2022 Delaware State Infrastructure Report

(January 1, 2022 – December 31, 2022)

May 2023

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- **Existing Capacity:** Natural gas represents approximately 65.6 percent of the total installed capacity in the Delaware service territory while oil represents approximately 21.3 percent and coal 13.2 percent. Comparatively across PJM, natural gas and oil are at 46.6 and 3.5 percent of total installed capacity, while coal represents 24.0 percent.

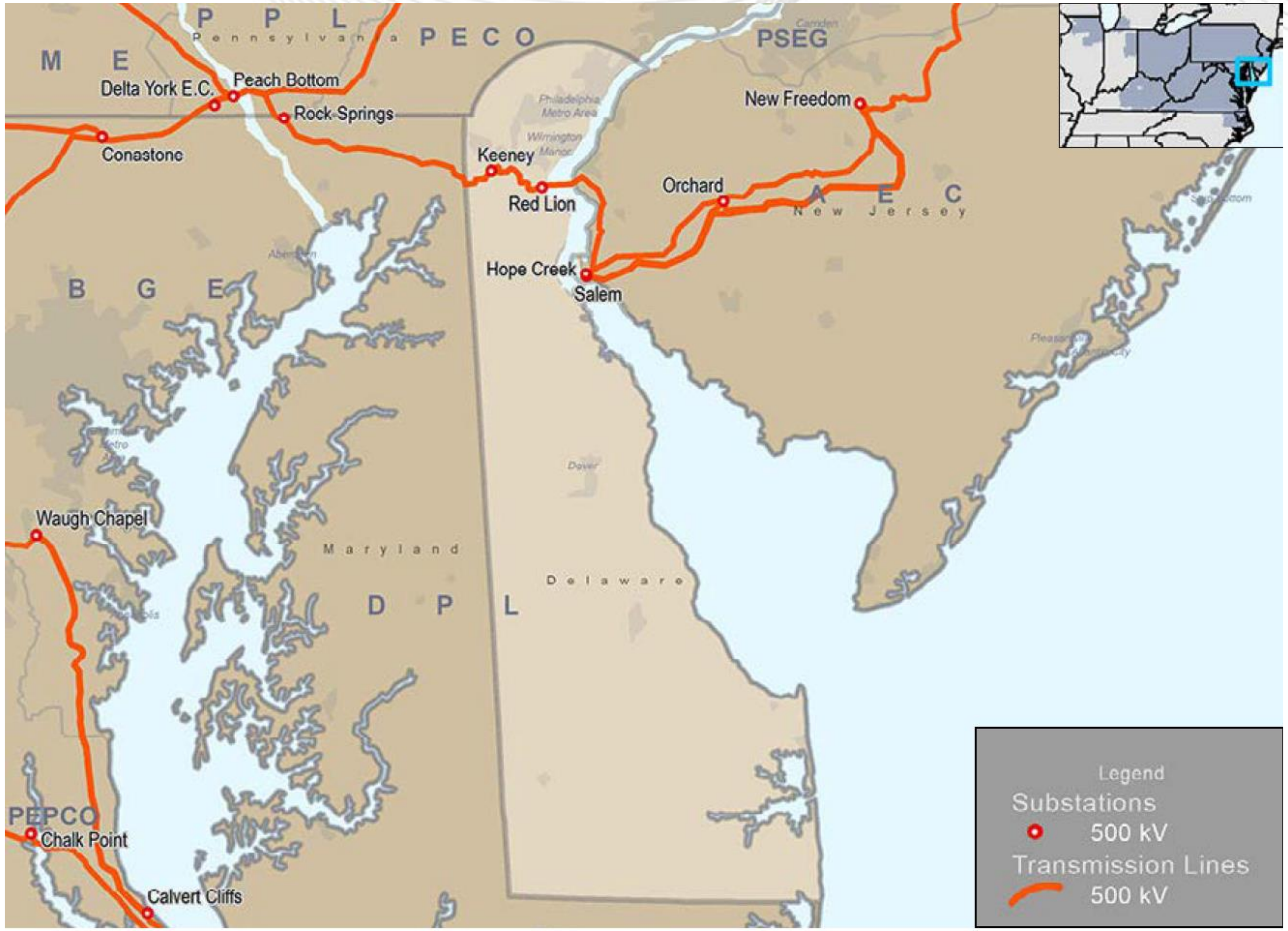
- **Interconnection Requests:** Wind represents 85.6 percent of proposed generation requests in Delaware, while storage represents 7.8 percent and solar represents 6.6 percent of proposed generation. Wind generation listed in the queue for Delaware includes offshore wind projects that are Maryland public policy projects but are physically located in Delaware.

- **Deactivations:** Delaware had no generators deactivate or give a notice of deactivation in 2022.

- **RTEP 2022:** Delaware's 2022 RTEP project total represents approximately $0.45 million in investment.

- **Load Forecast:** Delaware's summer peak load is projected to decrease by 0.5 percent annually over the next ten years, while the winter peak is projected to increase by 0.2 percent.
- **2023/24 Capacity Market:** Delaware's service territory cleared at the MAAC price of $49.49/MW-day and at $69.95 within DPL-South for the 2023/2024 Base Residual Auction.
- **2024/25 Capacity Market:** Delaware's service territory cleared at the Eastern MAAC price of $54.95/MW-day and at $90.64 within DPL-South for the 2024/2025 Base Residual Auction.
- **1/1/22 – 12/31/22 Market Performance:** Delaware's average hourly LMPs were generally at or lower than the PJM average hourly LMP.
- **Emissions:** Delaware's average CO2 emissions slightly decreased in 2022 compared to 2021 levels.

