2025 North Carolina State Infrastructure Report (January 1, 2025 – December 31, 2025)

June 2026

(updated August 2026)

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

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Executive Summary

2025 North Carolina State Infrastructure Report

In the North Carolina service territory:

Existing Capacity:	• In the North Carolina portion of PJM, solar represents 59% of the total installed capacity while hydro represents 22%. • Across PJM, natural gas represents 48% and solar is 5%.
Interconnection Requests:	North Carolina currently has 2.9 GW of capacity under study in Transition Cycle 2 and Cycle 1.
Deactivations:	North Carolina had no generators deactivate or give a notice of deactivation in 2025.
RTEP 2025:	North Carolina's 2025 RTEP project total represents approximately $101.5 million in investment.

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In the North Carolina service territory:

Load Forecast:	North Carolina's summer peak and winter peak loads are projected to increase by 0.2% annually over the next ten years.
Capacity Market:	• The 2026/27 Base Residual Auction cleared at the $329.17 price cap. • The 2027/28 Base Residual Auction cleared at the $333.44 price cap.
Market Performance:	North Carolina's average hourly LMPs were generally higher than the PJM average hourly LMP.

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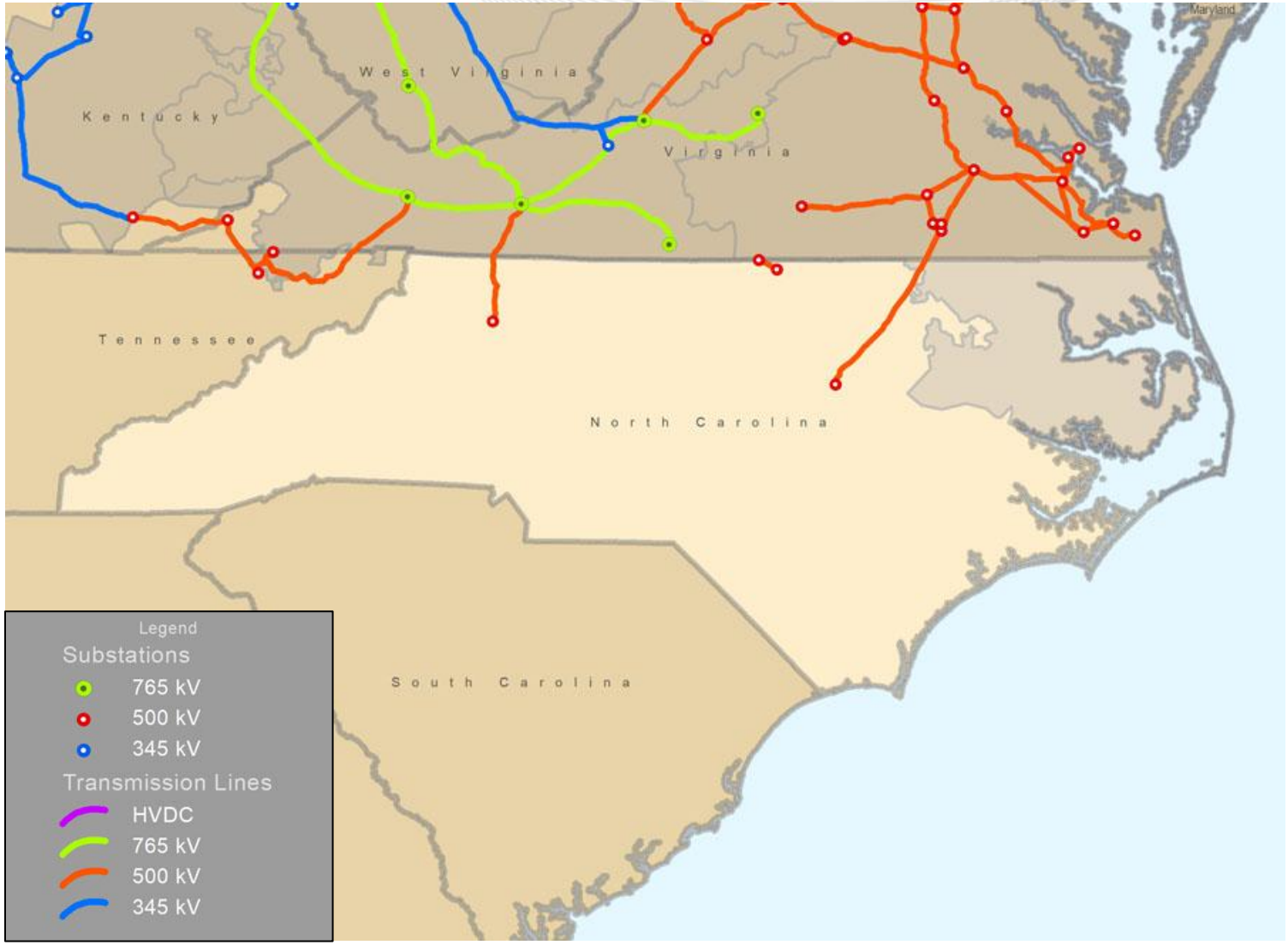
PJM Service Area in North Carolina



The PJM service area in North Carolina is the Dominion zone and is represented by the shaded portion of the map.

PJM operates transmission lines that extend beyond the service territory.

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Planning

Generation Portfolio Analysis

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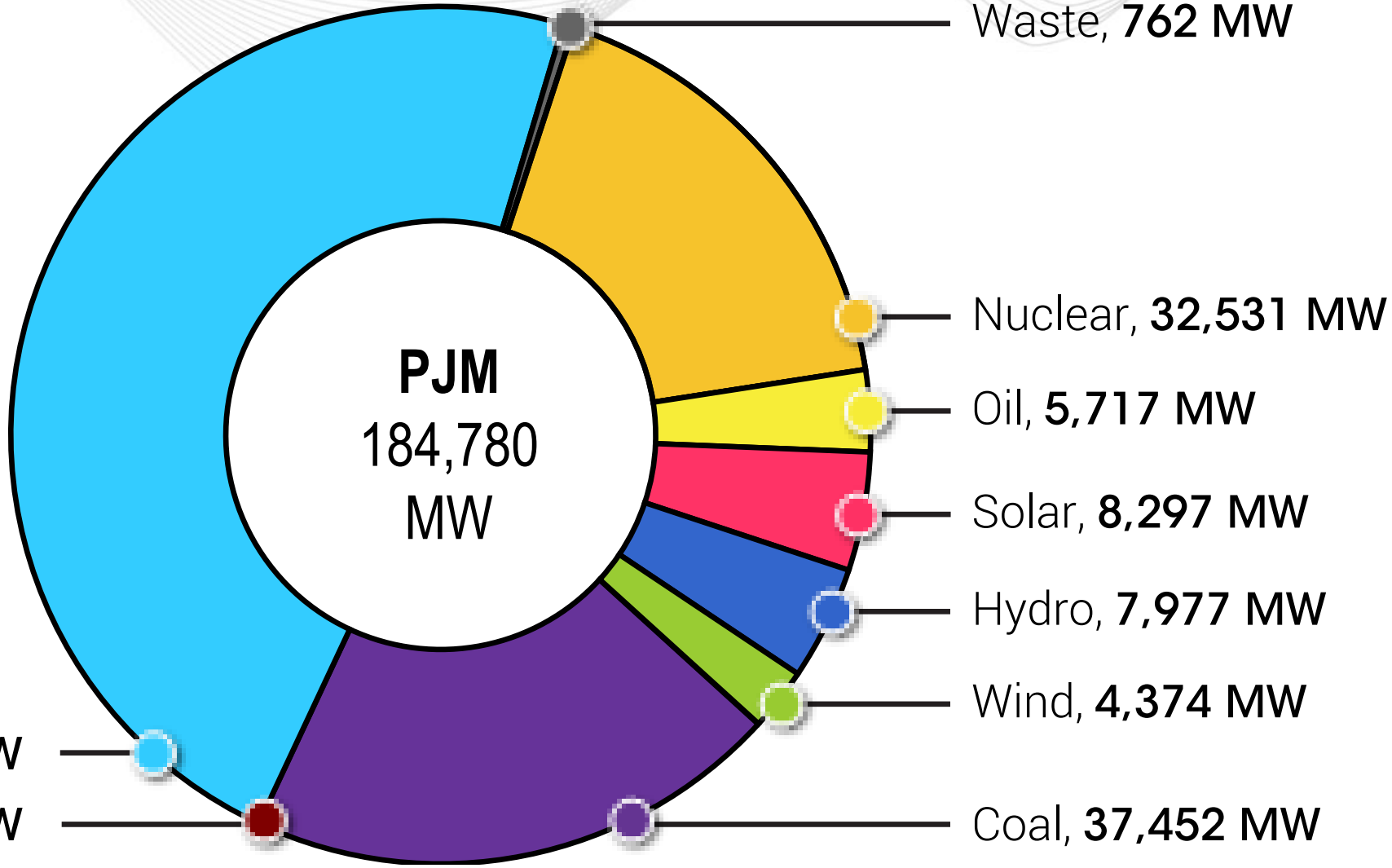
PJM Existing Installed Capacity Mix

(CIRs – as of Dec. 31, 2025)



