



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

June 2026

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

Planning

- Generation Portfolio Analysis
- Transmission Analysis
- Load Forecast
- Large Load Adjustments

Markets

- Energy Market Analysis
- 2026/27 Base Residual Auction
- 2027/28 Base Residual Auction

Operations

- Generator Production
- Net Energy Import/Export Trend
- Emissions Data

In the Kentucky service territory:



Existing Capacity:

- In the Kentucky portion of PJM, coal represents 51% of the total installed capacity while natural gas represents 42%.
- Across PJM, natural gas represents 48% of total installed capacity while coal represents approximately 20%.



Interconnection Requests:

PJM will update this report with a more detailed breakdown of interconnection requests after the Cycle 1 applications have all been reviewed and posted to PJM.com.



Deactivations:

Kentucky had 116 MW give notice of future deactivation in 2025.



RTEP 2025:

Kentucky's 2025 RTEP project total represents approximately \$89.75 million in investment.

In the Kentucky service territory:



Load Forecast:

Kentucky's summer peak load is projected to increase by 0.4–0.6% percent annually over the next ten years, while the winter peak is projected to increase by 0.2%–0.6% percent, depending on the transmission zone.



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.



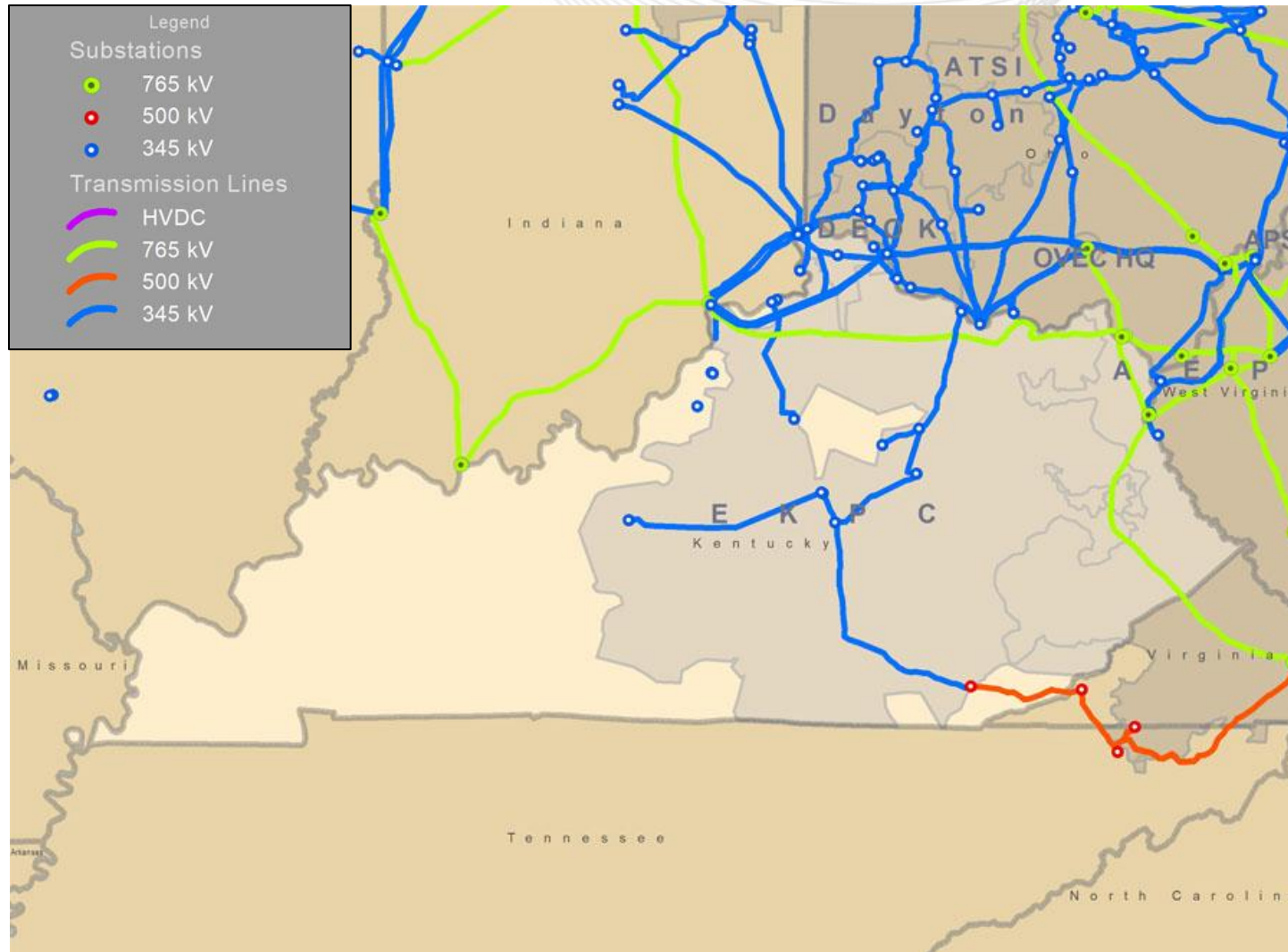
Market Performance:

Kentucky's average hourly LMPs were consistent with the PJM average hourly LMP and lower during evening peak hours.



Emissions:

Kentucky's average CO₂ emissions decreased in 2025 compared to 2024 levels.



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

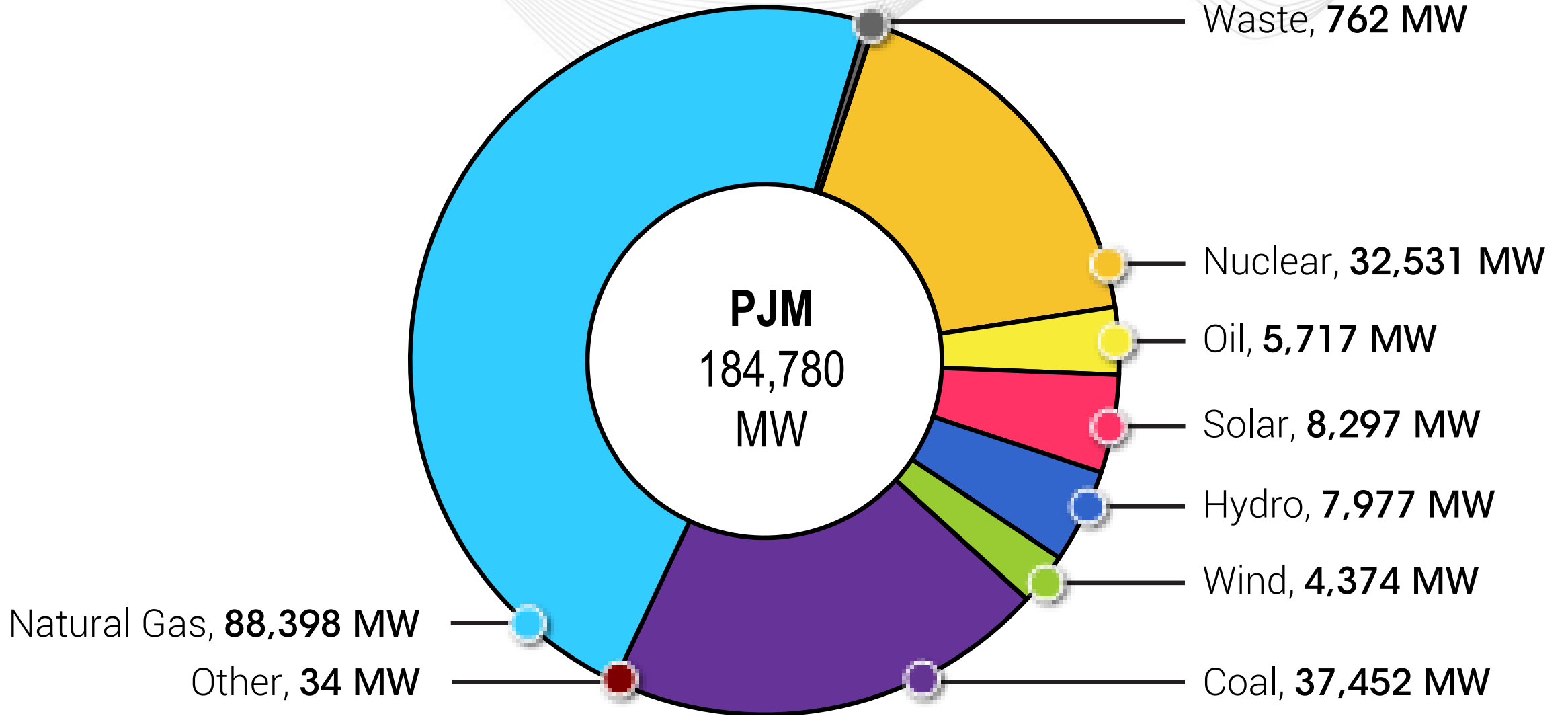
PJM operates transmission lines that extend beyond the service territory.