PJM Service Area – Delaware

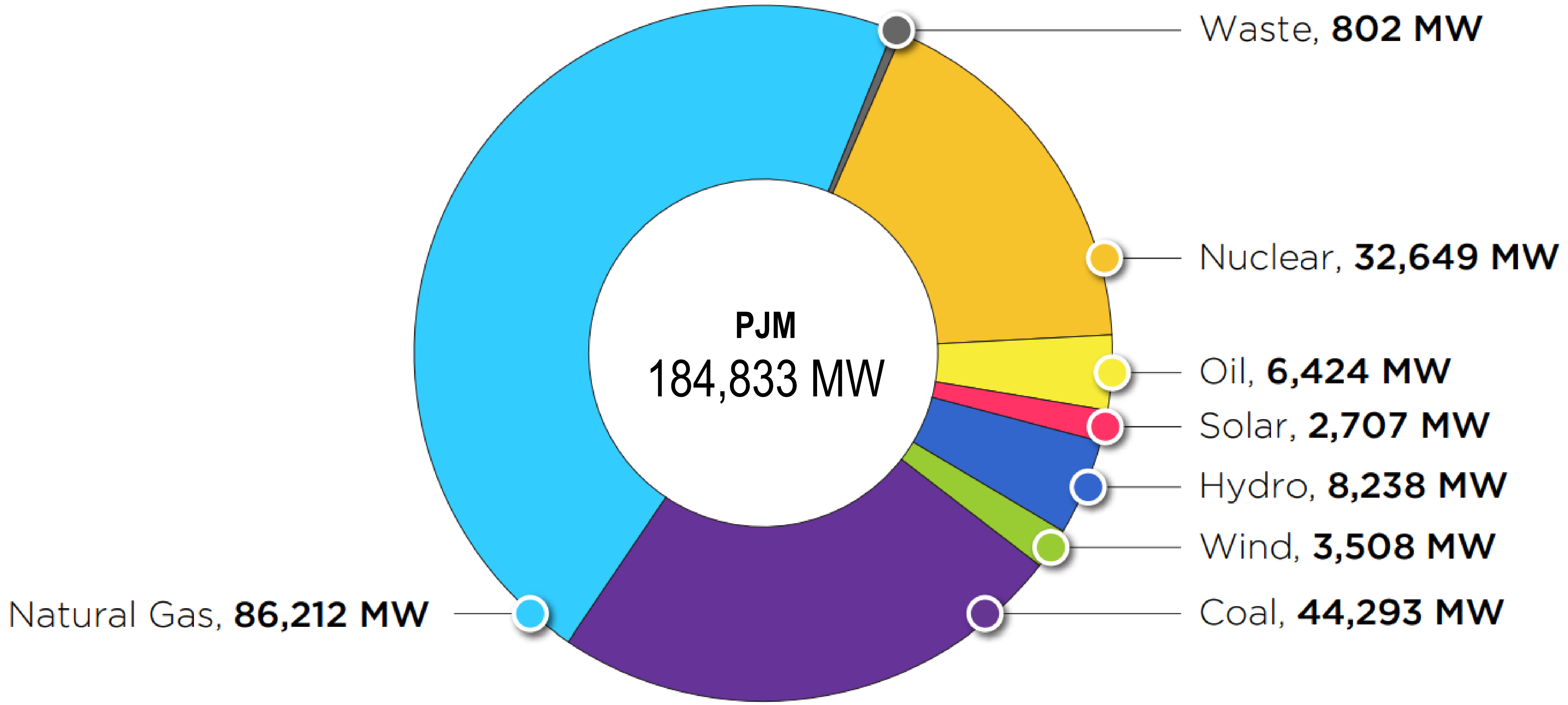


Planning

Generation Portfolio Analysis

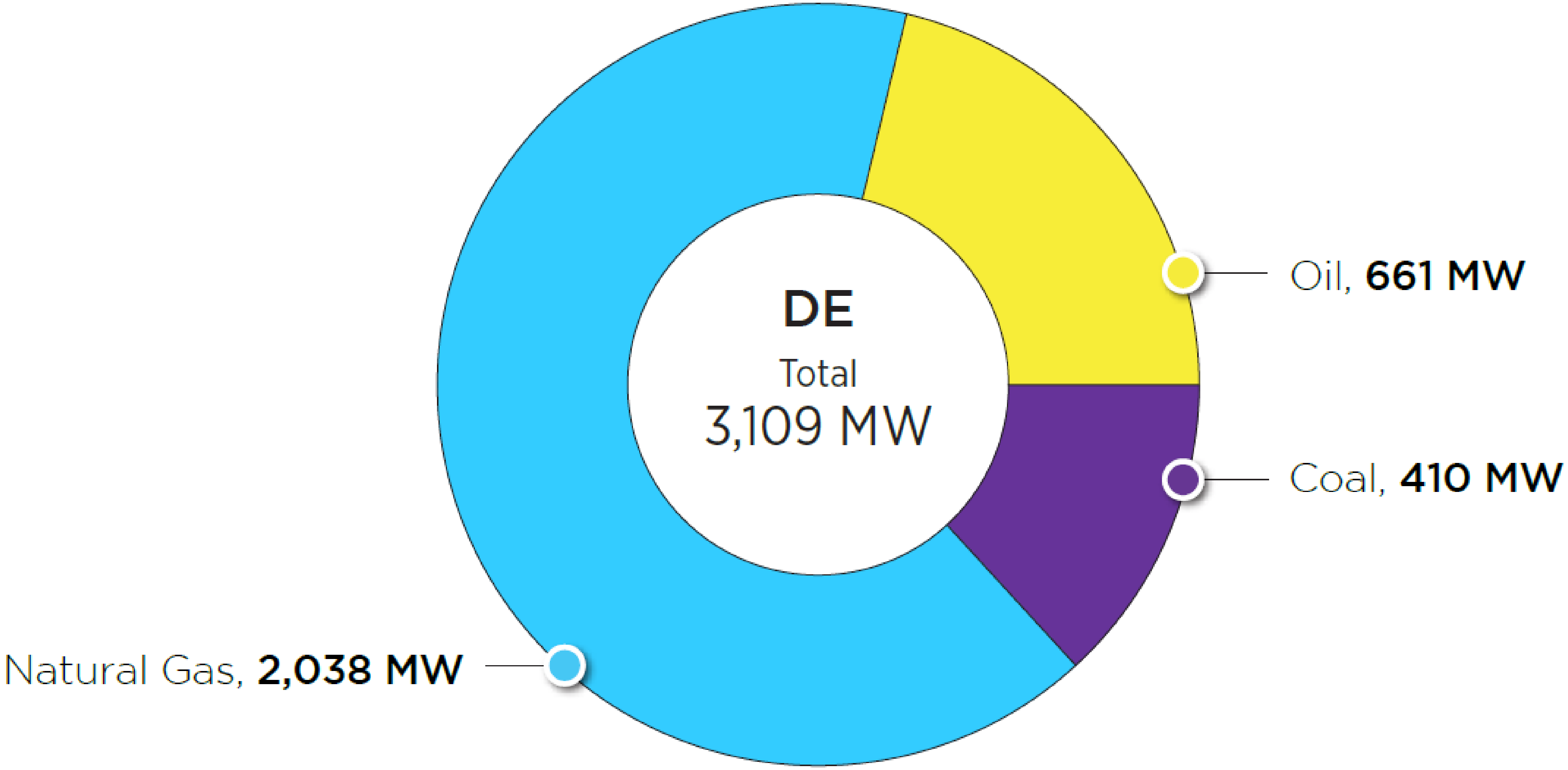