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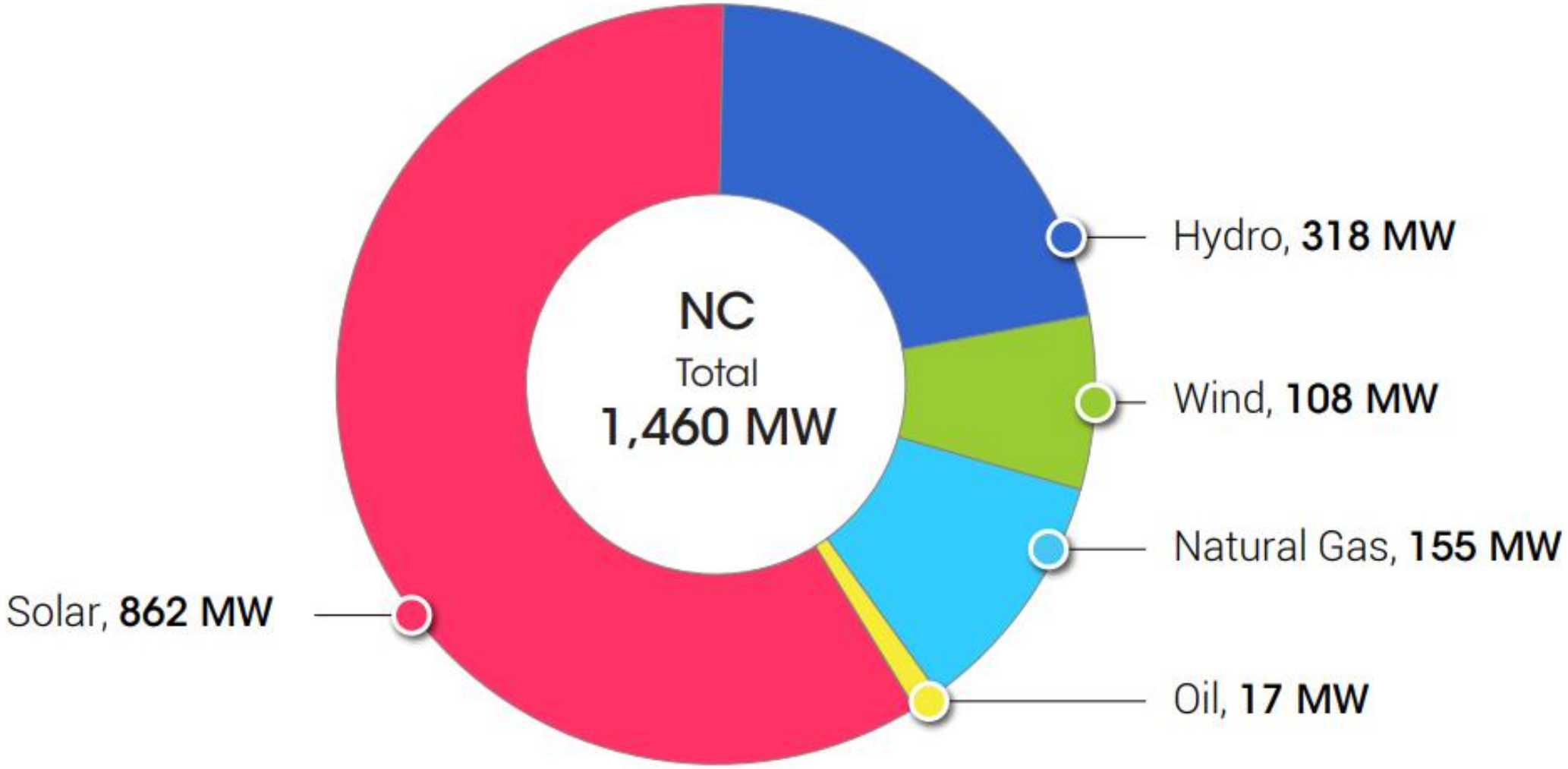
North Carolina – Existing Installed Capacity (MW) by Fuel Type

(CIRs- as of Dec. 31, 2025)



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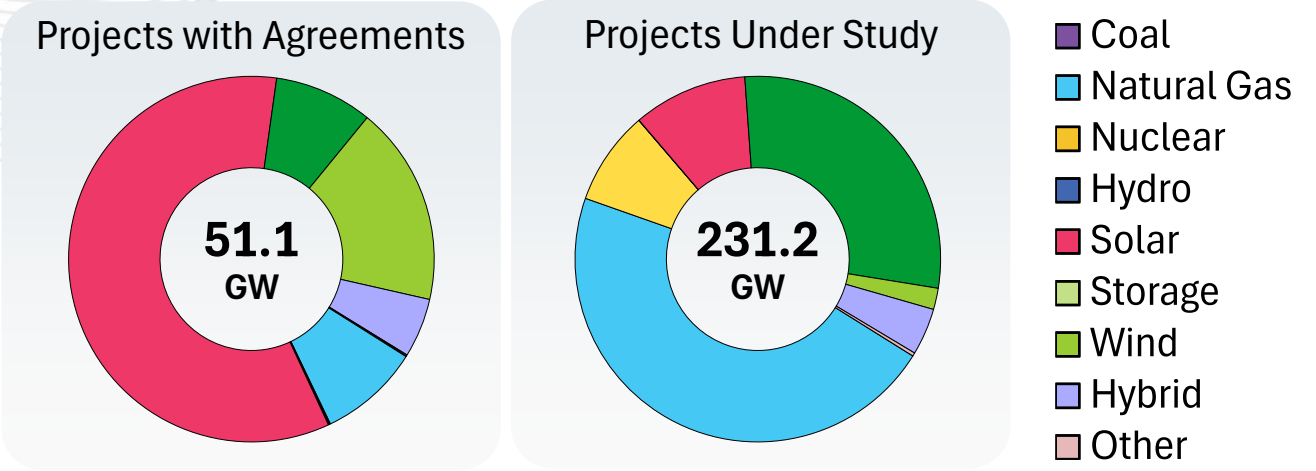
PJM – Queued Capacity (Nameplate) by Fuel Type

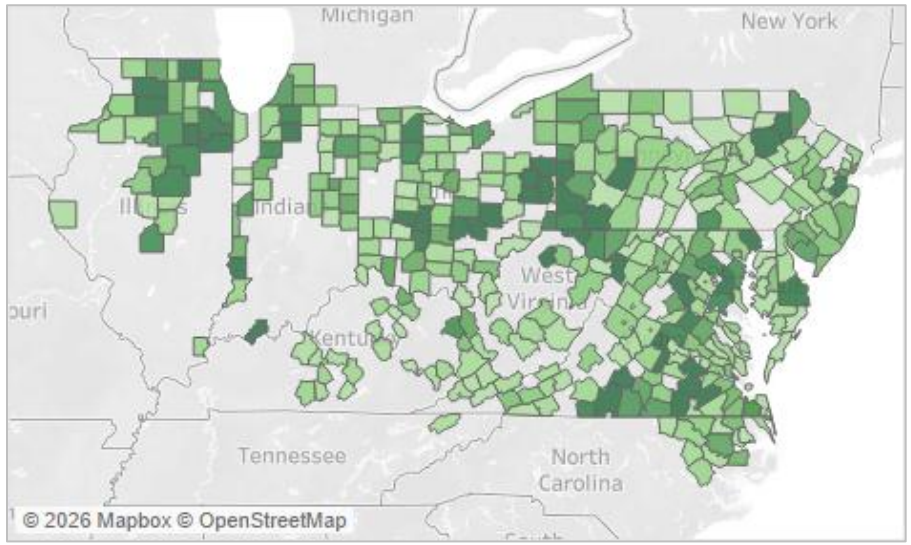
(Projects with agreements and projects under study [“Active”], as of August 3, 2026)

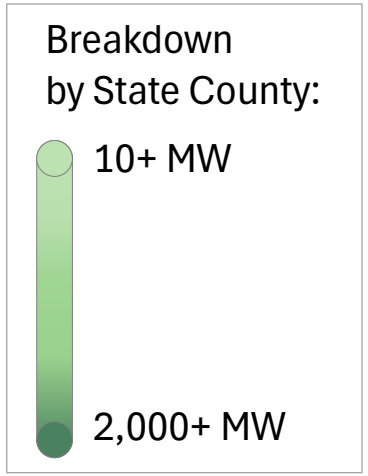
Project Count:

Fuel	Agreements	Studies
Coal	1	5
Natural gas	14	183
Nuclear	1	30
Hydro	1	5
Solar	329	262
Storage	61	371
Wind	34	65
Hybrid	24	57
Other	1	7
Total	**466**	**985**

MW Breakdown:







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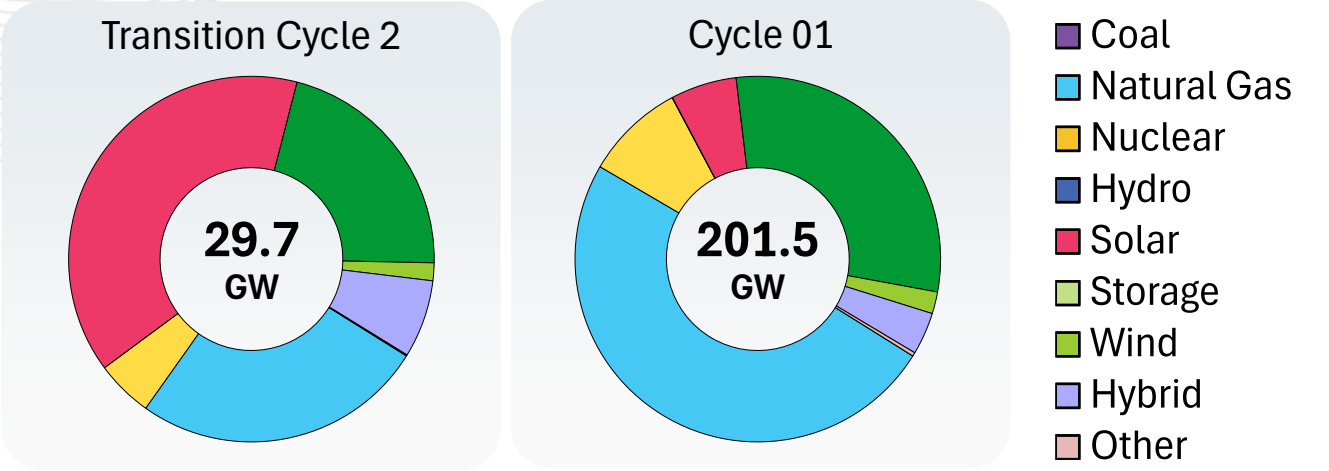
PJM – Queued Capacity (Nameplate) by Fuel Type

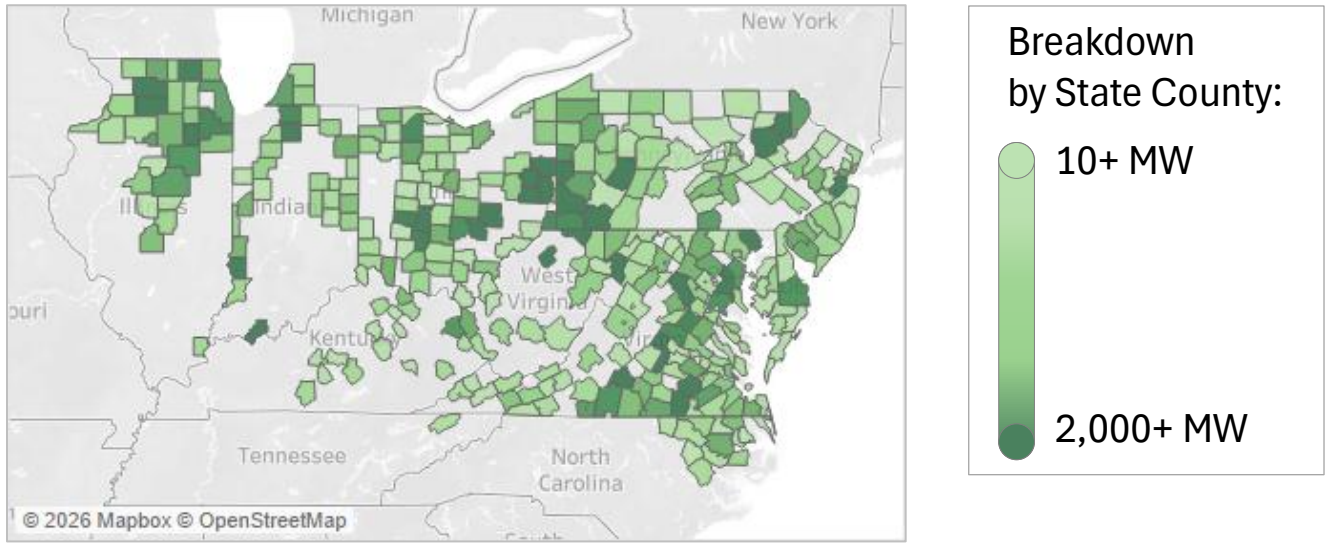
(Projects under study [“Active” in TC2 and Cycle 1], as of August 3, 2026)

Project Count:

Fuel	Transition Cycle 2	Cycle 01
Coal	1	4
Natural gas	36	147
Nuclear	5	25
Hydro	-	5
Solar	145	117
Storage	57	314
Wind	4	61
Hybrid	20	37
Other	2	5
Total	**270**	**715**

MW Breakdown:





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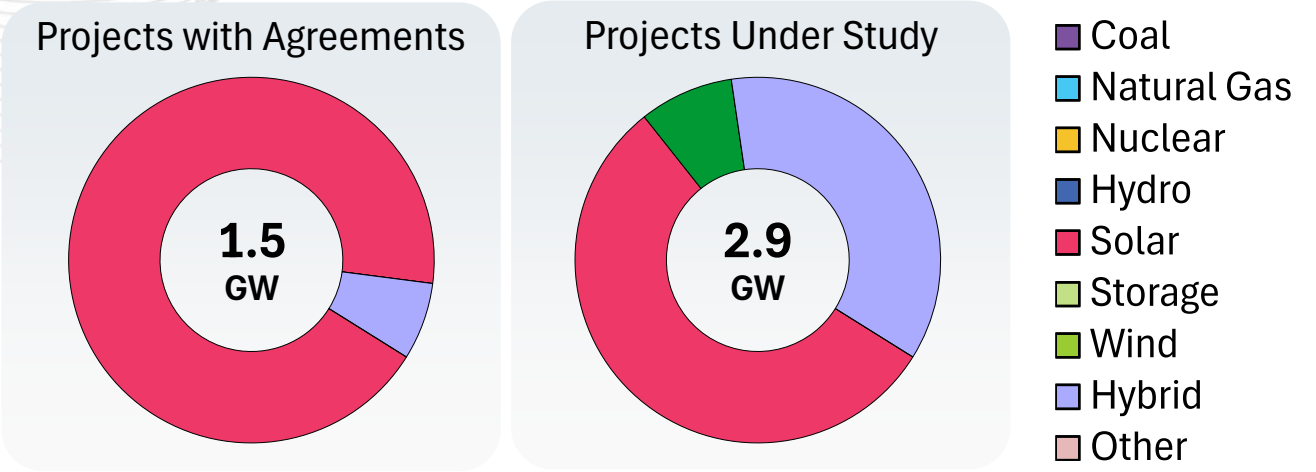
North Carolina – Queued Capacity (Nameplate) by Fuel Type

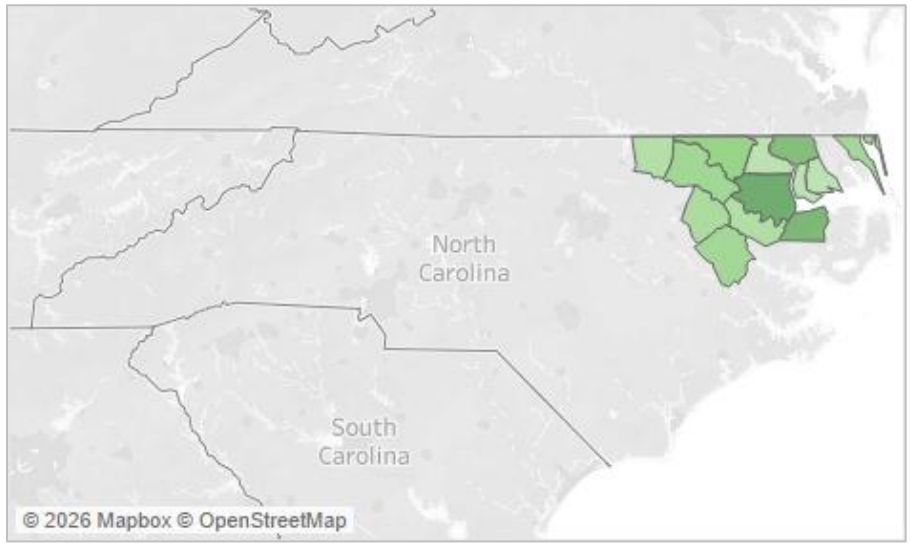
(Projects with agreements and projects under study [“Active”], as of August 3, 2026)

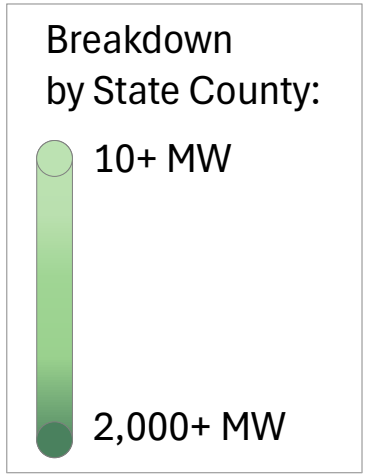
Project Count:

Fuel	Agreements	Studies
Coal	-	-
Natural gas	-	-
Nuclear	-	-
Hydro	-	-
Solar	13	16
Storage	-	6
Wind	-	1
Hybrid	1	5
Other	-	-
Total	**14**	**28**

MW Breakdown:







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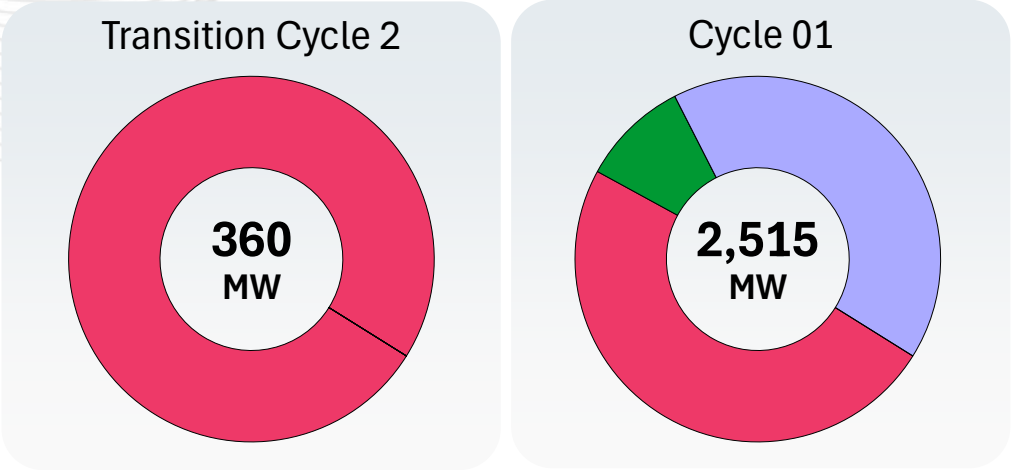
North Carolina – Queued Capacity (Nameplate) by Fuel Type

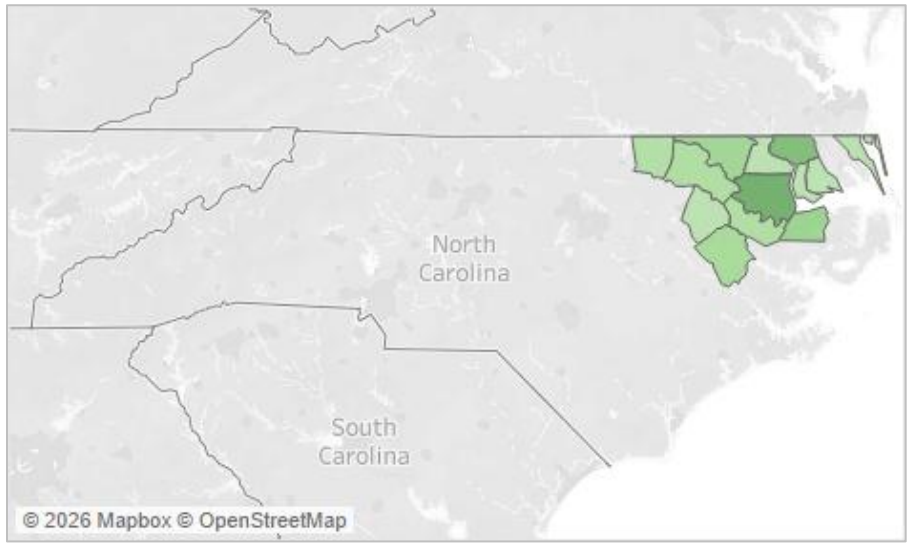
(Projects under study [“Active” in TC2 and Cycle 1], as of August 3, 2026)

Project Count:

Fuel	Transition Cycle 2	Cycle 01
Coal	-	-
Natural gas	-	-
Nuclear	-	-
Hydro	-	-
Solar	6	10
Storage	3	3
Wind	-	1
Hybrid	-	5
Other	-	-
Total	-	-

MW Breakdown:





Breakdown by State County:

10+ MW

2,000+ MW

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North Carolina – 2025 Generator Deactivations

North Carolina had no generators deactivate or give a notice of deactivation in 2024.

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Planning

Transmission Infrastructure Analysis

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For reporting purposes, the 2025 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 2025 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 **2025 Annual RTEP Report** on PJM.com: https://www.pjm.com/-/media/DotCom/library/reports-notices/2025-rtep/2025-rtep-report.pdf

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.

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North Carolina – RTEP Baseline Projects

North Carolina had no baseline projects in 2025.

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.

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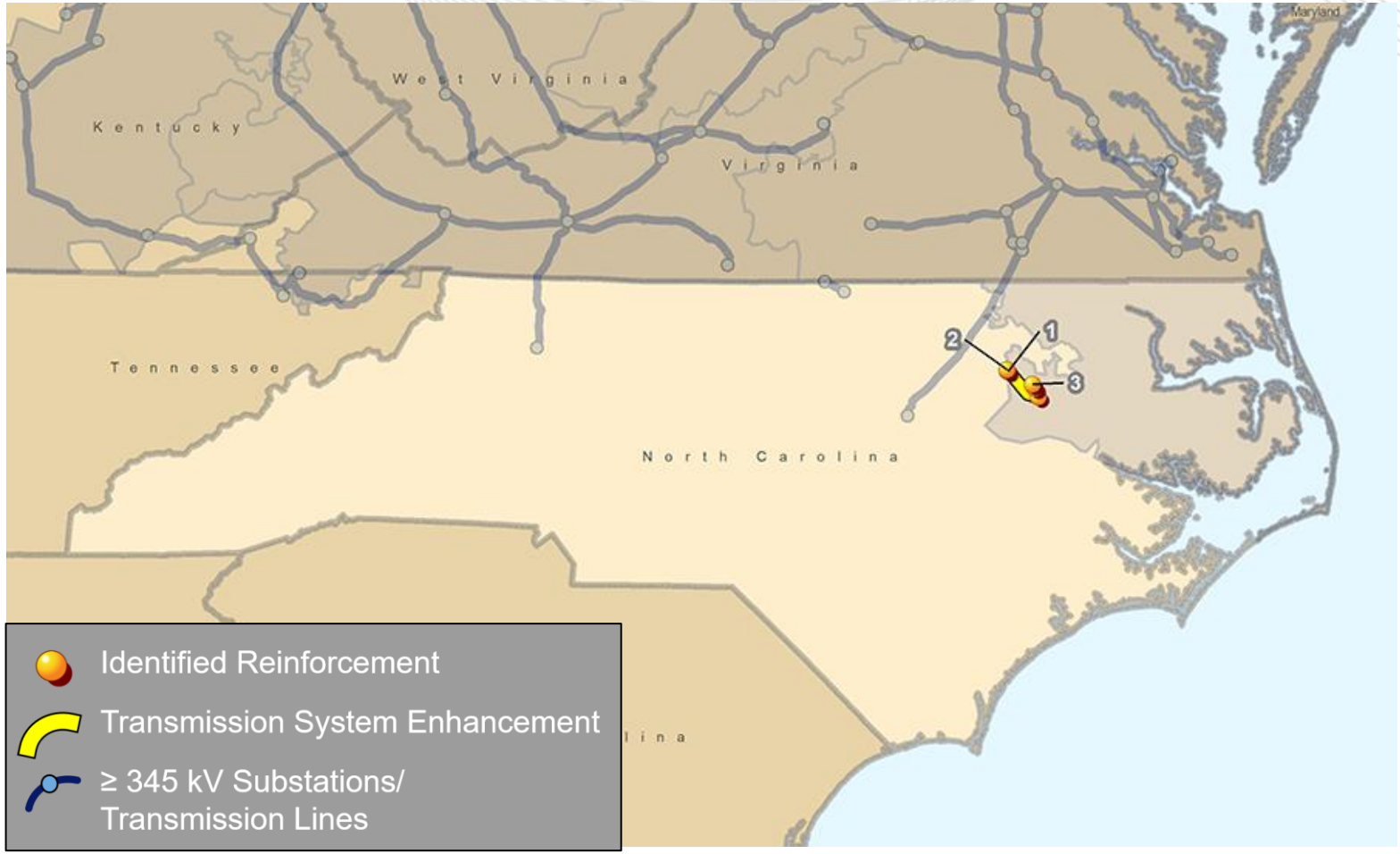
North Carolina – RTEP Network Projects



The 2025 RTEP has $20.93 million in network projects located in North Carolina.

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.