Planning

Generation Portfolio Analysis

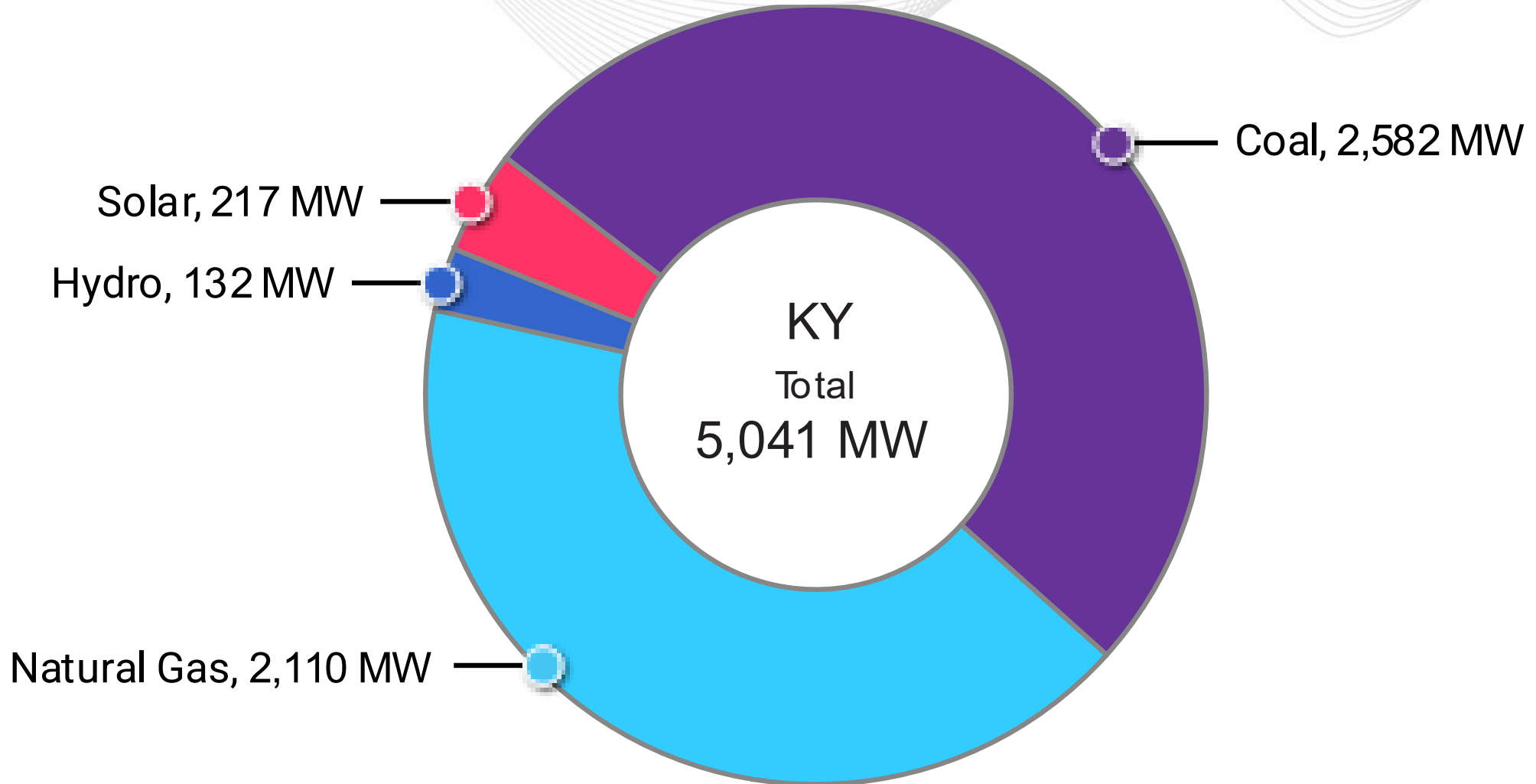
PJM Existing Installed Capacity Mix

(CIRs – as of Dec. 31, 2025)

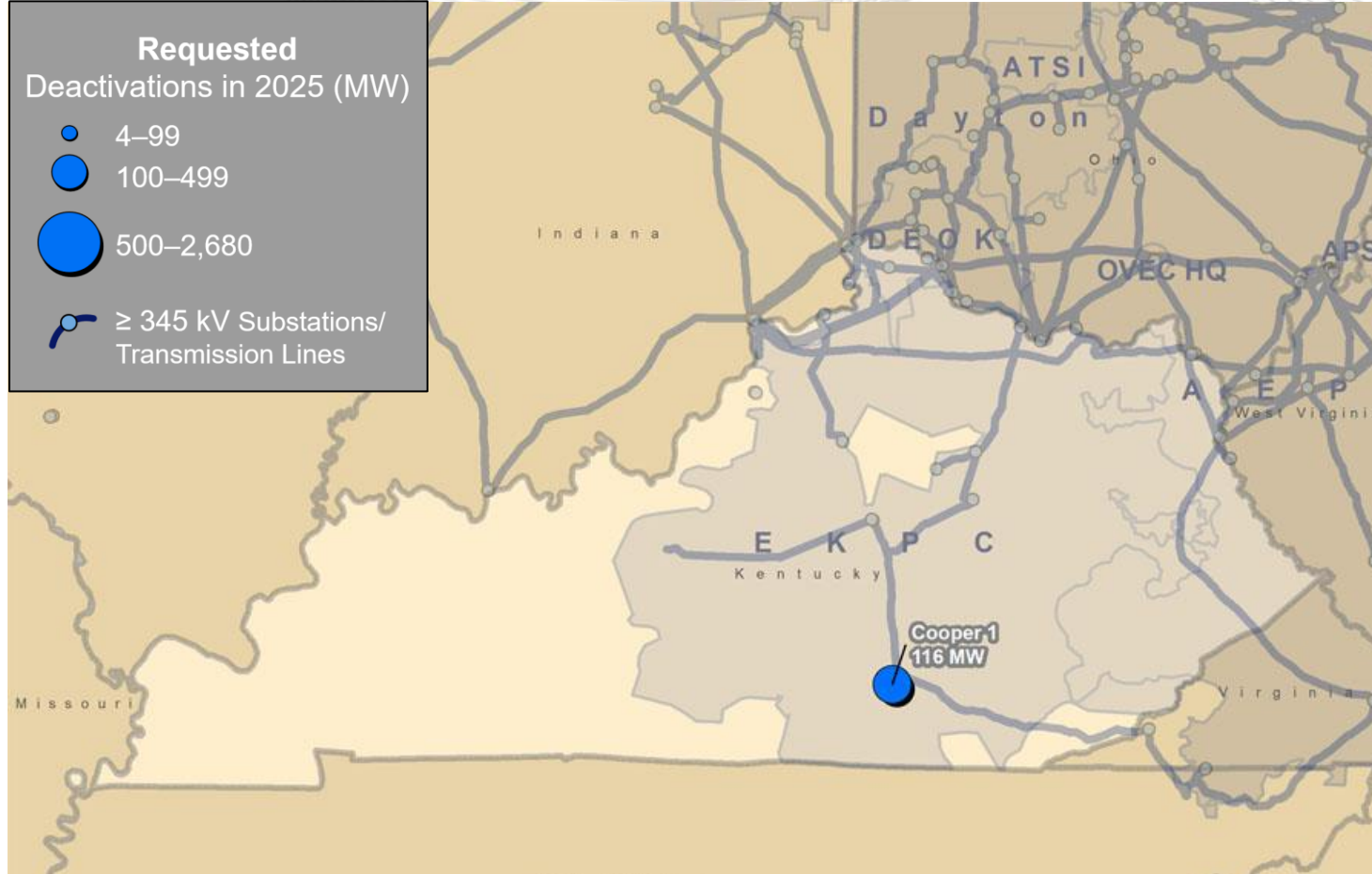


Kentucky – Existing Installed Capacity (MW) by Fuel Type

(CIRs- as of Dec. 31, 2025)



PJM will update this report with a more detailed breakdown of interconnection requests after the Cycle 1 applications have all been reviewed and posted to PJM.com.