PJM – Existing Installed Capacity

(CIRs – as of Dec. 31, 2022)



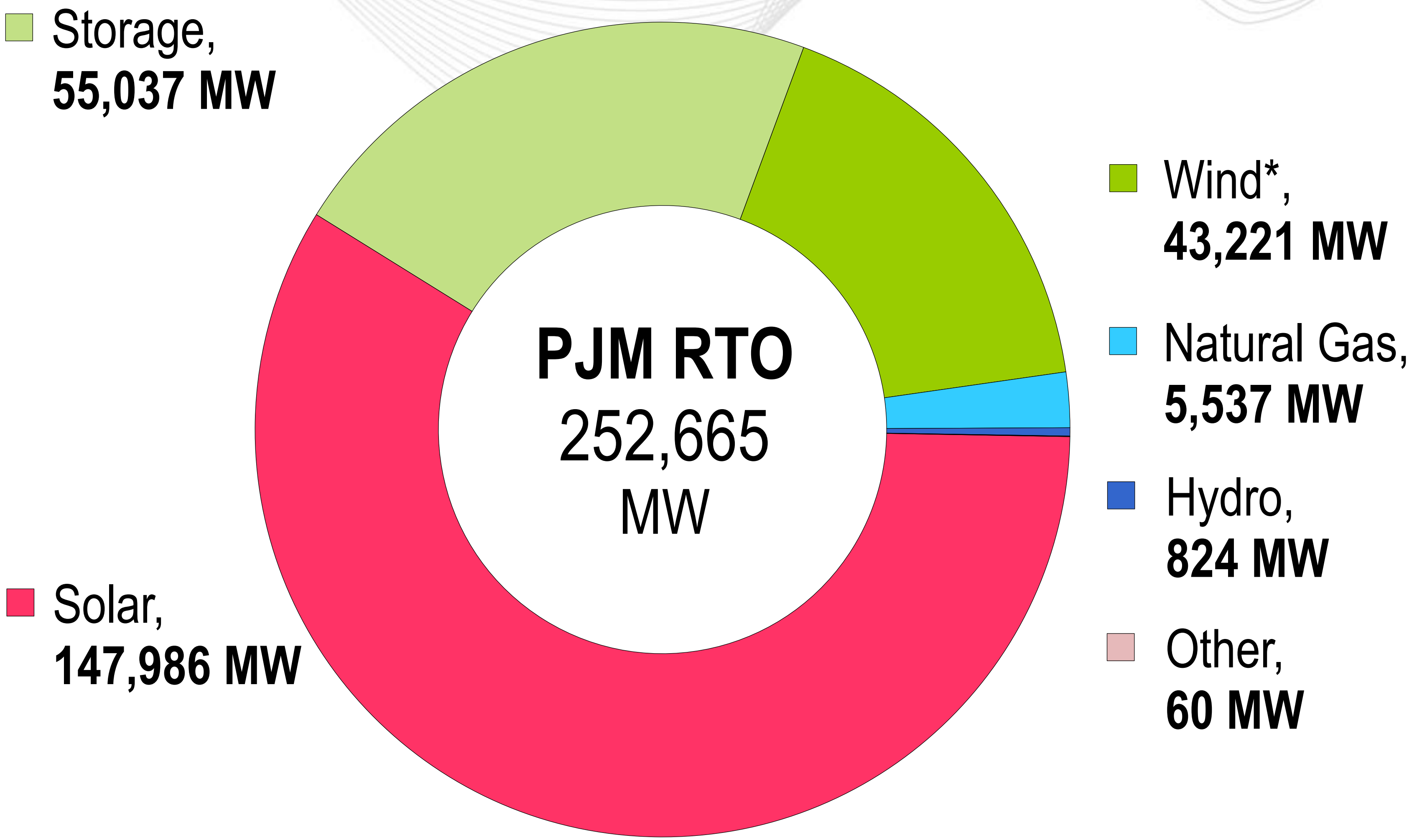
Delaware – Existing Installed Capacity

(CIRs – as of Dec. 31, 2022)



