



2019 Tennessee State Infrastructure Report

(January 1, 2019 – December 31, 2019)

May 2020
(updated July 2020)

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

1. Planning

- Generation Portfolio Analysis
- Transmission Analysis
- Load Forecast

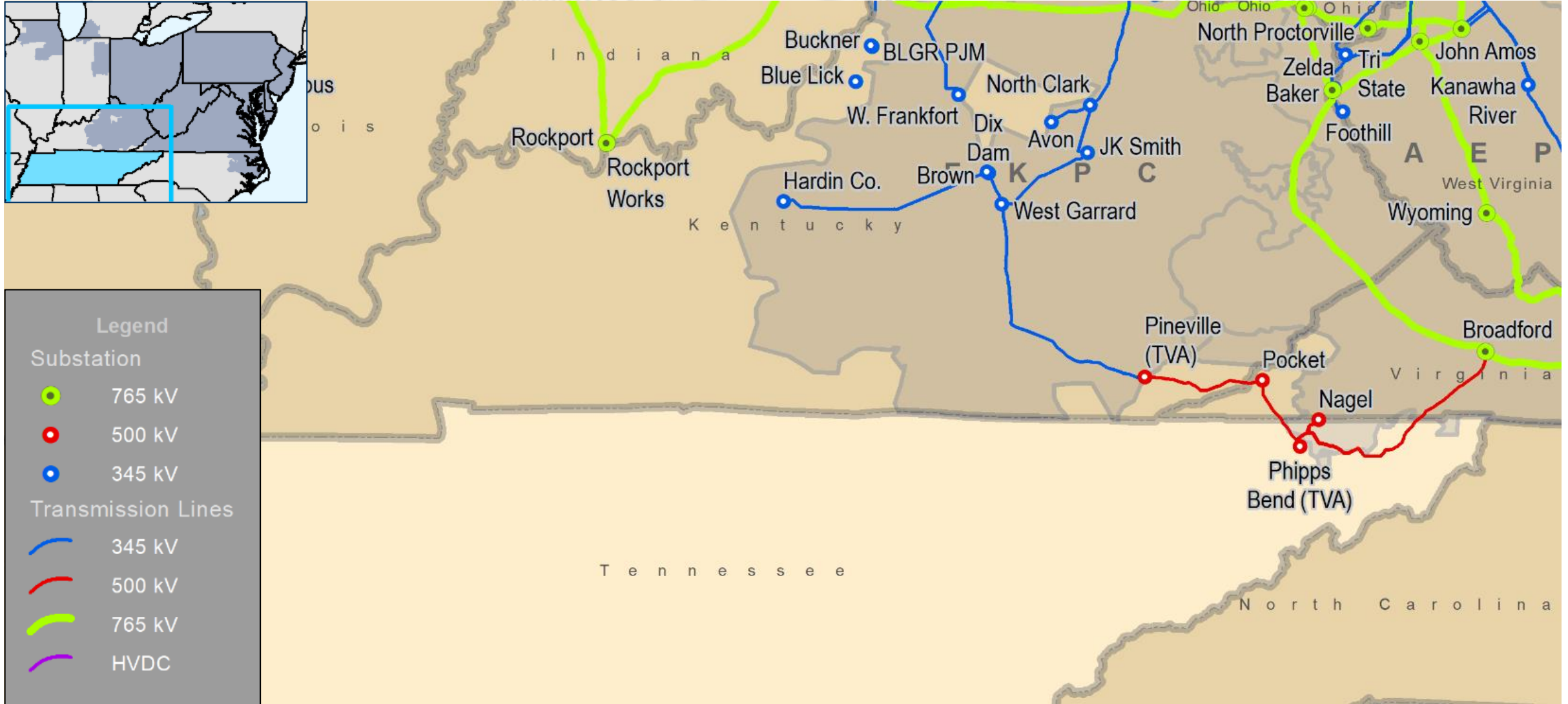
2. Markets

- Market Analysis

3. Operations

- Emissions Data

- **Existing Capacity:** There are 45 MW of installed capacity in the part of Tennessee served by PJM.
- **Interconnection Requests:** There are no interconnection requests in Tennessee.
- **Deactivations:** No generation in Tennessee gave notification of deactivation in 2019.
- **RTEP 2019:** Tennessee had no RTEP projects in 2019.
- **Load Forecast:** Tennessee's load within the PJM footprint is projected to grow between 0.7 and 1.0 percent annually over the next ten years. The overall PJM RTO projected load growth rate is 0.6 percent.
- **1/1/19 – 12/31/19 Market Performance:** Tennessee's average locational marginal prices generally aligned with PJM average hourly LMPs.