Unit	TO Zone	Fuel Type	Request Received to Deactivate	Actual or Projected Deactivation Date	Age (Years)	Capacity (MW)
Cooper 1	EKPC	Coal	5/13/2025	12/31/2030	60	116

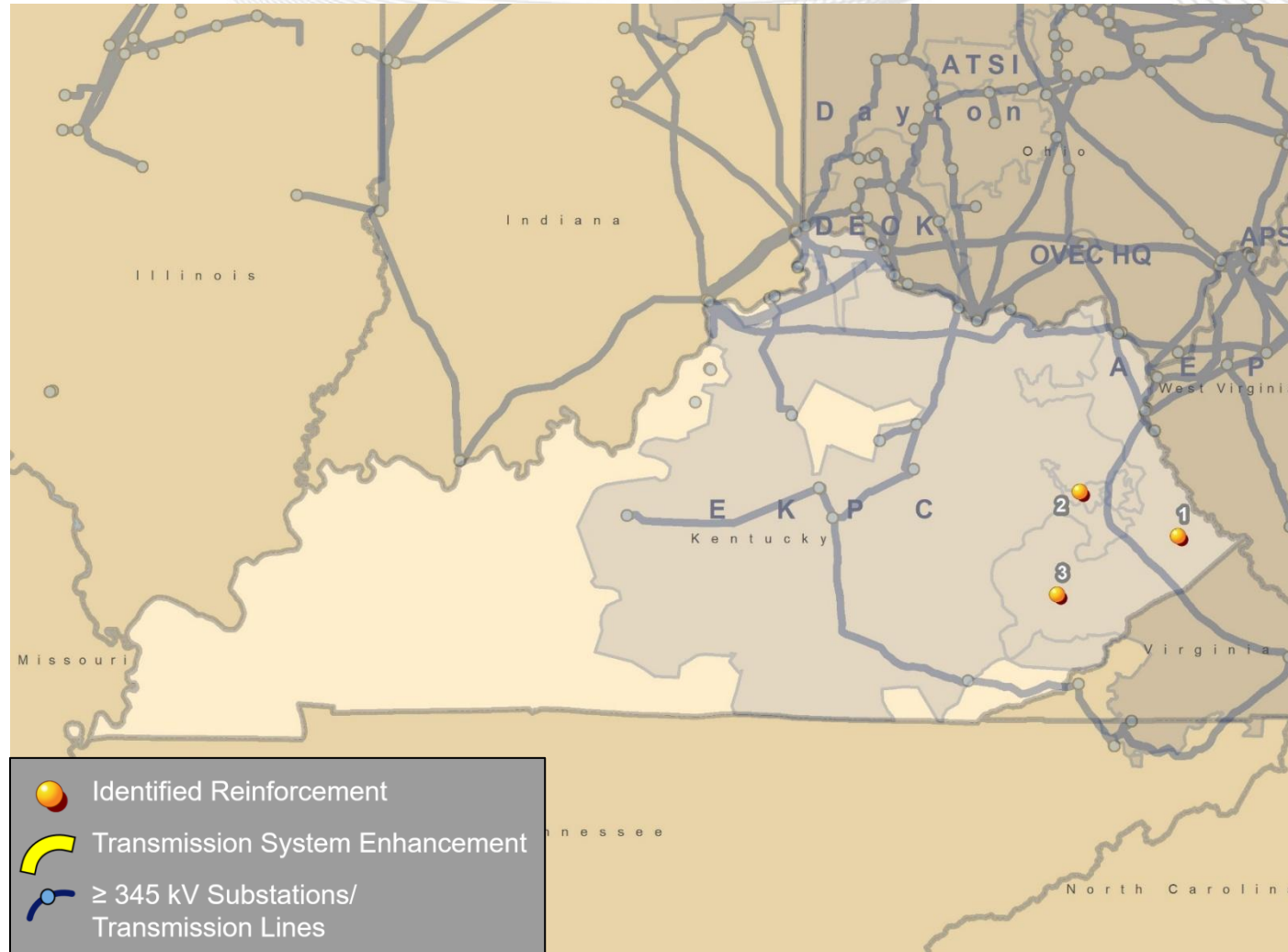
Planning

Transmission Infrastructure Analysis

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.

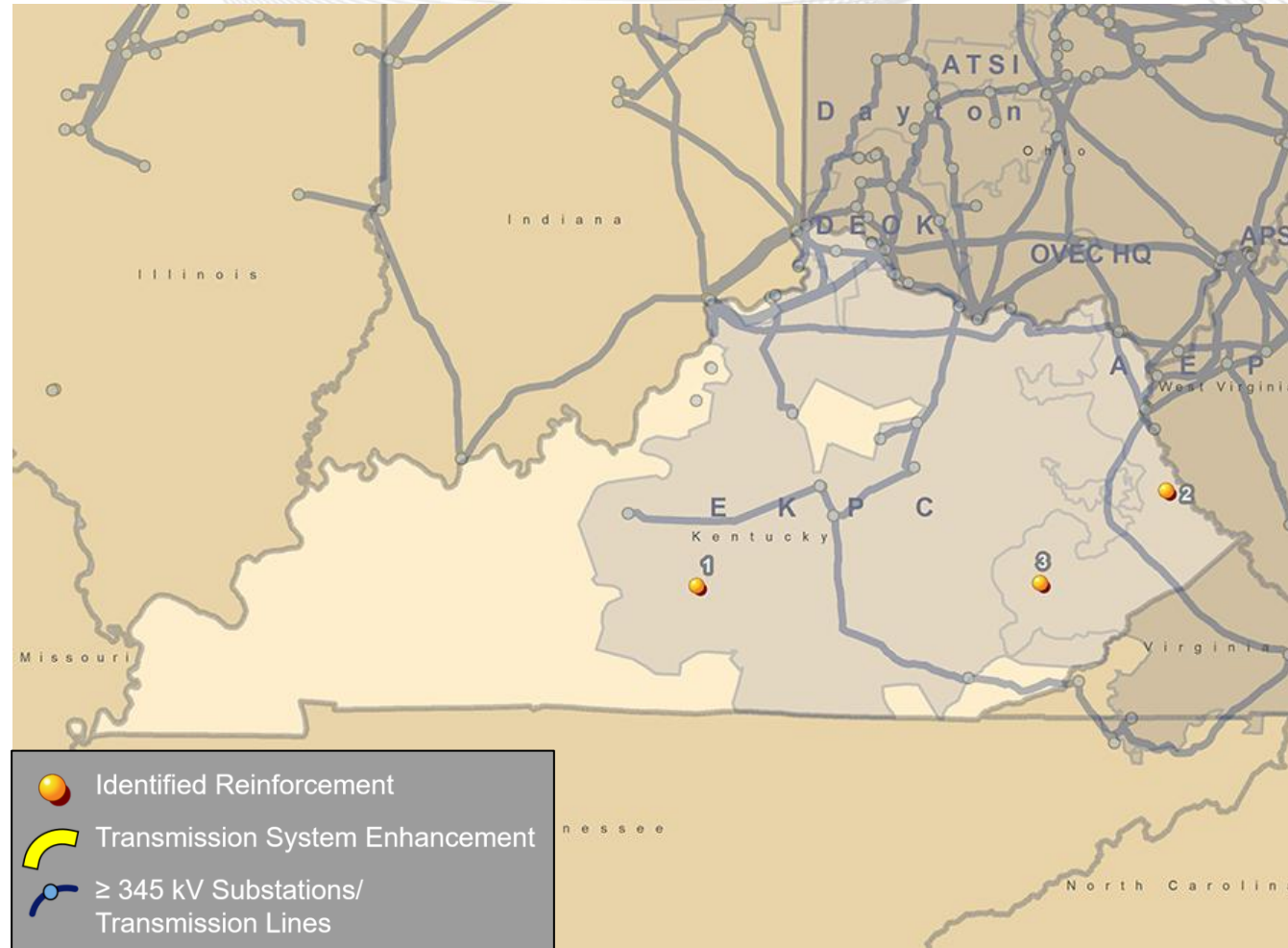
For a detailed list of each project shown on a state's project map, please see that state's section in the **2025 Annual RTEP Report** on PJM.com: <https://www.pjm.com/-/media/DotCom/library/reports-notices/2025-rtep/2025-rtep-report.pdf>