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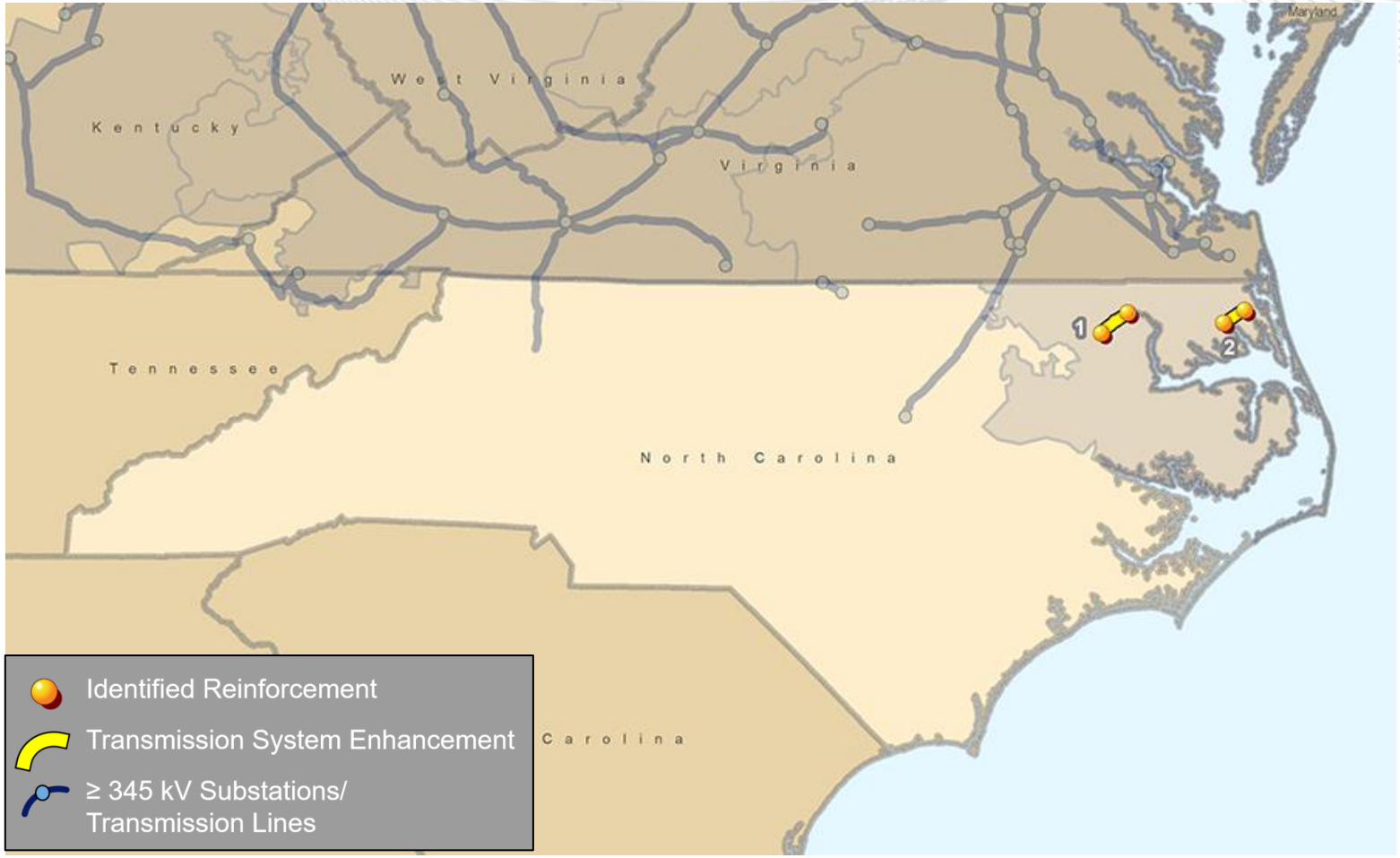
North Carolina – TO Supplemental Projects



The 2025 RTEP has $80.6 million in supplemental projects located in North Carolina.

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.

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Planning
Load Forecast

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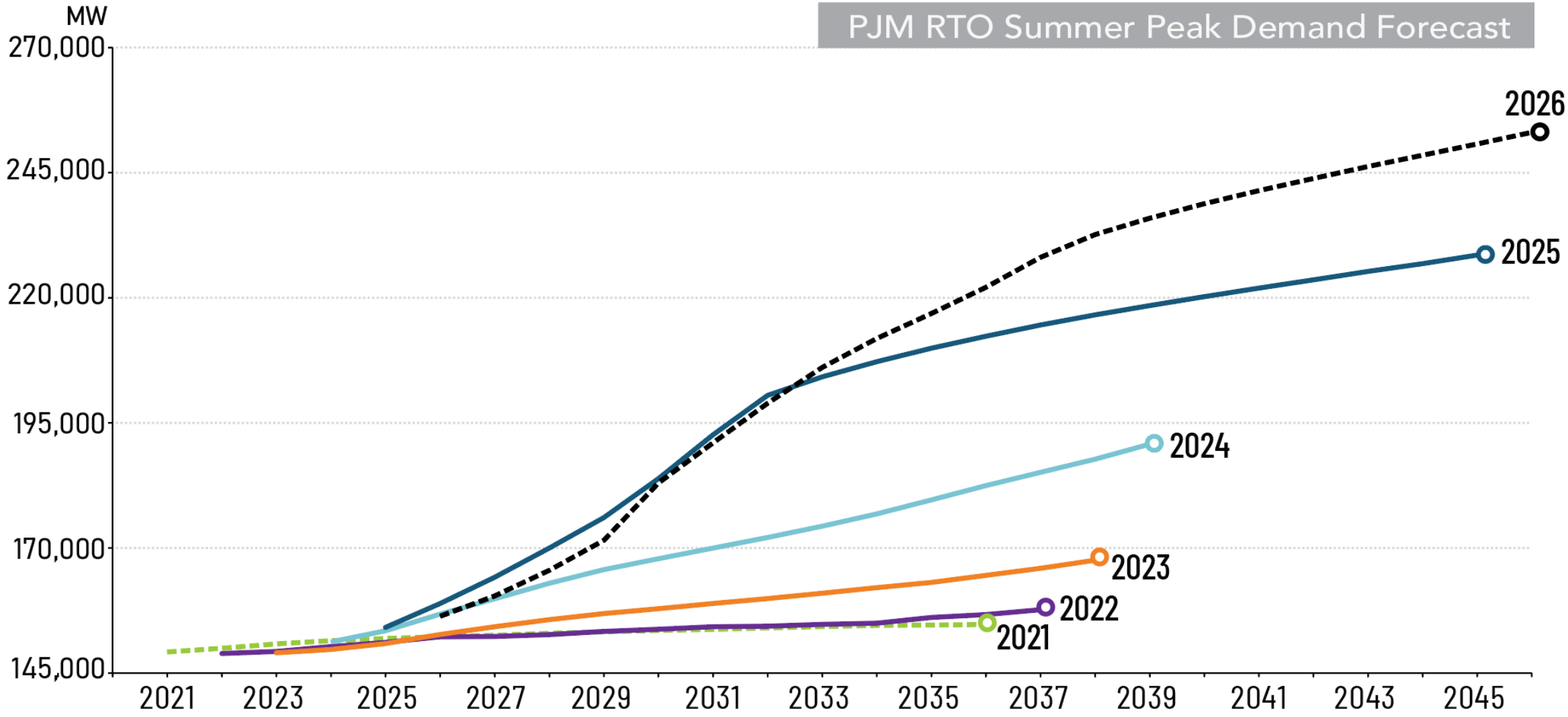
Electricity Demand Growth
(2021–2026)



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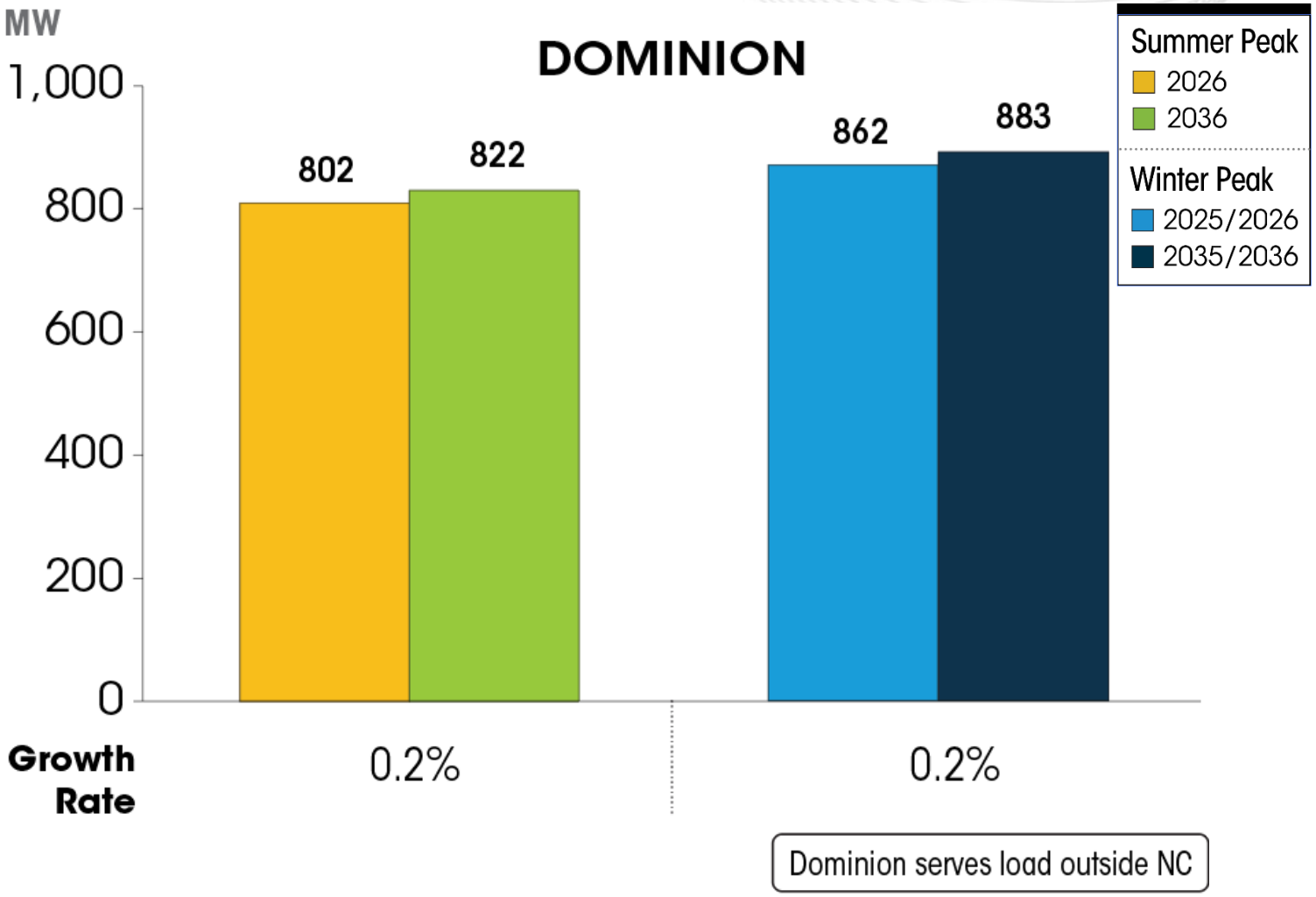
North Carolina – 2026 Load Forecast Report



PJM RTO Summer Peak

2026	2036
156,373 MW	222,106 MW

Growth Rate 3.6%

PJM RTO Winter Peak

2025/2026	2035/2036
137,670 MW	204,650 MW

Growth Rate 4.0%

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.