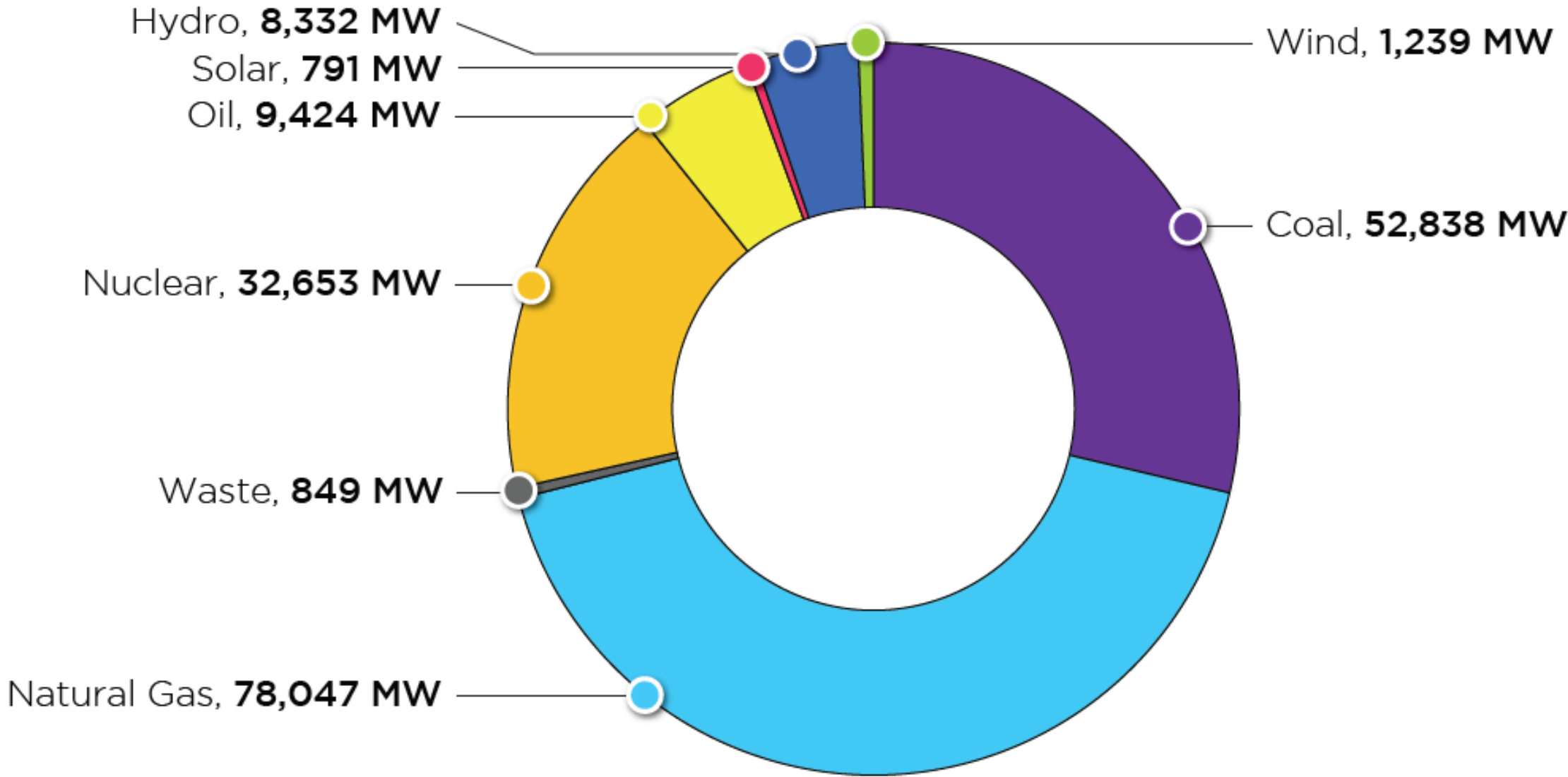
Planning

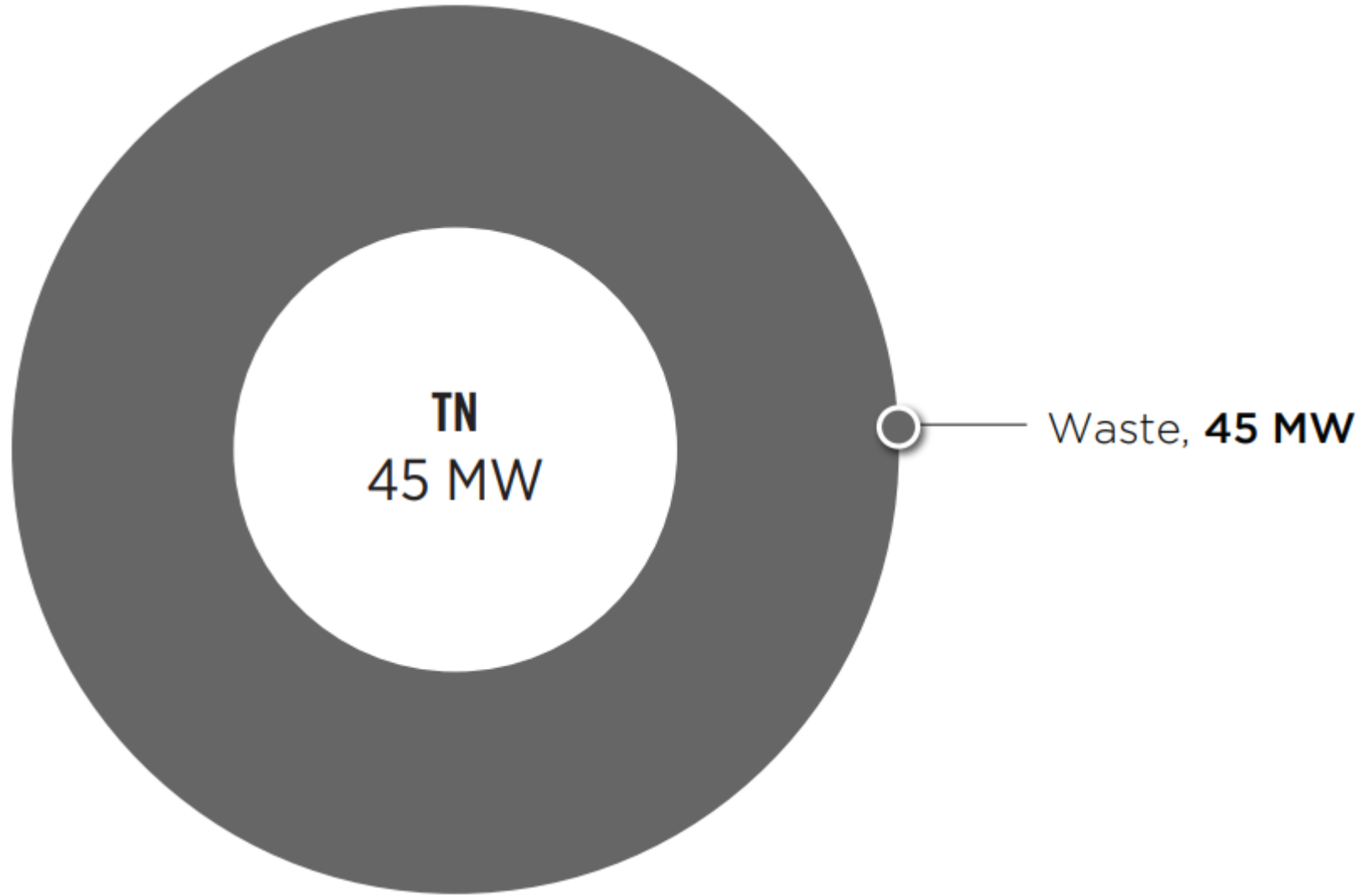
Generation Portfolio Analysis



PJM – Existing Installed Capacity

(CIRs – as of Dec. 31, 2019)







Tennessee – Progression History of Interconnection Requests



This graphic shows the final state of generation submitted in all PJM queues that reached in-service operation, began construction, or was suspended or withdrawn as of Dec. 31, 2019.