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>.



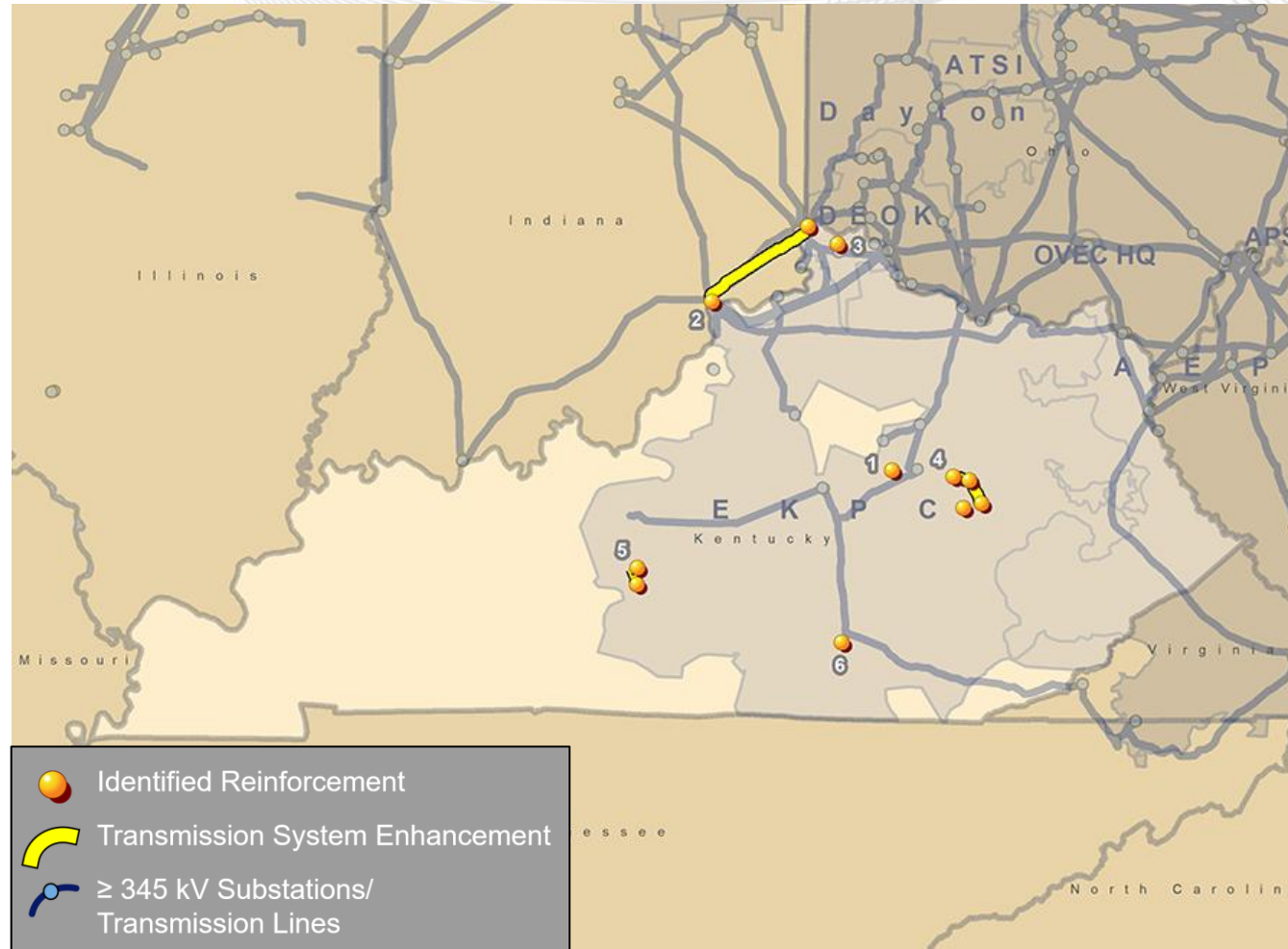
The 2025 RTEP has \$5.68 million in baseline projects located in Kentucky.

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.



The 2025 RTEP has \$4.48 million in network projects located in Kentucky.

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.

