
149,059 MW	160,971 MW

Growth Rate 0.8%

PJM RTO Winter Peak

2022/2023	2032/2033
130,811 MW	144,992 MW

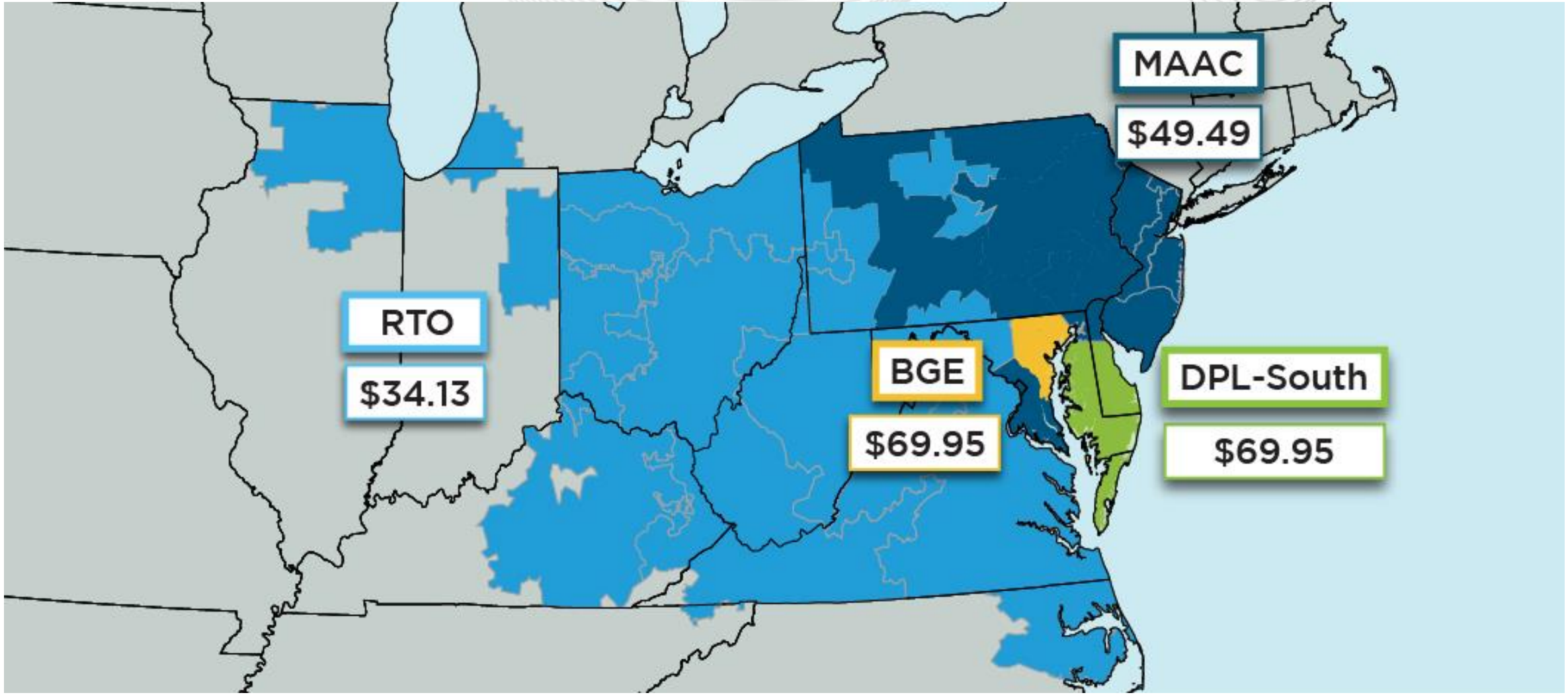
Growth Rate 1.0%

The summer and winter peak megawatt values reflect the estimated amount of forecast load to be served by each transmission owner in the noted state/district. Estimated amounts were calculated based on the average share of each transmission owner's real-time summer and winter peak load in those areas over the past five years.