Percentage of planned capacity and projects that have reached commercial operation	55% Requested capacity megawatt	67% Requested projects
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Tennessee – Interconnection Requests

(Unforced Capacity – as of Dec. 31, 2019)

		Complete				Grand Total	
		In Service		Withdrawn			
		No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)
Non-Renewable	Coal	0	0.0	1	75.0	1	75.0
Renewable	Biomass	2	90.0	0	0.0	2	90.0
	Grand Total	2	90.0	1	75.0	3	165.0

Planning

Transmission Infrastructure Analysis



Tennessee – RTEP Baseline Projects

(Greater than \$5 million)

Tennessee had no baseline project upgrades in 2019.

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



Tennessee – RTEP Network Projects

(Greater than \$5 million)

Tennessee had no network project upgrades in 2019.

Note: Network upgrades 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.

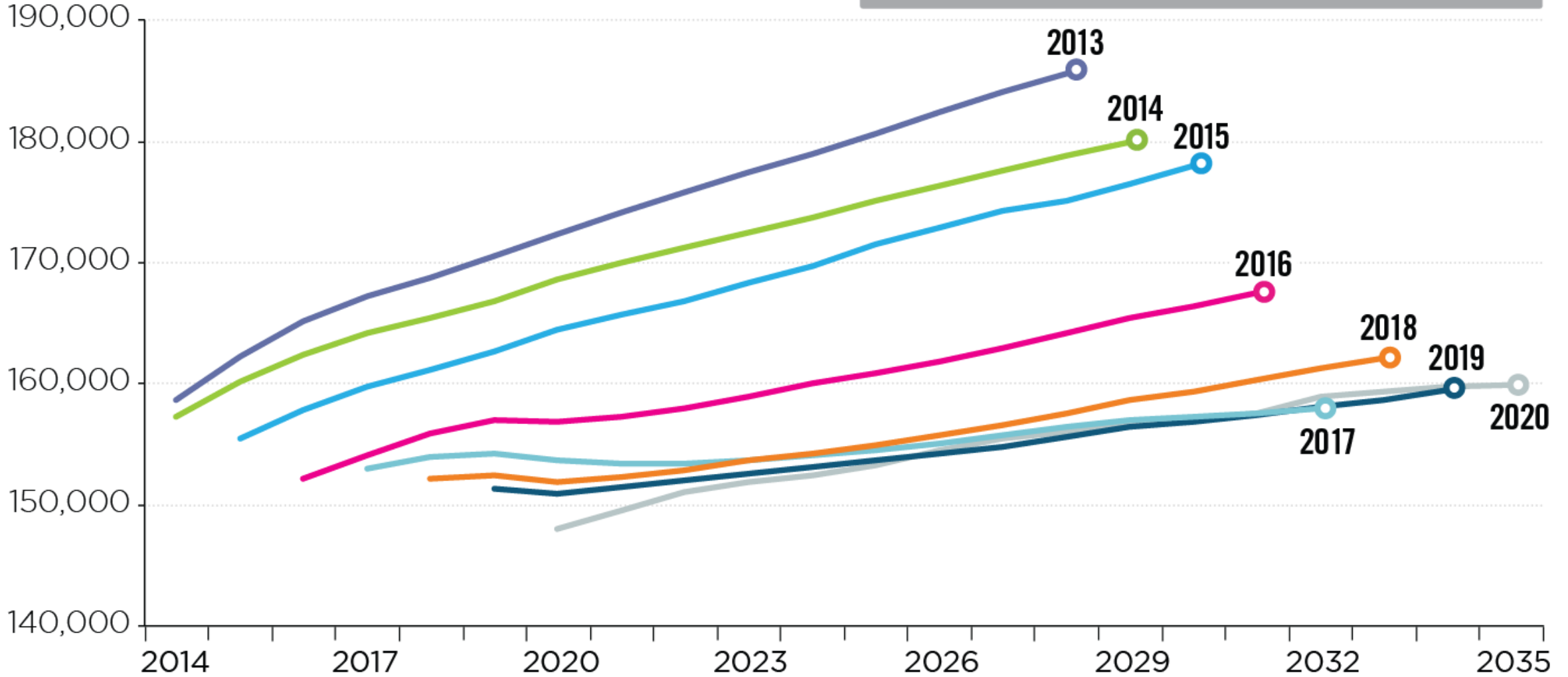
Tennessee had no supplemental project upgrades in 2019.