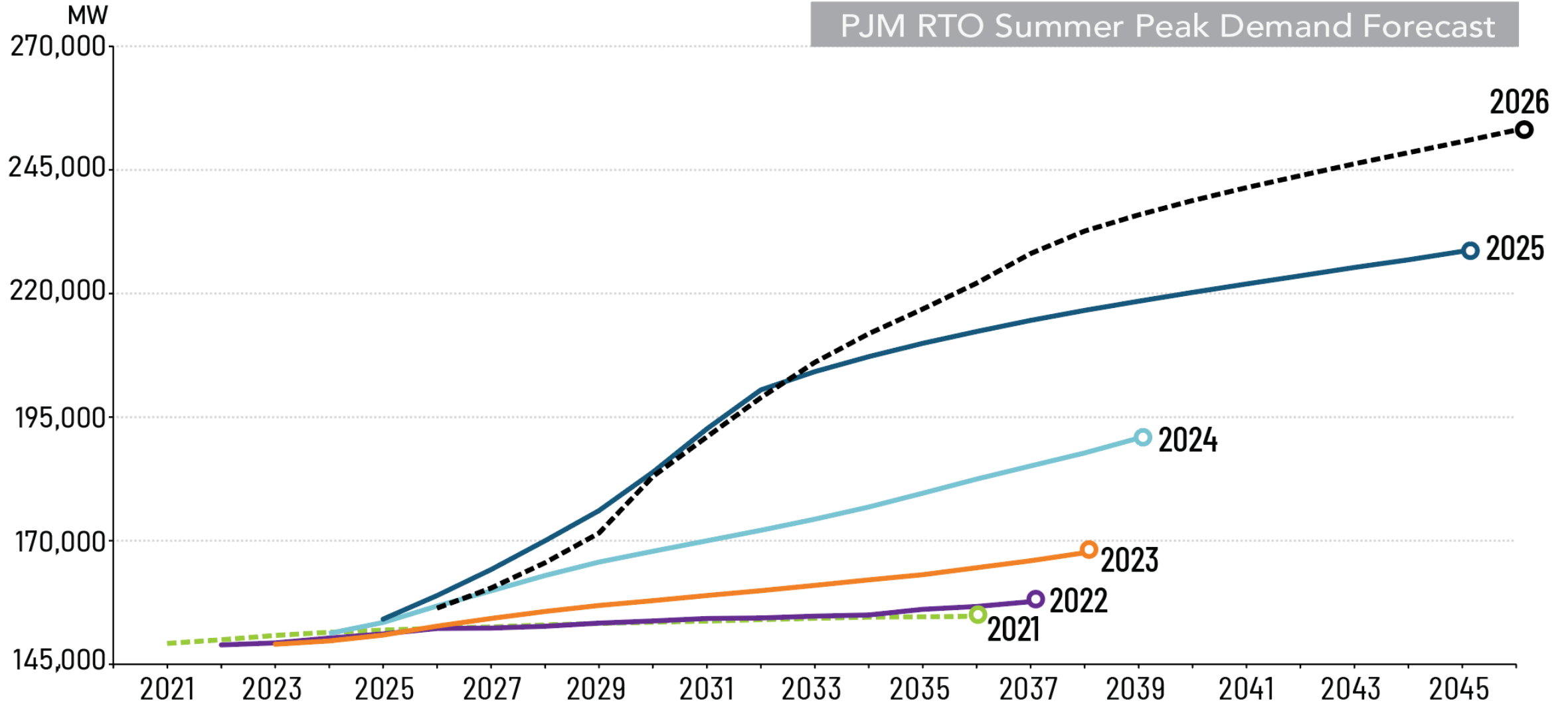


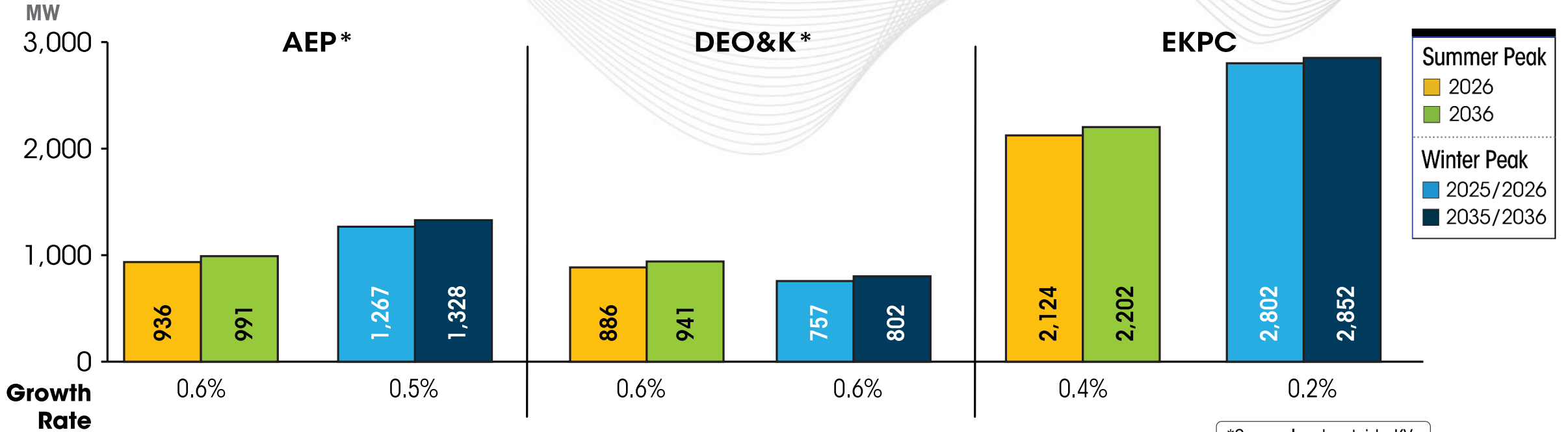
The 2025 RTEP has \$79.6 million in supplemental projects located in Kentucky.

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





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.

PJM RTO Summer Peak

2026	2036
156,373	222,106
MW	MW

Growth Rate 3.6%

PJM RTO Winter Peak

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

Growth Rate 4.0%



Kentucky – Summer Peak Large Load Adjustments

(PJM 2026 Load Forecast)

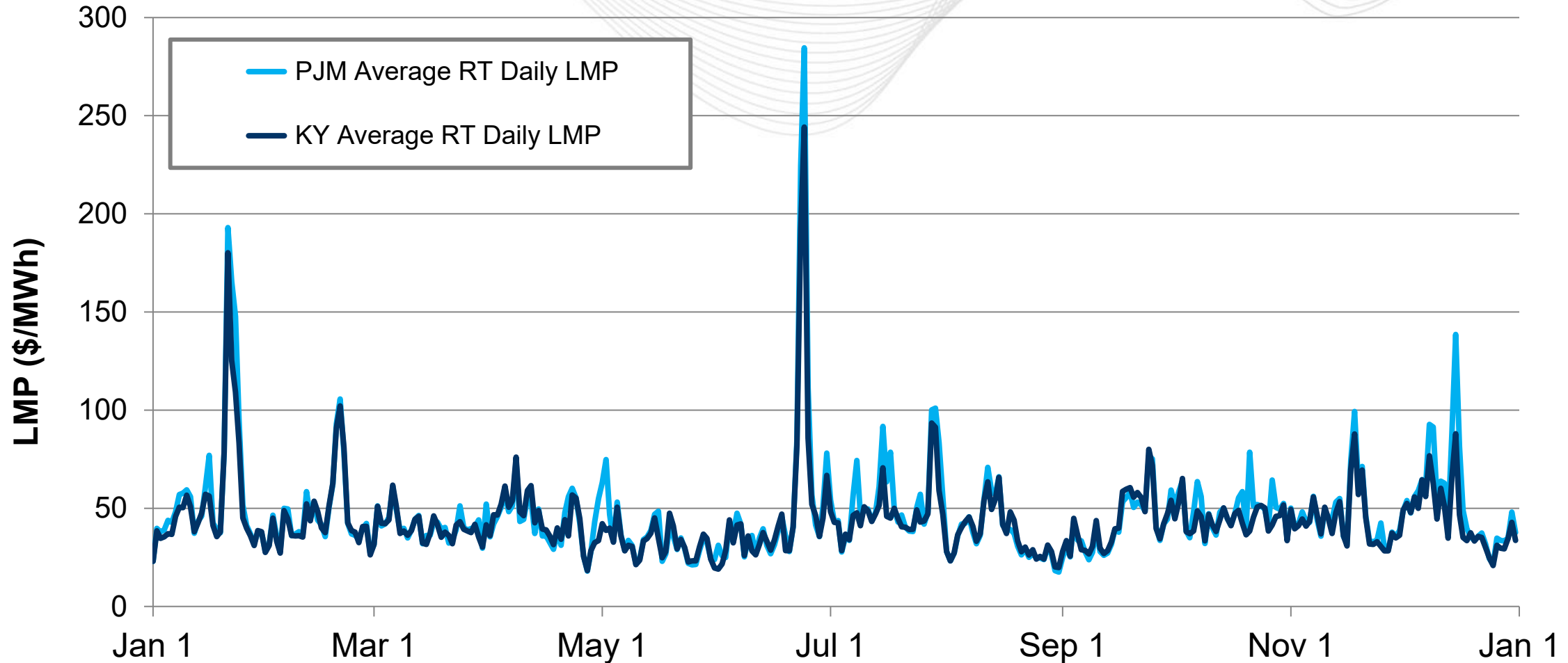
	Zone	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
KY	AEP	-	-	-	-	-	-	-	-	-	-
	DEO&K	-	-	-	-	-	-	-	-	-	-
	EKPC	-	-	-	-	-	-	-	-	-	-
KY TOTAL (MW)		-	-	-	-	-	-	-	-	-	-
PJM TOTAL (MW)		11,479	15,866	21,290	27,371	38,815	46,648	53,958	60,267	65,050	68,977