PJM Queued Capacity (Nameplate) by Fuel Type

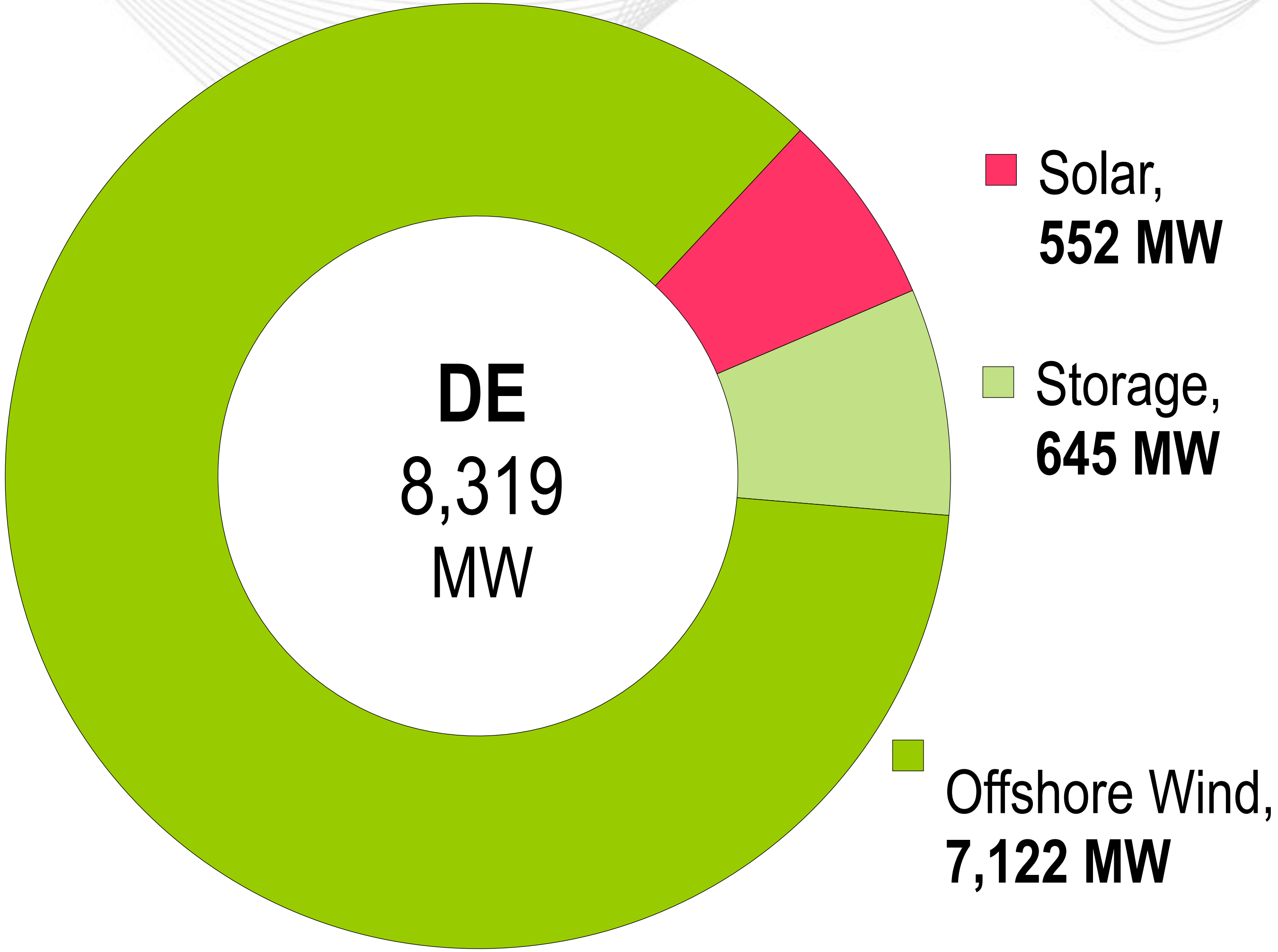
(“Active” in the PJM Queue as of April 1, 2023)



*Wind includes both onshore and offshore wind

Delaware Queued Capacity (Nameplate) by Fuel Type

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



The wind generation listed in the queue for Delaware consists of offshore wind projects that are Maryland public policy projects but are physically located in Delaware.