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North Carolina – Summer Peak Large Load Adjustments

(PJM 2026 Load Forecast)

	Zone	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
NC	DOMINION	-	-	-	-	-	-	-	-	-	-
PJM TOTAL (MW)		11,479	15,866	21,290	27,371	38,815	46,648	53,958	60,267	65,050	68,977

	Zone	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
NC	DOMINION	-	-	-	-	-	-	-	-	-	-
PJM TOTAL (MW)		72,608	77,029	79,982	81,527	82,656	83,609	84,416	85,128	85,818	86,511

Note: The listed total reflects both existing (2025) and forecasted large load adjustments. It does not include large loads that may exist but have not been submitted to PJM's load forecasting process as a large load adjustment.

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Markets

Market Analysis

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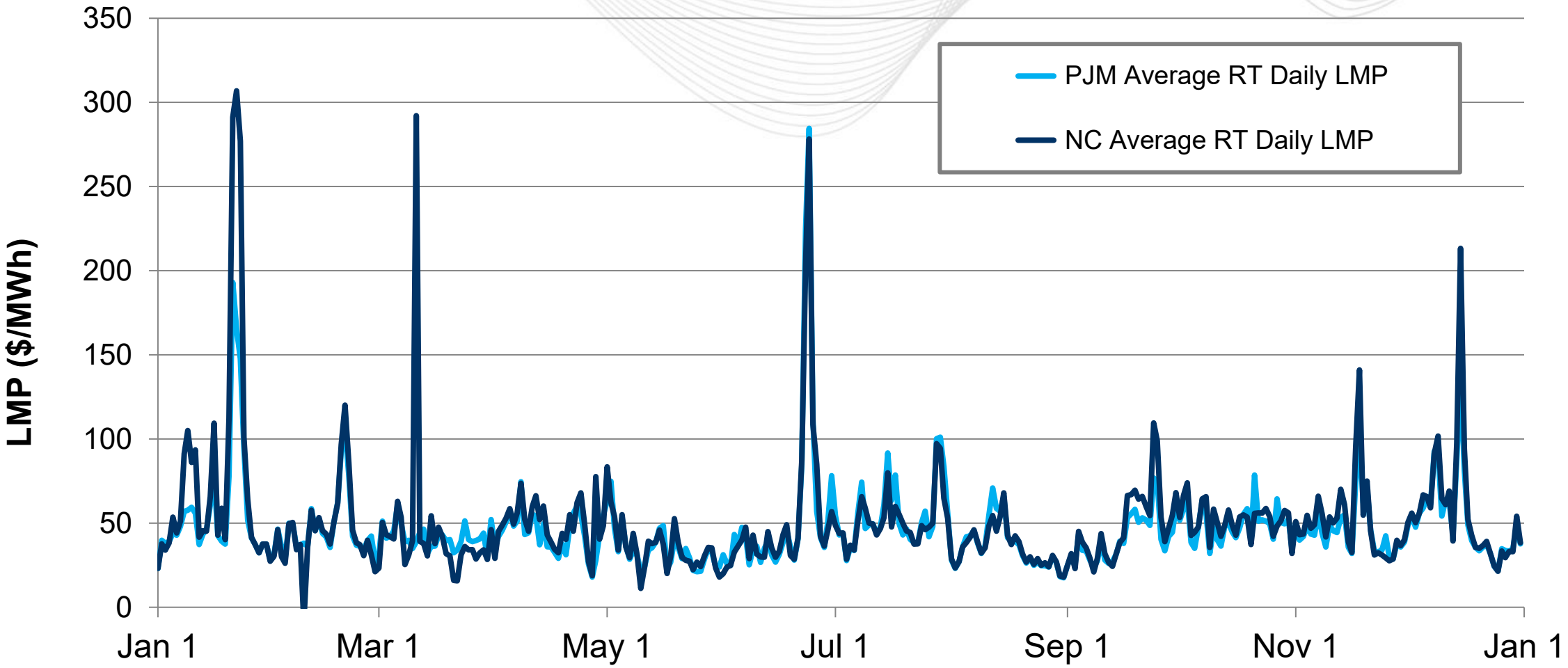
North Carolina – Average Daily LMP

(Jan. 1, 2025 – Dec. 31, 2025)



Note: North Carolina had a negative average LMP on Feb. 9.

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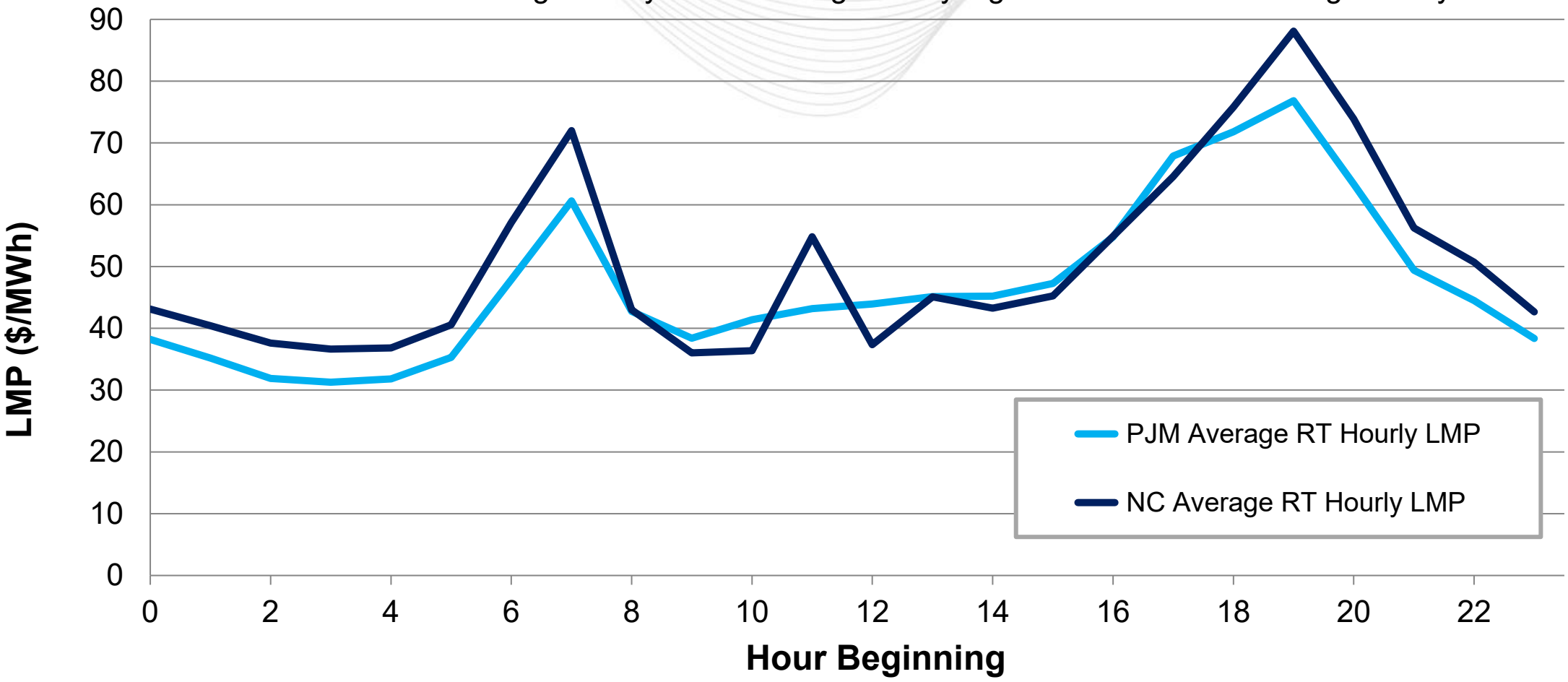
North Carolina – Average Hourly LMP

(Jan. 1, 2025 – Dec. 31, 2025)

North Carolina's average hourly LMPs were generally higher than the PJM average hourly LMP.