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

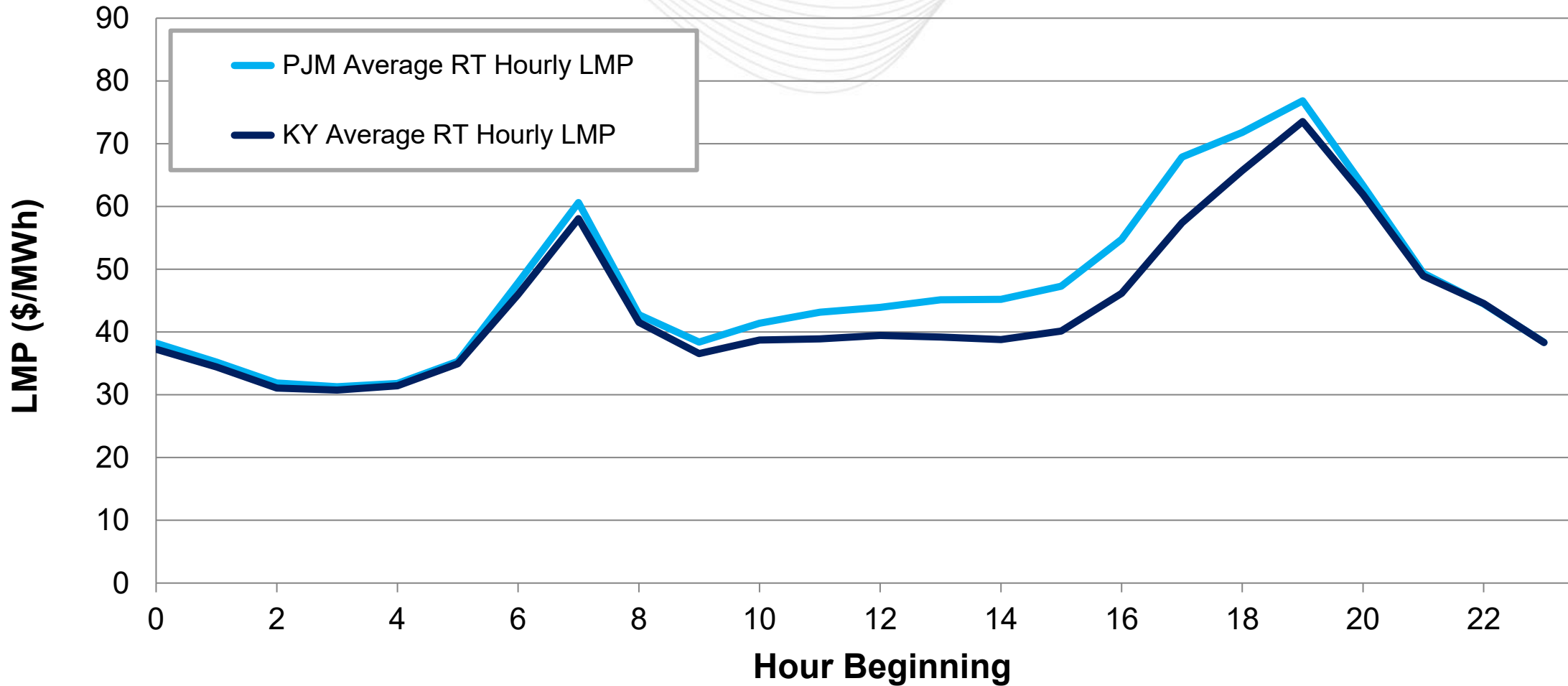
Note: The listed total reflects both existing (2025) and forecasted large load adjustments. It does not include large loads that may exist but have not been submitted to PJM’s load forecasting process as a large load adjustment.

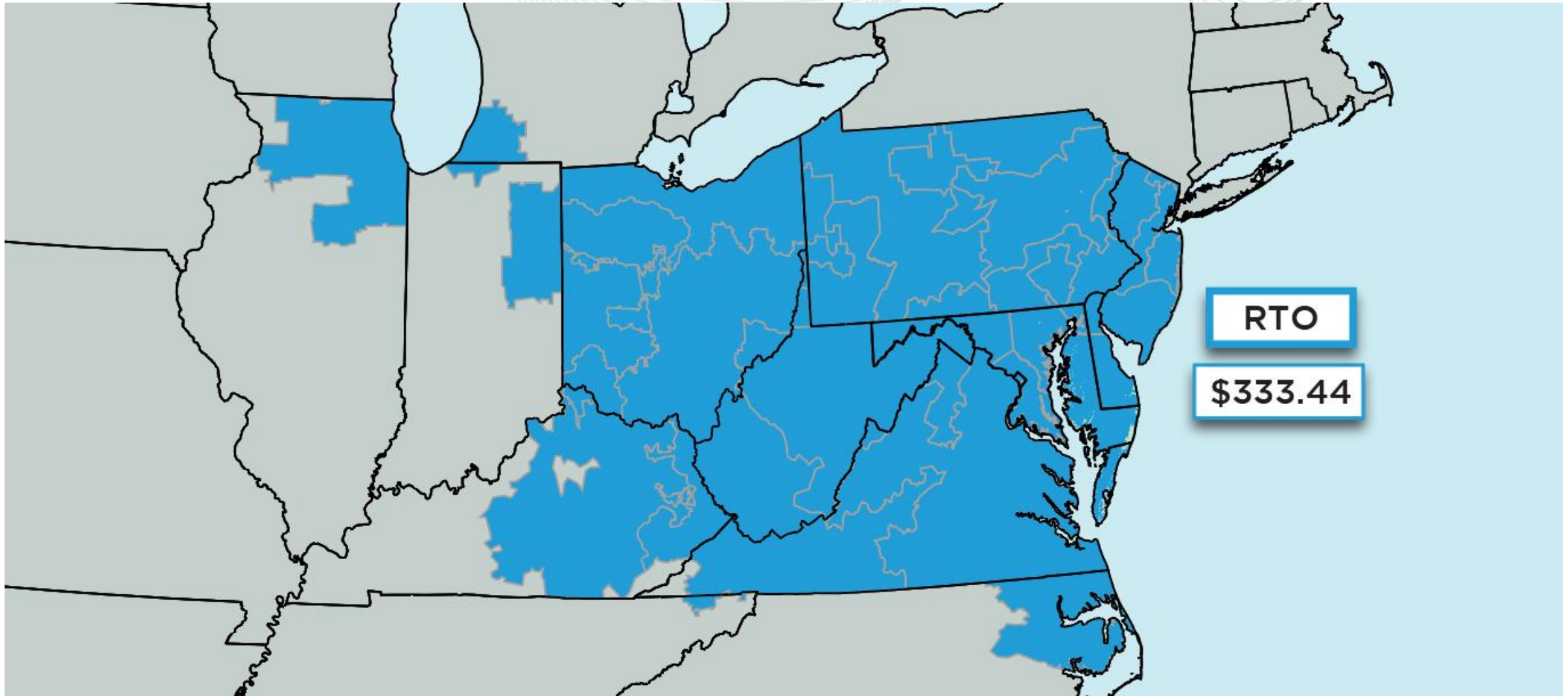
Markets

Market Analysis



Kentucky's average hourly LMPs were consistent with the PJM average hourly LMP and lower during evening peak hours.