Markets

Capacity Market Results

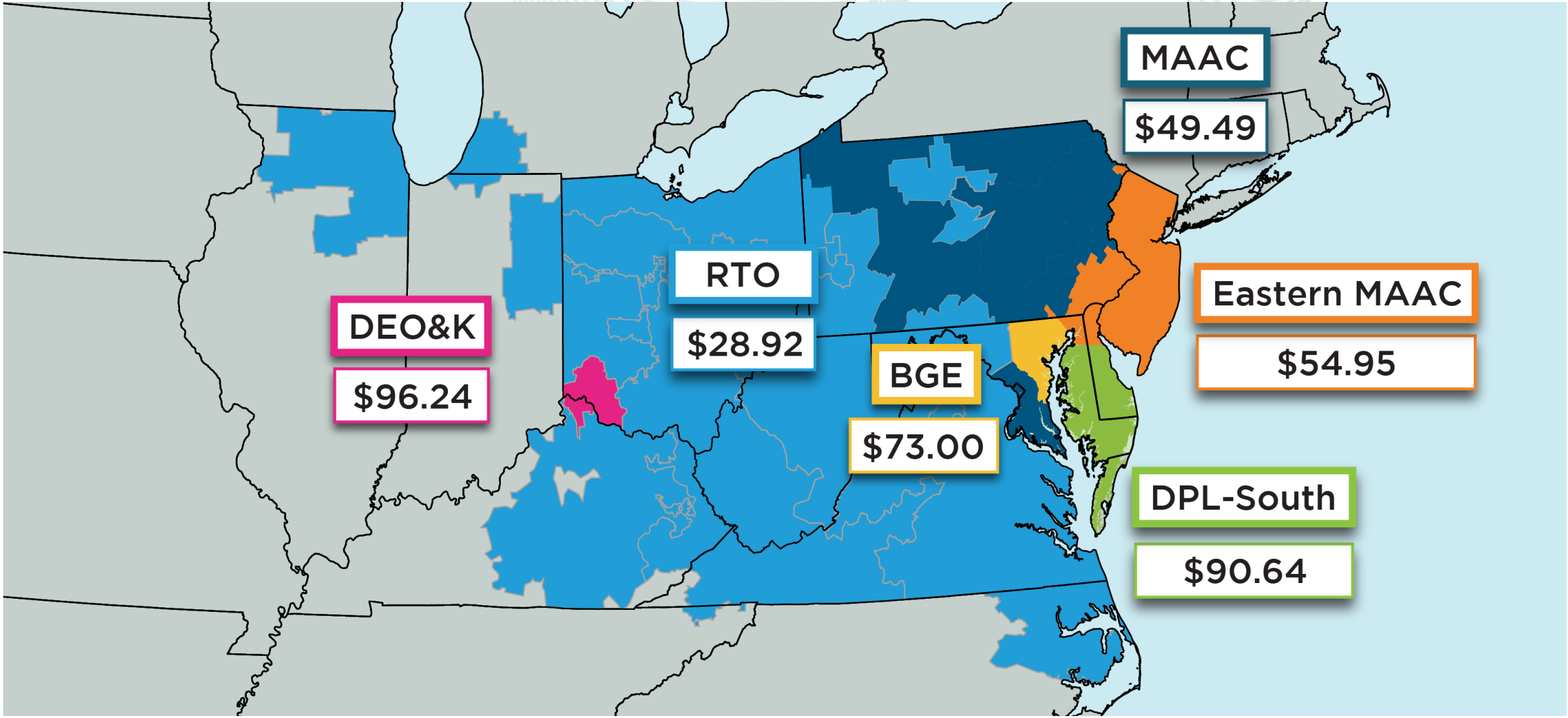
2023/24 Base Residual Auction Clearing Prices ($/MW-Day)



2023/24 Cleared MW (UCAP) by Resource Type

	ANNUAL	SUMMER	WINTER	Total (MW)
Generation	131,256.3	47.0	474.1	131,777.4
DR	7,919.1	177.1	0.0	8,096.2
EE	5,221.1	250.0	0.0	5,471.1
Total (MW)	144,396.5	474.1	474.1	