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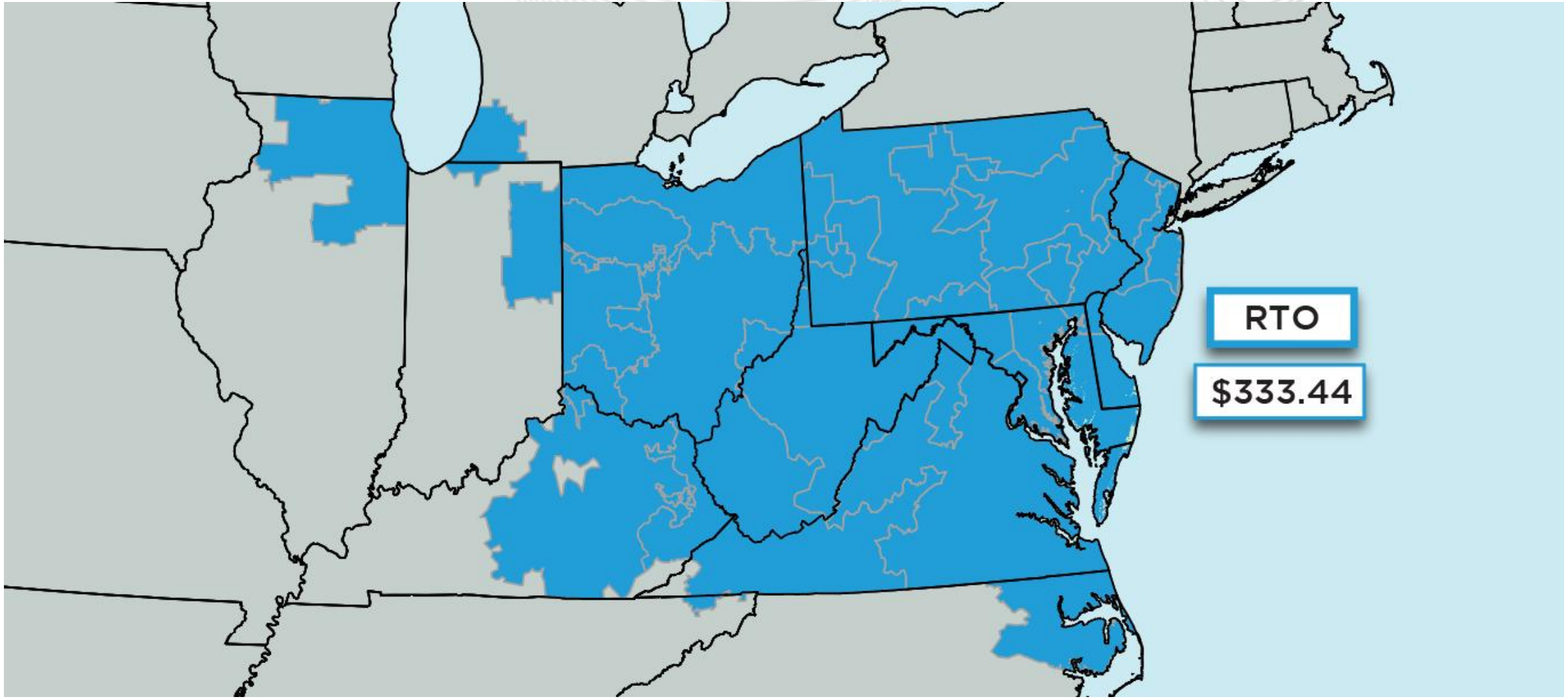
2027/28 Base Residual Auction Clearing Prices ($/MW-Day)



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2027/28 Cleared MW (UCAP) by Resource Type

CAPACITY PERFORMANCE

Cleared MW (UCAP)

Resource Type	ANNUAL	SUMMER	WINTER
Generation	127,179.5	-	268.6
DR	7,030.0	268.6	-
PRD	106.5	-	-
Total (MW)	**134,316.0**	**268.6**	**268.6**

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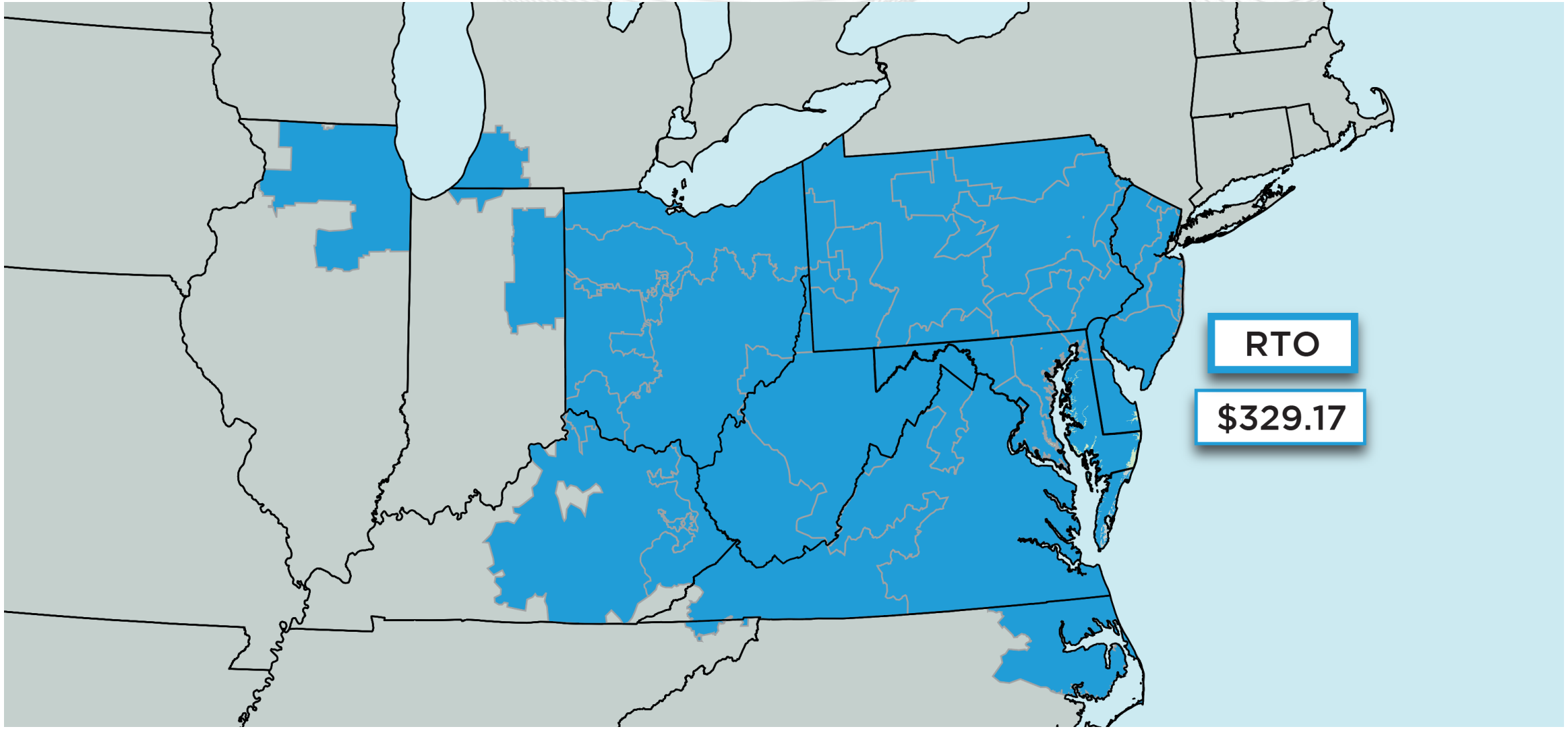
2026/27 Base Residual Auction Clearing Prices ($/MW-Day)



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2026/27 Cleared MW (UCAP) by Resource Type

CAPACITY PERFORMANCE

Cleared MW (UCAP)

Resource Type	ANNUAL	SUMMER	WINTER
Generation	128,674.7	-	170.8
DR	5,359.8	170.8	-
PRD	105.5	-	-
Total (MW)	**134,140.0**	**170.8**	**170.8**