2027/28 Cleared MW (UCAP) by Resource Type

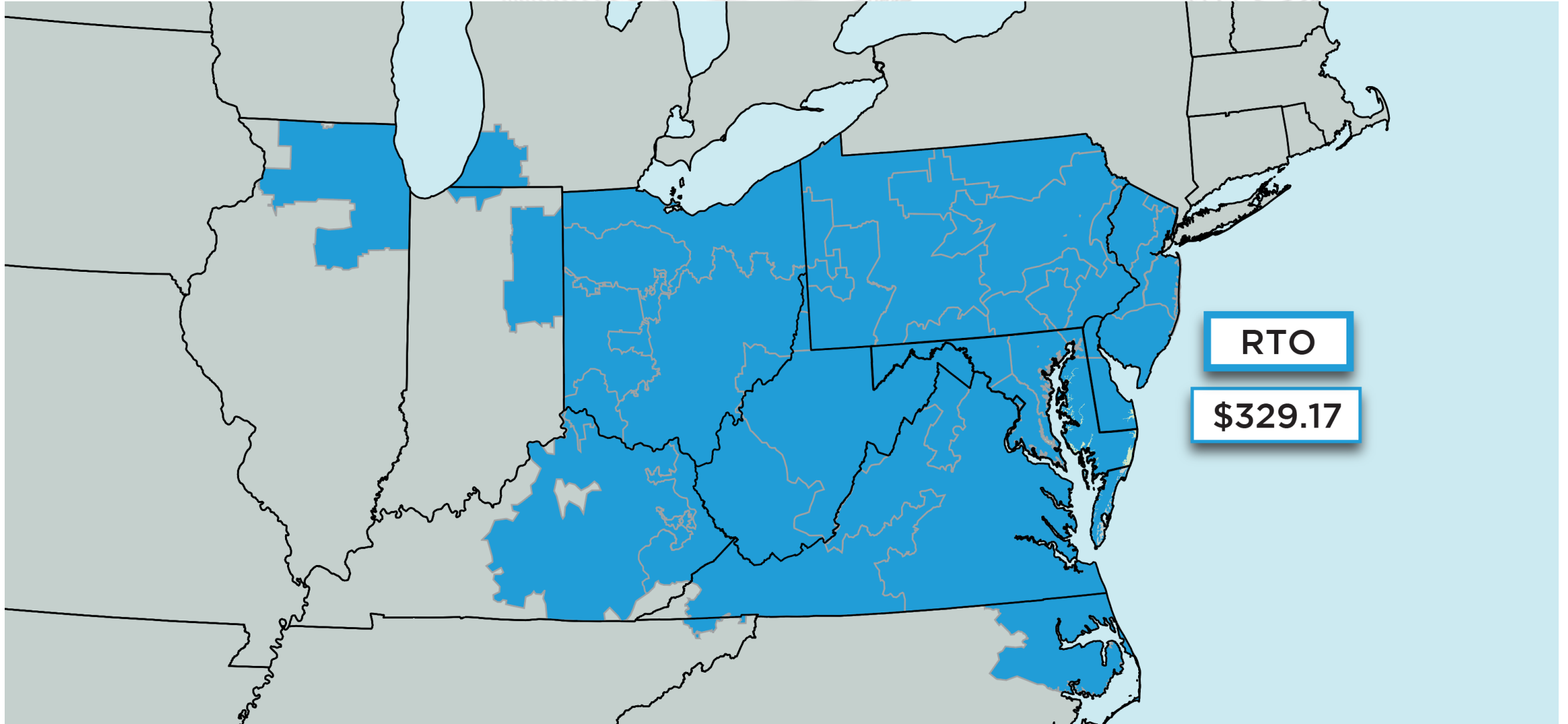
CAPACITY PERFORMANCE

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



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





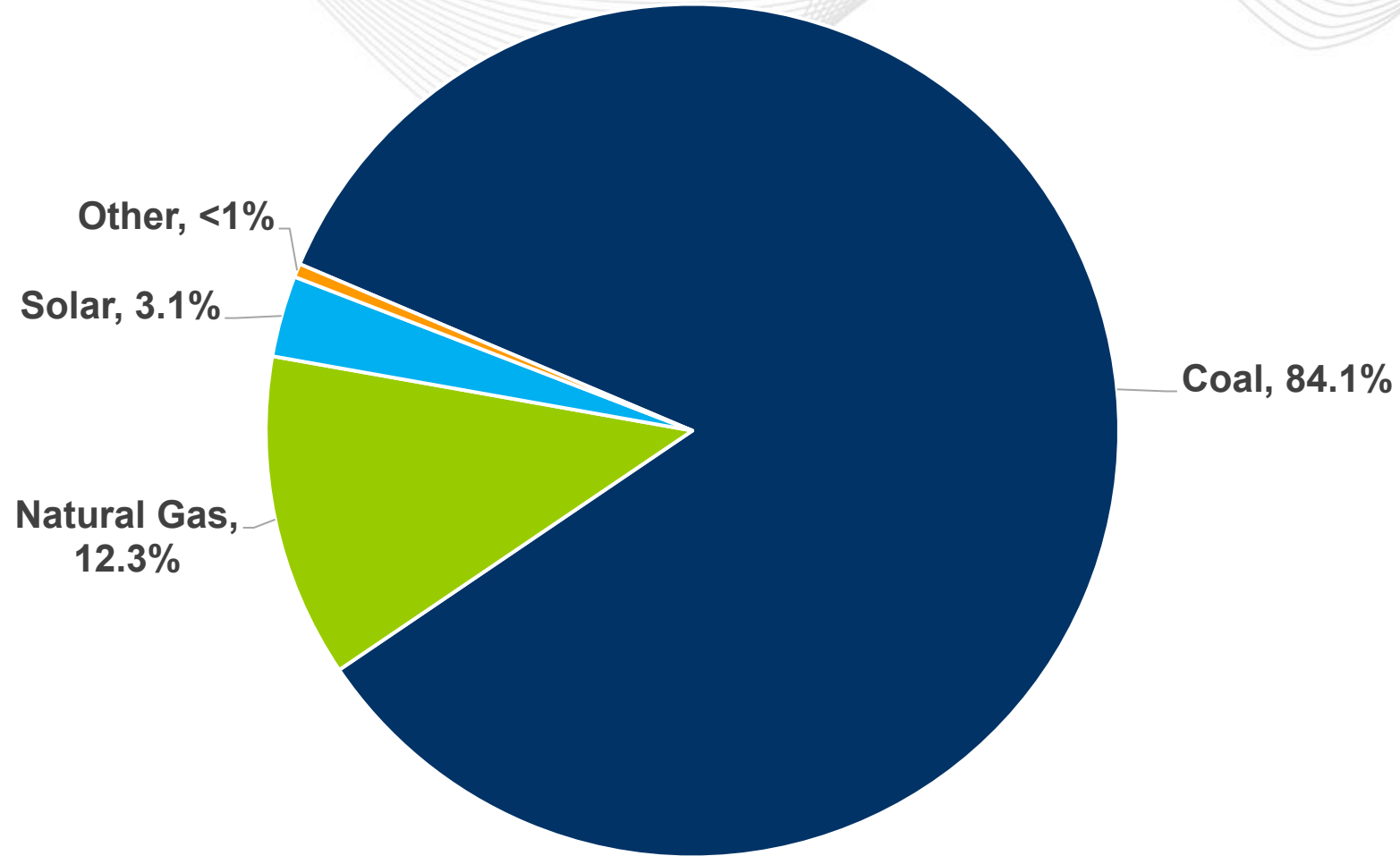
2026/2027 Cleared MW (UCAP) by Resource Type