2024/25 Base Residual Auction Clearing Prices ($/MW-Day)



2024/2025 Cleared MW (UCAP) by Resource Type

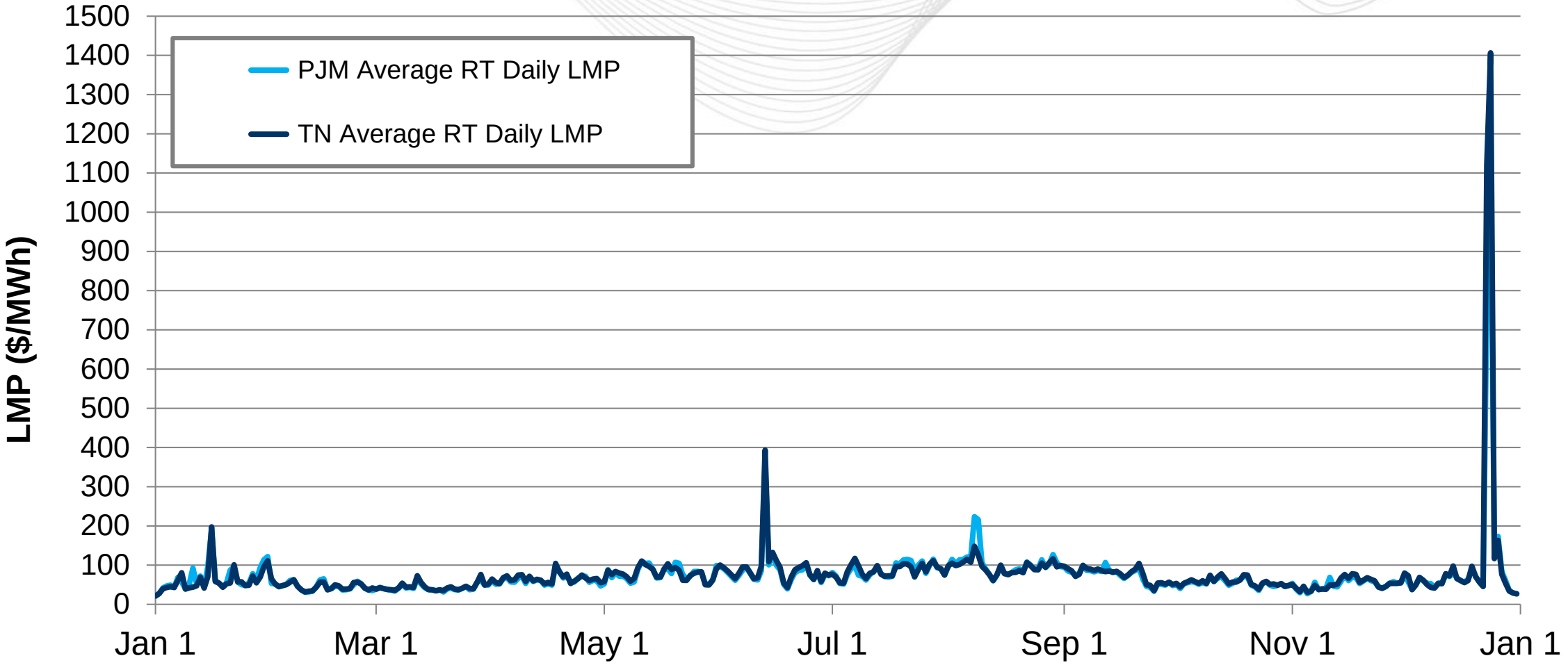
	ANNUAL	SUMMER	WINTER	Total (MW)
Generation	131,779.3	38.2	605.6	132,423.1
DR	7,804.3	188.4	0	7,992.7
EE	7,289.7	379.0	0	7,668.7
Total (MW)	**146,873.3**	**605.6**	**605.6**	

Markets

Market Analysis

Tennessee – Average Daily LMP

(Jan. 1, 2022 – Dec. 31, 2022)