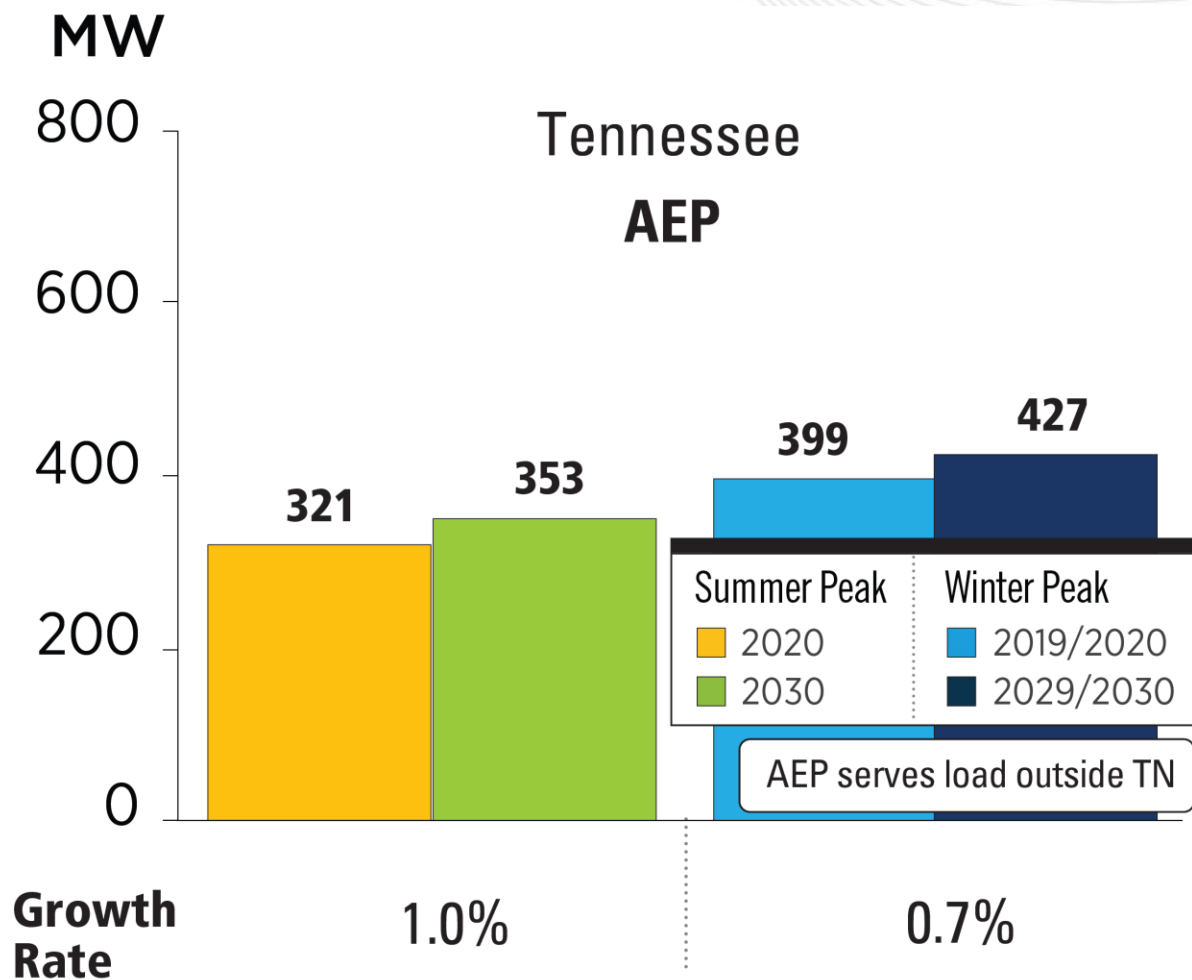
Note: Supplemental projects are transmission expansions or enhancements that are not required for compliance with PJM criteria and are not state public policy projects according to the PJM Operating Agreement. These projects are used as inputs to RTEP models, but are not required for reliability, economic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