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

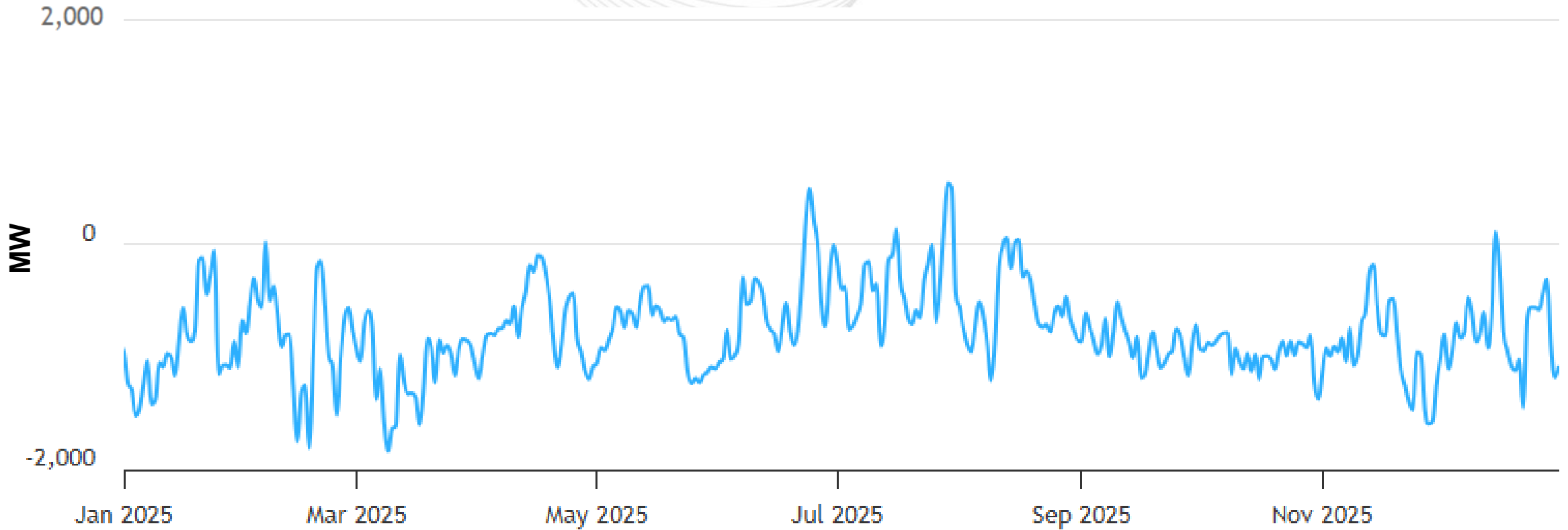
Operations



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

Kentucky – Net Energy Import/Export Trend

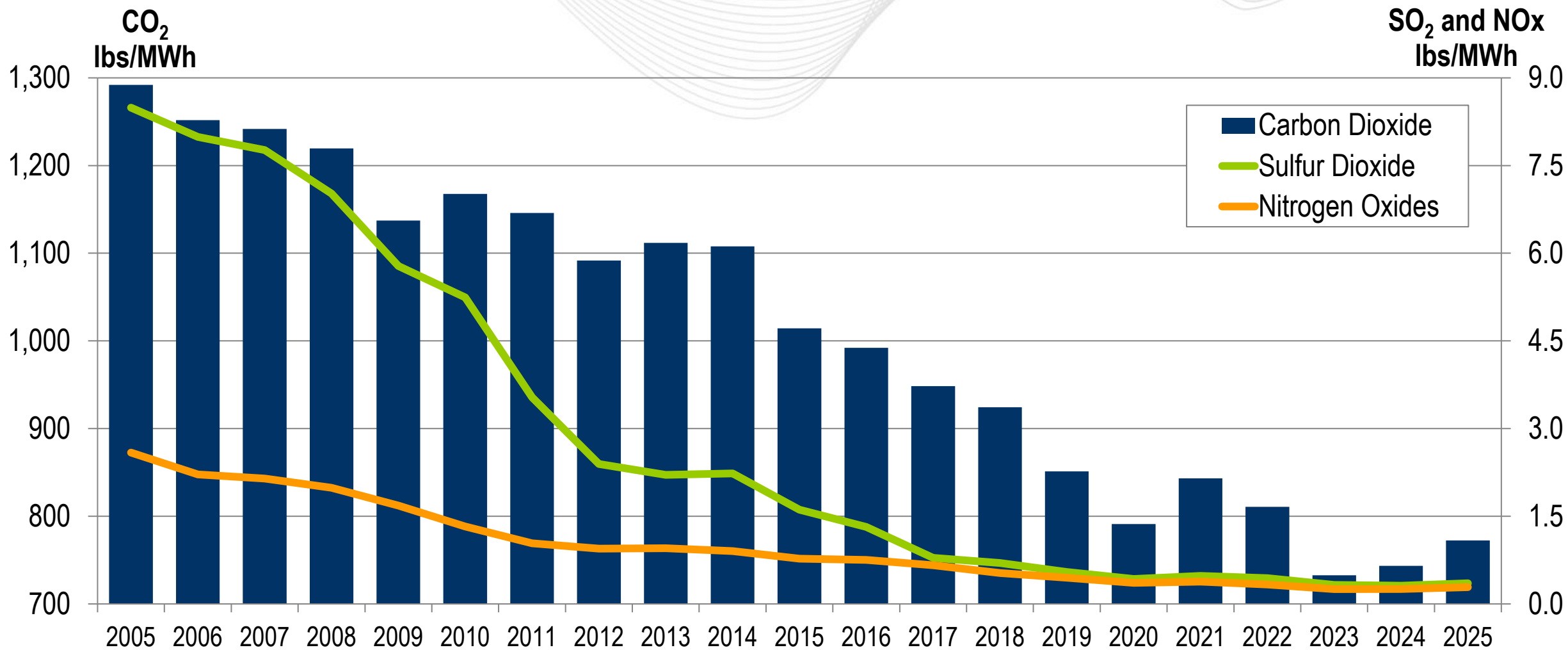
(Jan. 2025 – Dec. 2025)



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



PJM System Average Emission Rates





Kentucky – Average Emissions (lbs/MWh)

(Feb. 2026)

SO₂ and NO_x
(lbs/MWh)

CO₂
(lbs/MWh)

2,100

2,050

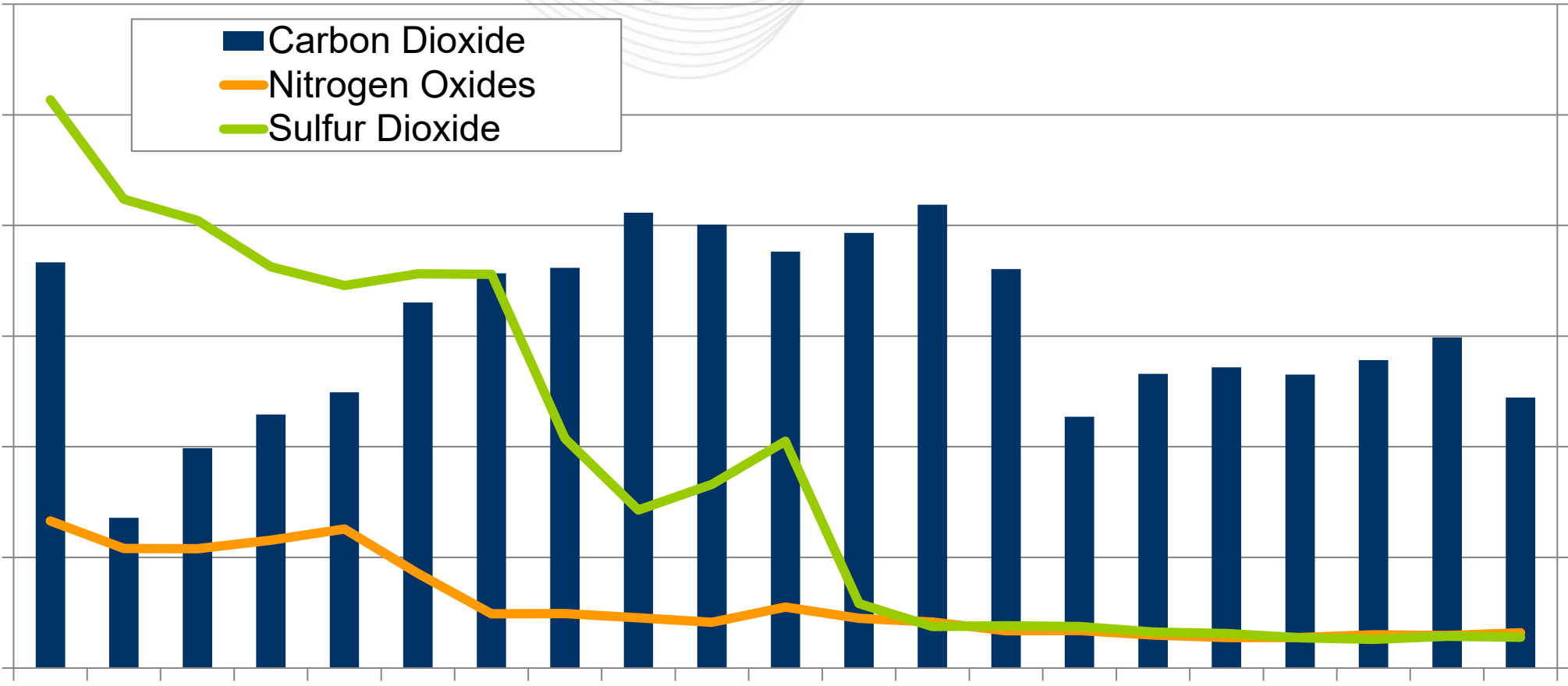
2,000

1,950

1,900

1,850

1,800



2005 2007 2009 2011 2013 2015 2017 2019 2021 2023 2025