Delaware – 2022 Generator Deactivations

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

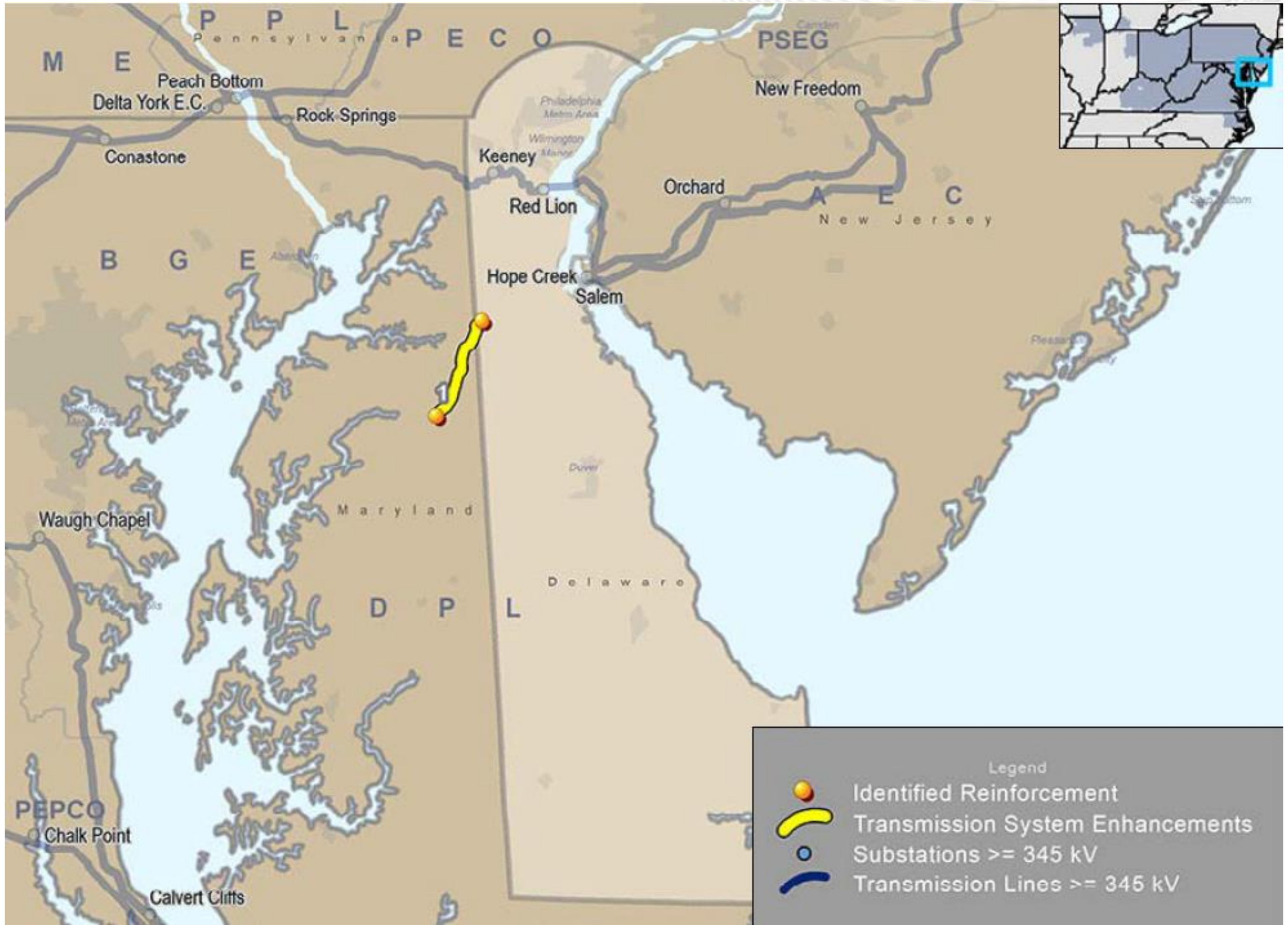
Planning

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

Delaware – RTEP Baseline Projects



DE Baseline Projects	
TO Zone	**Cost ($M)**
DP&L	$0.45

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

Delaware – RTEP Network Projects

Delaware had no network project upgrades 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.

Delaware – TO Supplemental Projects

Delaware had no supplemental projects in 2022.

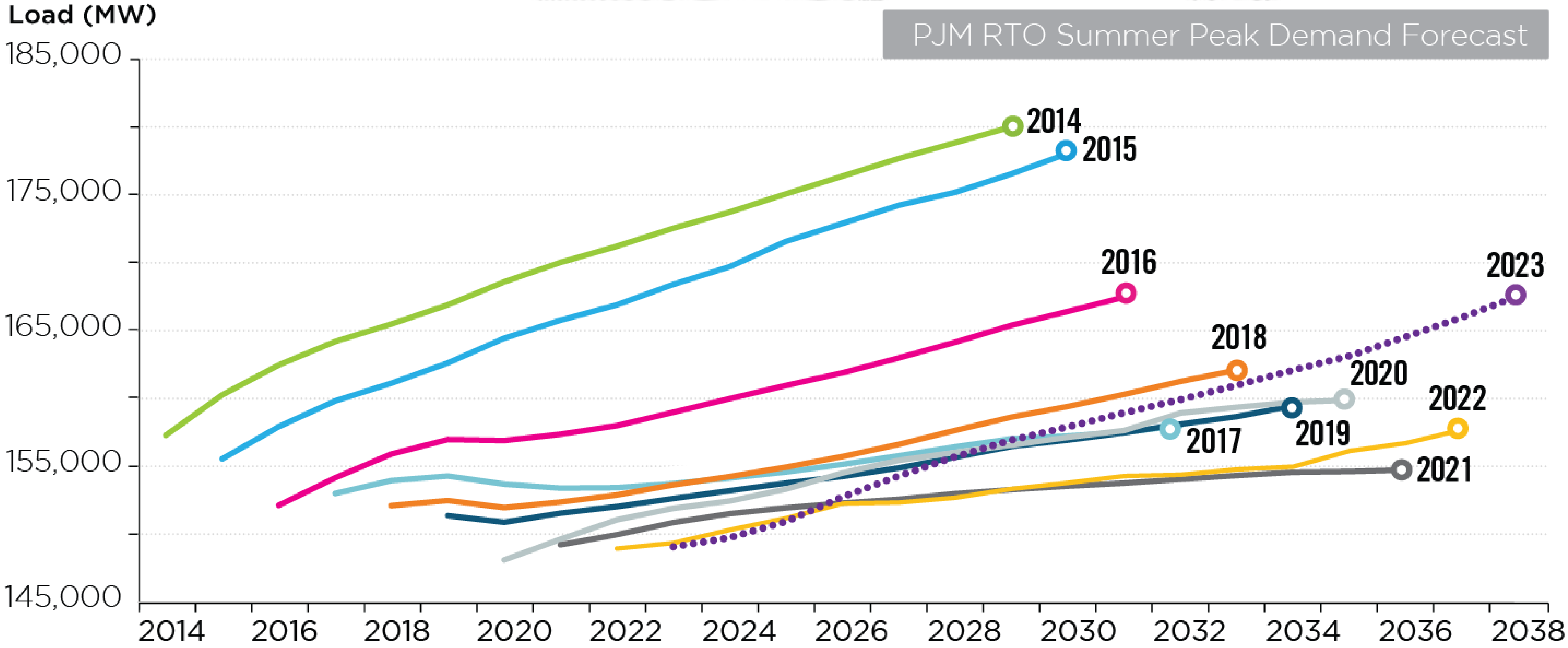
Note: Supplemental projects are transmission expansions or enhancements that are not required for compliance with PJM criteria and are not state public policy projects according to the PJM Operating Agreement. These projects are used as inputs to RTEP models, but are not required for reliability, economic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