Planning Load Forecast

PJM RTO Summer Peak Demand Forecast

Load (MW)





PJM RTO Summer Peak		PJM RTO Winter Peak	
2020	2030	2019/2020	2029/2030
148,092 MW	157,132 MW	131,287 MW	139,970 MW
Growth Rate 0.6%		Growth Rate 0.6%	

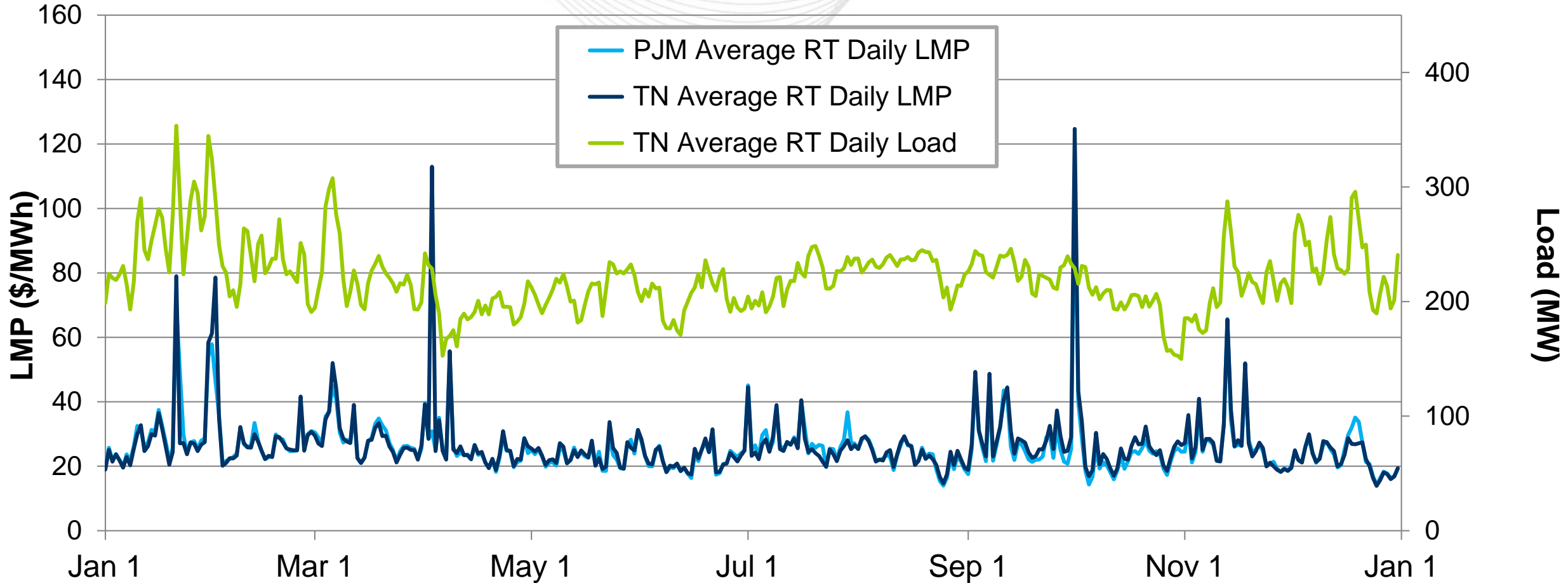
The summer and winter peak megawatt values reflect the estimated amount of forecasted load to be served by each transmission owner in the noted state. Estimated amounts were calculated based on the average share of each transmission owner's real-time summer and winter peak load in those areas over the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