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Operations

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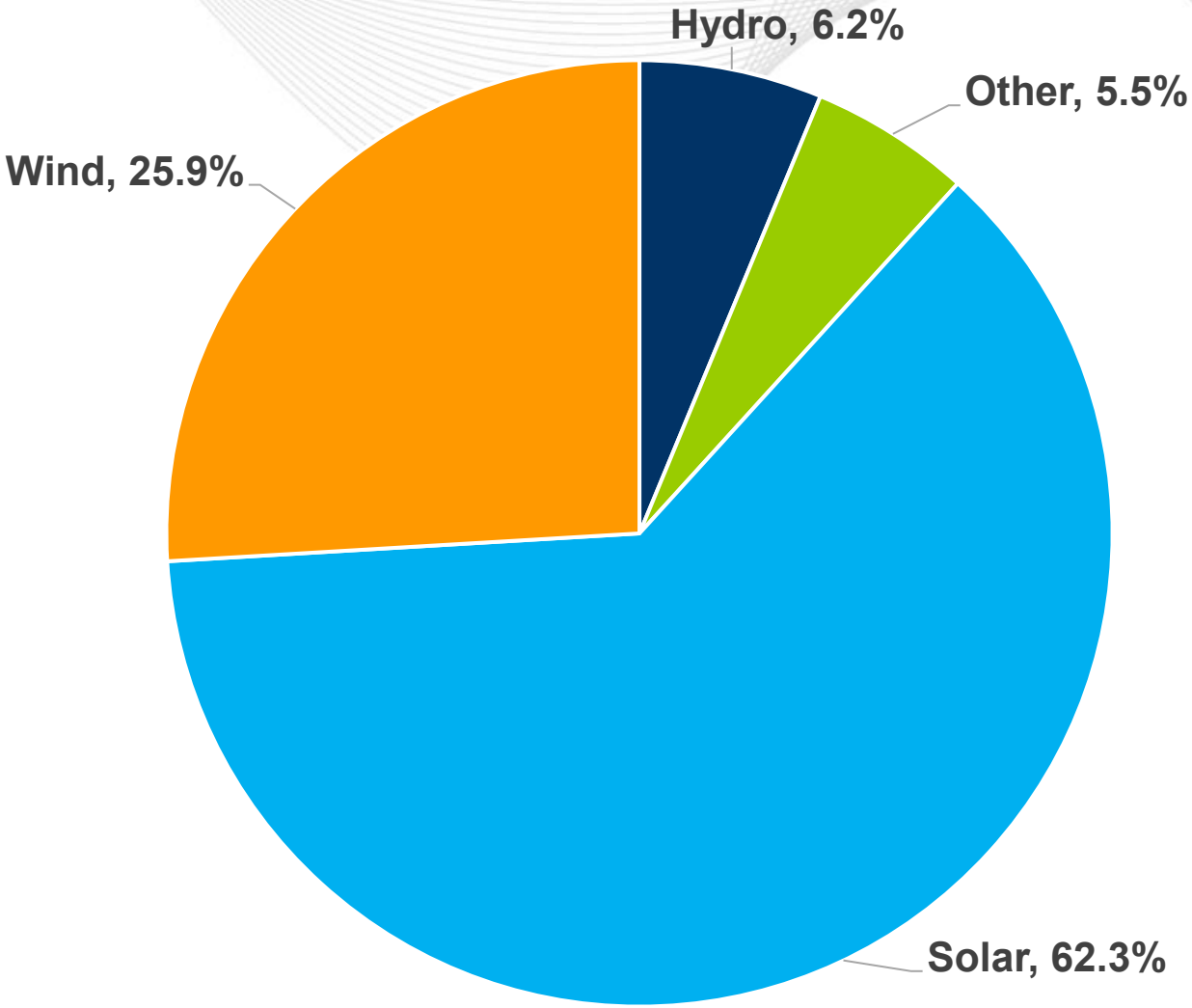
North Carolina – 2025 Generator Production



The data in this chart comes from EIA Form 923 (2025) and represents only generators within the PJM portion of North Carolina.

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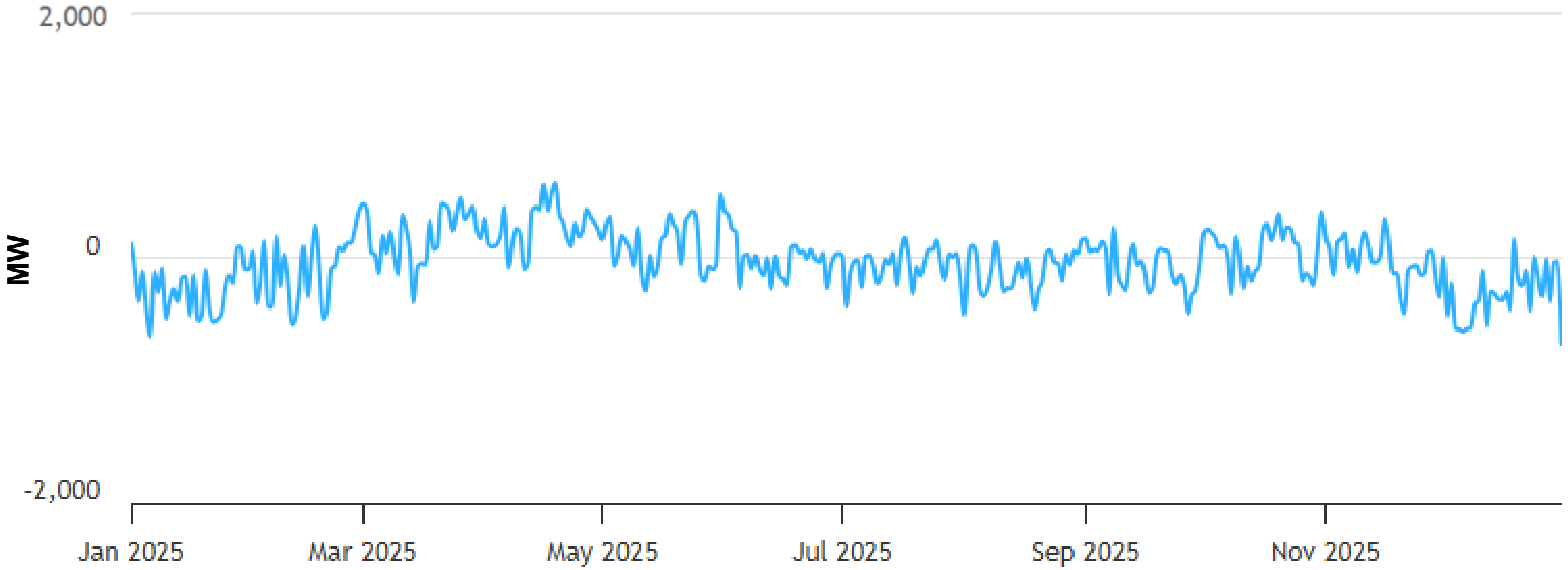
North Carolina – Net Energy Import/Export Trend

(Jan. 2025 – Dec. 2025)



Note: This chart reflects the portion of North Carolina that PJM operates. Positive values represent exports and negative values represent imports.

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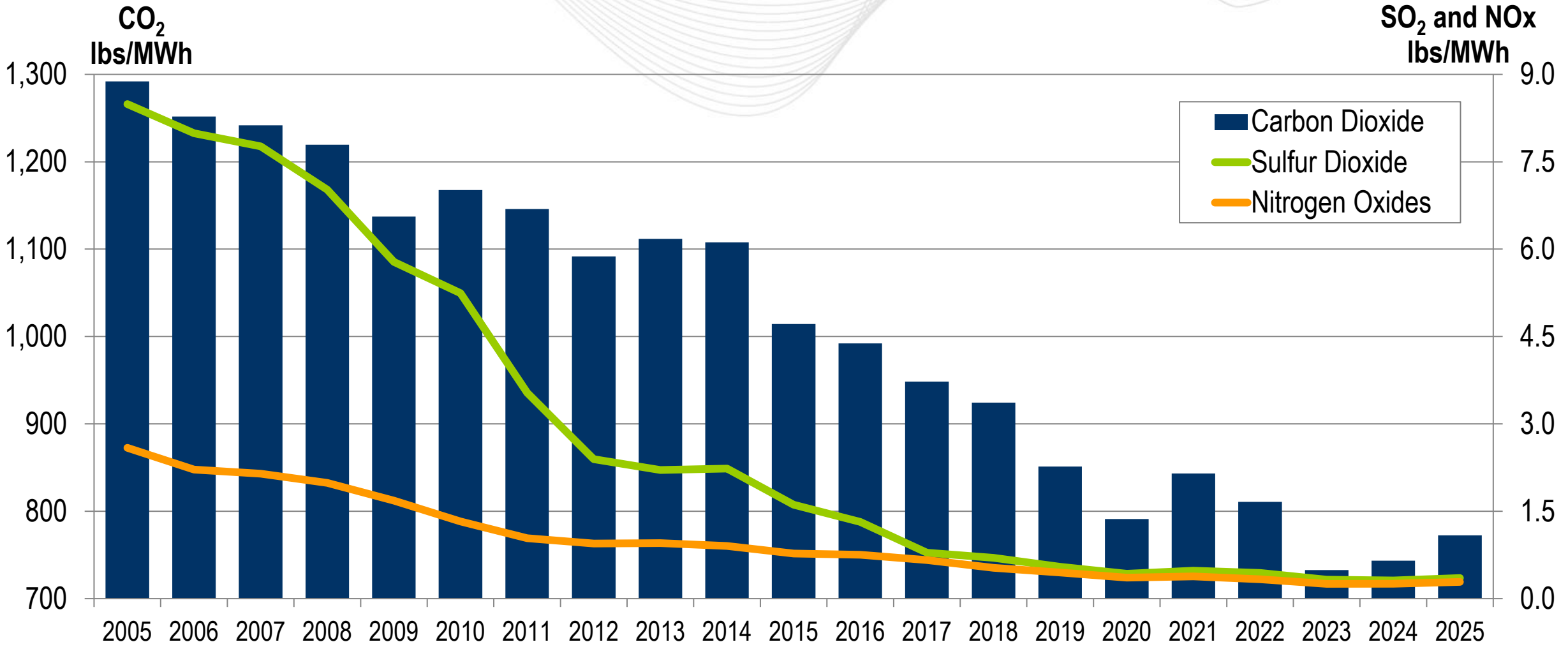
PJM System Average Emission Rates



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Version History

- Version 1 – posted June 16, 2026 (original report)
- Version 2 – posted August 18, 2026 (updated queued capacity data)

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