Planning

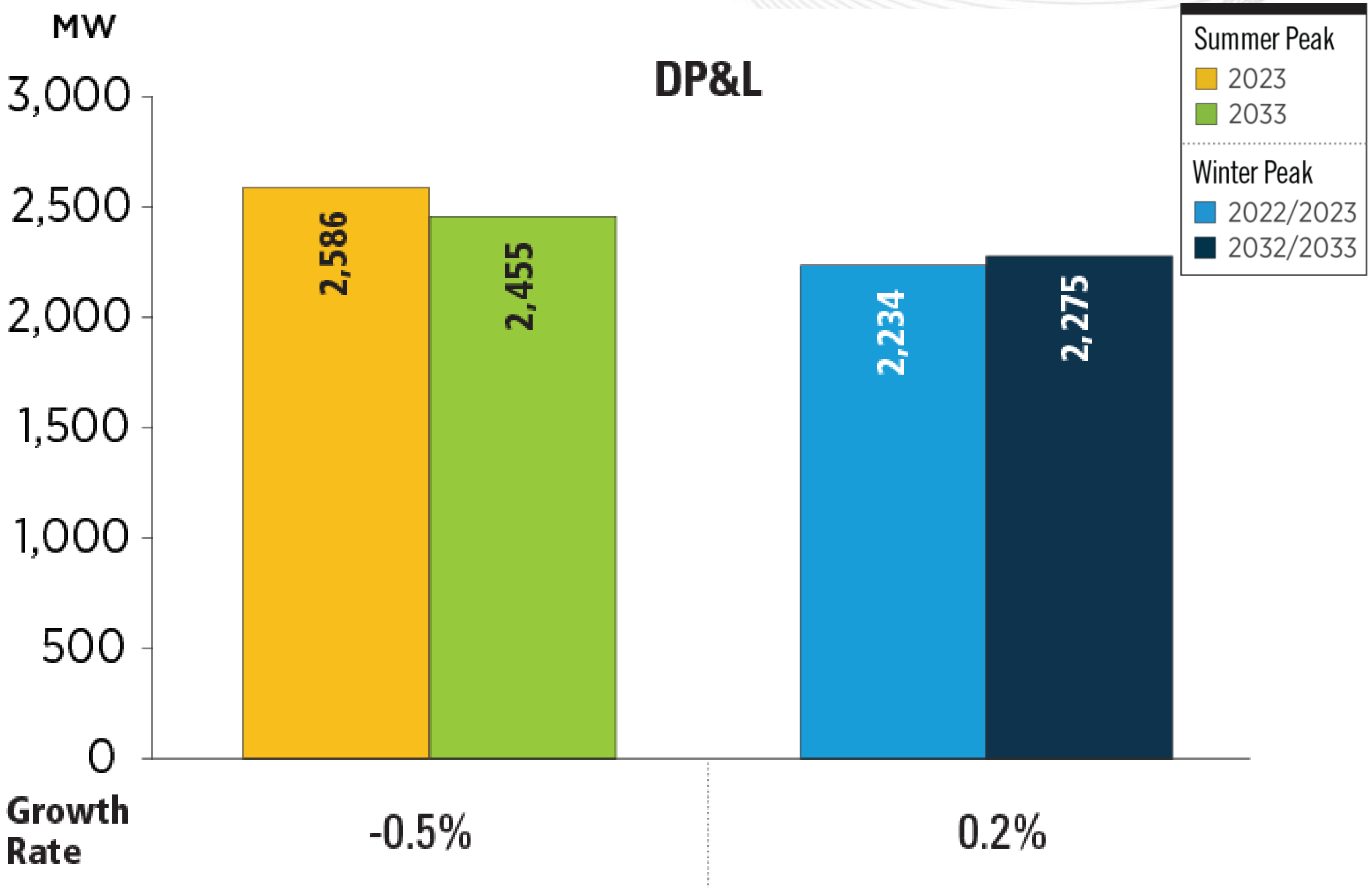
Load Forecast

PJM Annual Load Forecast

(Jan. 2023)