The Load Forecast was produced prior to COVID-19 and will be updated before the next Base Residual Auction to reflect changes in load patterns.

Markets

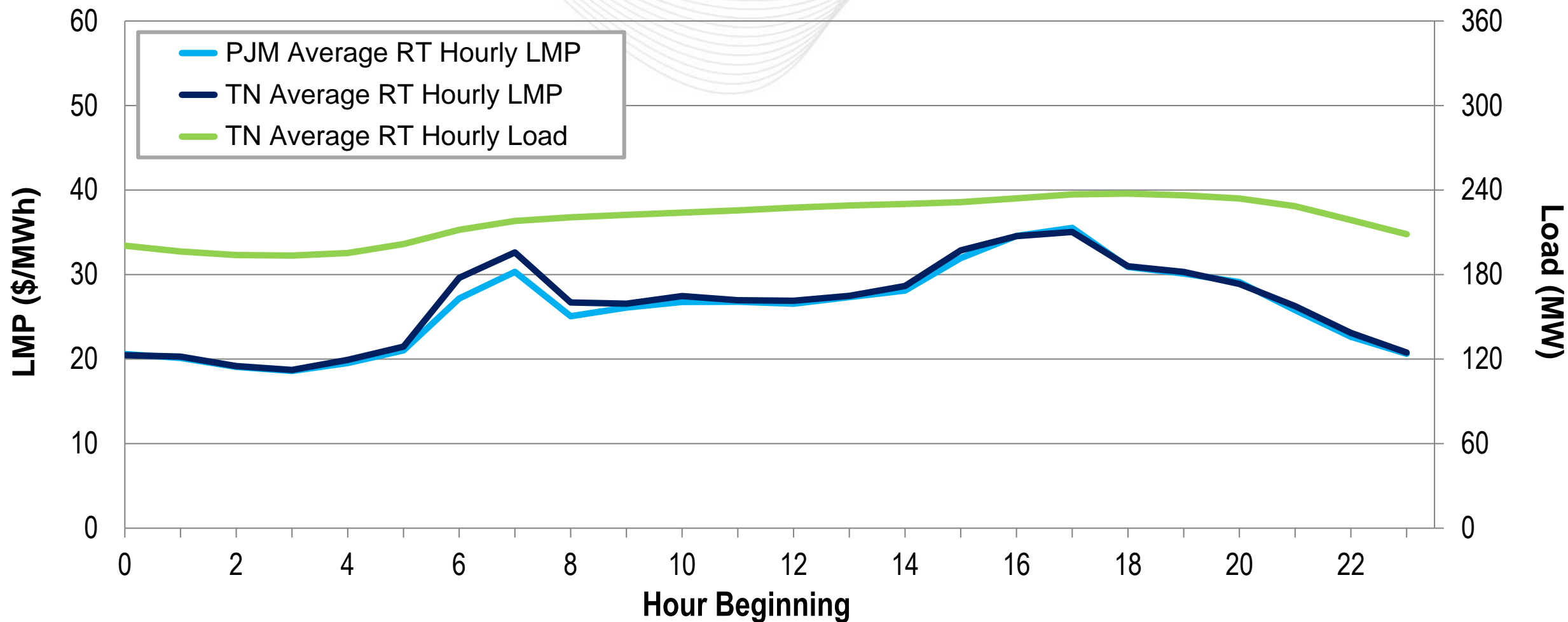
Market Analysis

Tennessee's average daily LMPs generally aligned with the PJM average daily LMP.



Note: The price spike in October reflects the Performance Assessment Interval event that occurred on October 2nd.