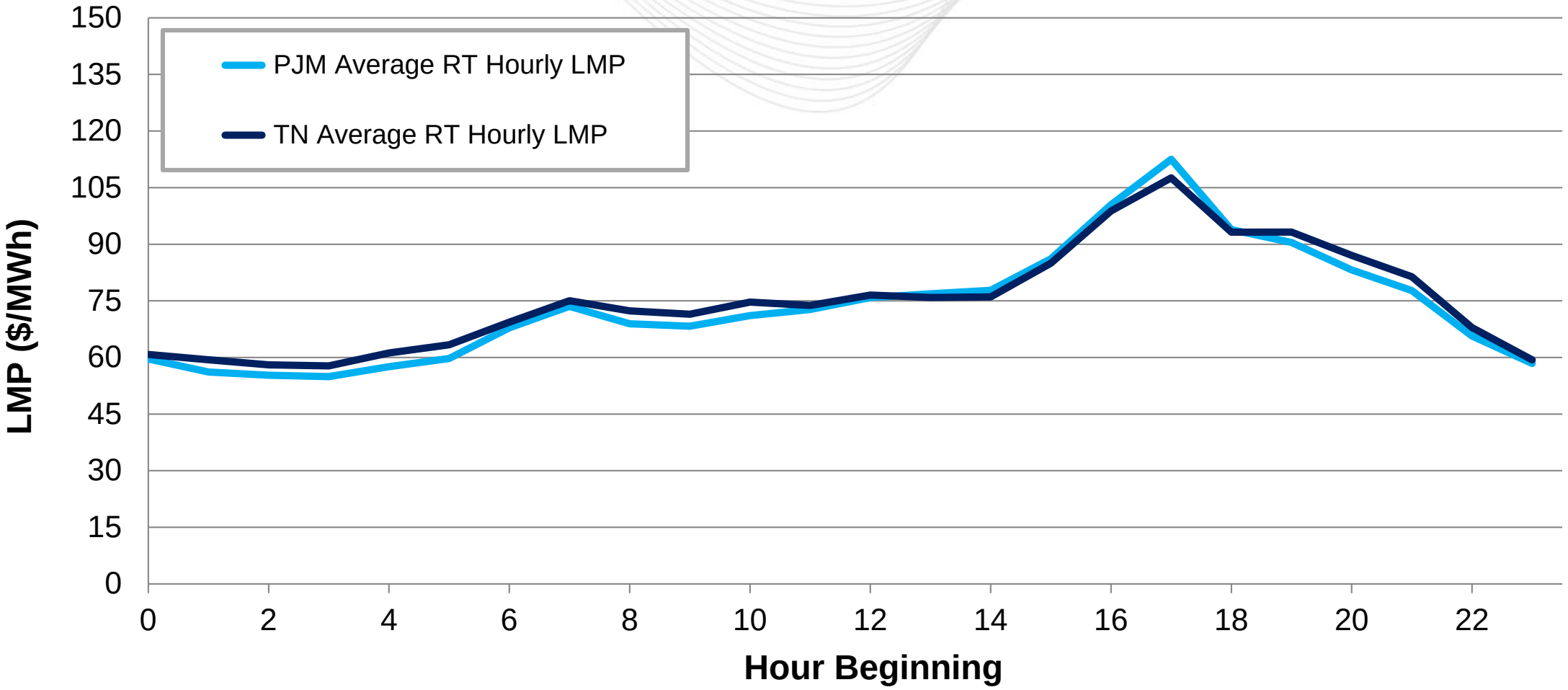


Note: The significant price spike in late Dec. 2022 was a result of Winter Storm Elliott's impact on system conditions.

Tennessee – Average Hourly LMP

(Jan. 1, 2022 – Dec. 31, 2022)

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



Tennessee – Net Energy Import/Export Trend

(Jan. 2022 – Dec. 2022)

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

Operations
Emissions Data

2005 – 2022 PJM Average Emissions

(March 2023)