Delaware – 2023 Load Forecast Report



DP&L serves load outside DE

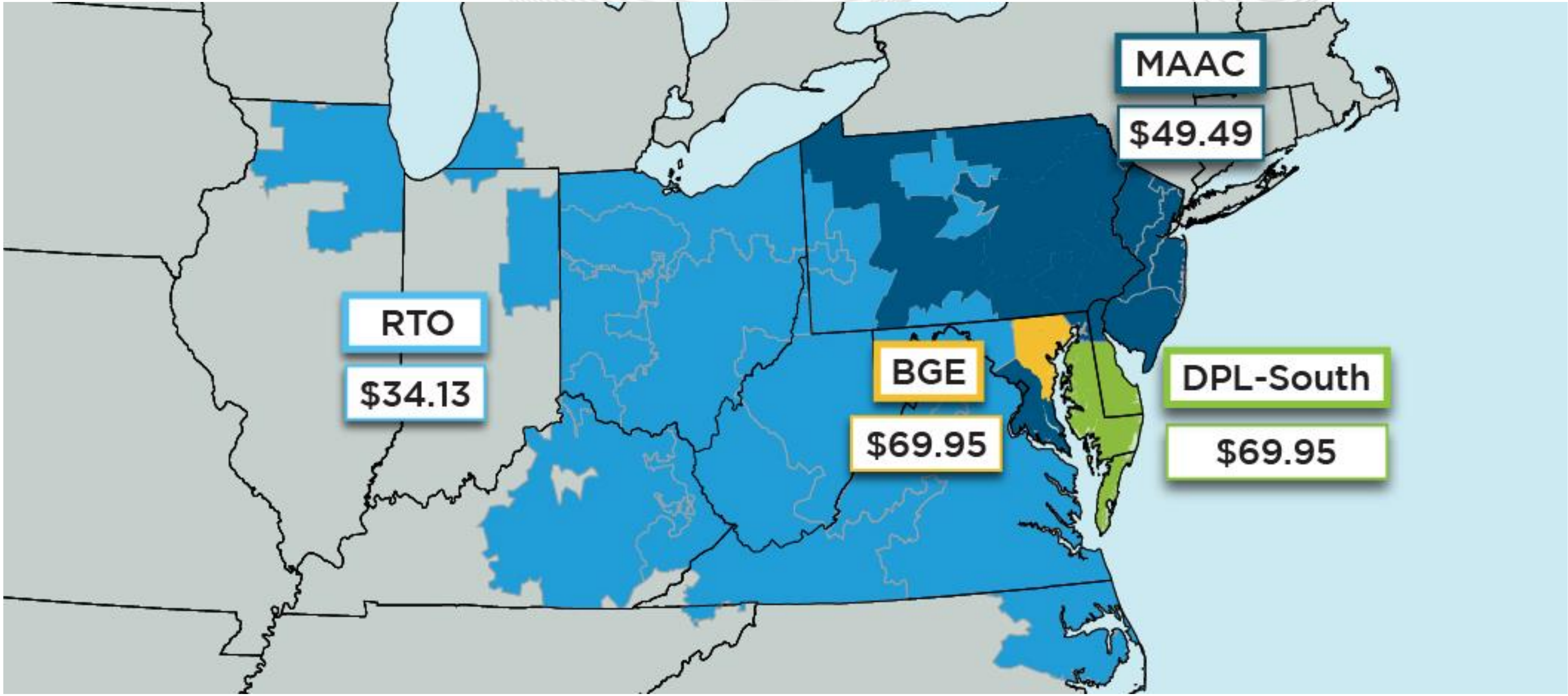
PJM RTO Summer Peak		PJM RTO Winter Peak	
2023	2033	2022/2023	2032/2033
149,059 MW	160,971 MW	130,811 MW	144,992 MW
Growth Rate 0.8%		Growth Rate 1.0%	

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

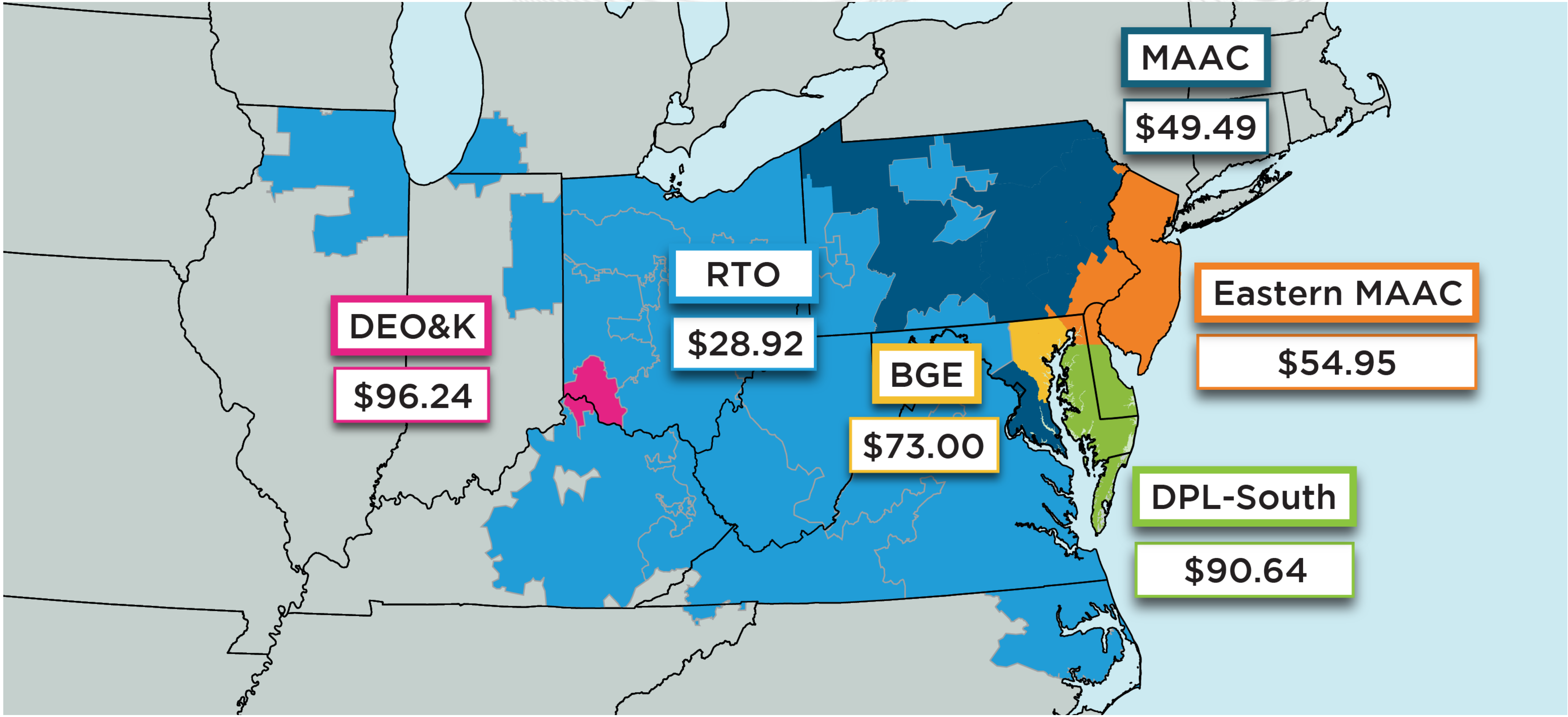
2023/24 Base Residual Auction Clearing Prices ($/MW-Day)