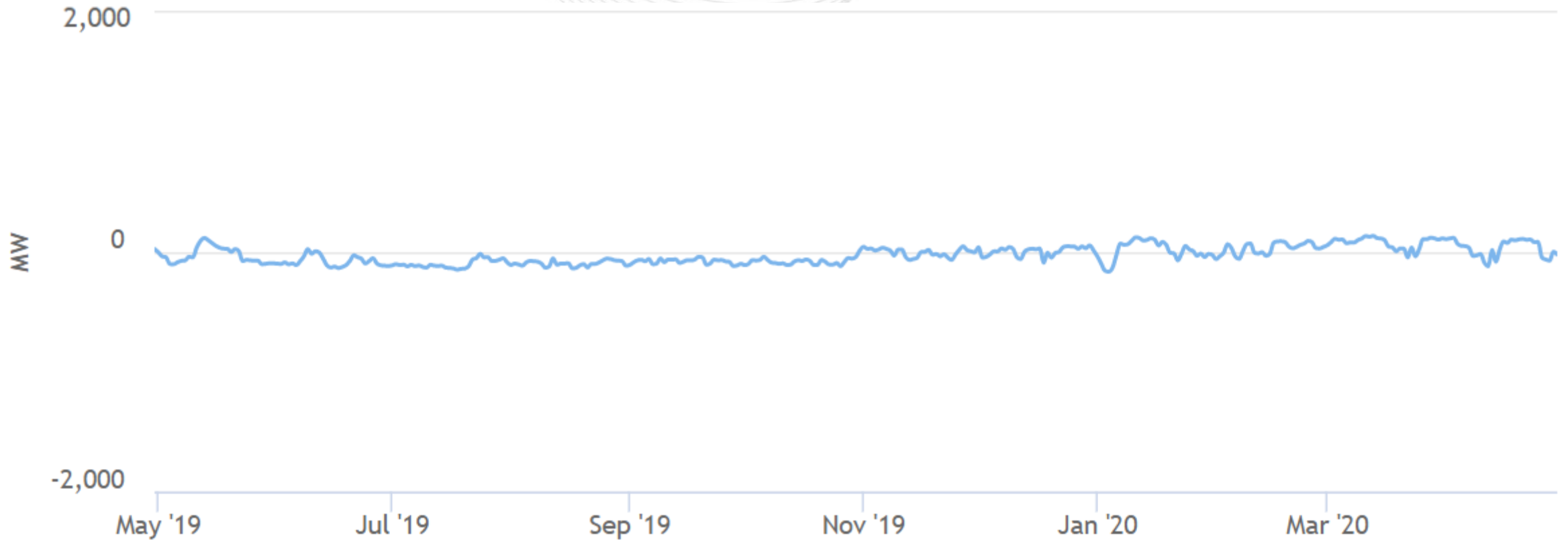
Tennessee's average hourly LMPs generally aligned with the PJM average hourly LMP.





Tennessee – Net Energy Import/Export Trend

(May 2019 – April 2020)



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

Operations Emissions Data



2005 – 2019 PJM Average Emissions