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

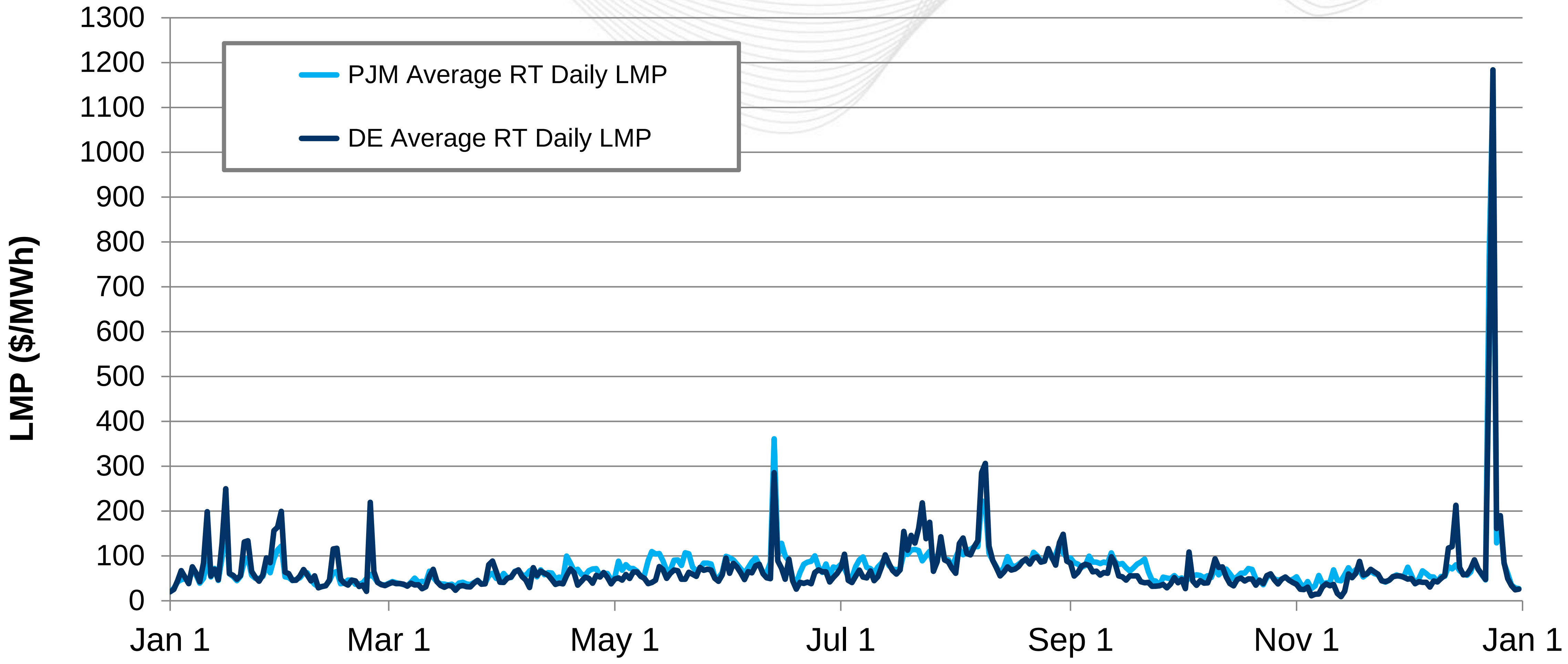
	ANNUAL	SUMMER	WINTER	Total (MW)
Generation	131,779.3	38.2	605.6	132,423.1
DR	7,804.3	188.4	0	7,992.7
EE	7,289.7	379.0	0	7,668.7
Total (MW)	**146,873.3**	**605.6**	**605.6**	

Markets

Market Analysis

Delaware – Average Daily LMP

(Jan. 1, 2022 – Dec. 31, 2022)

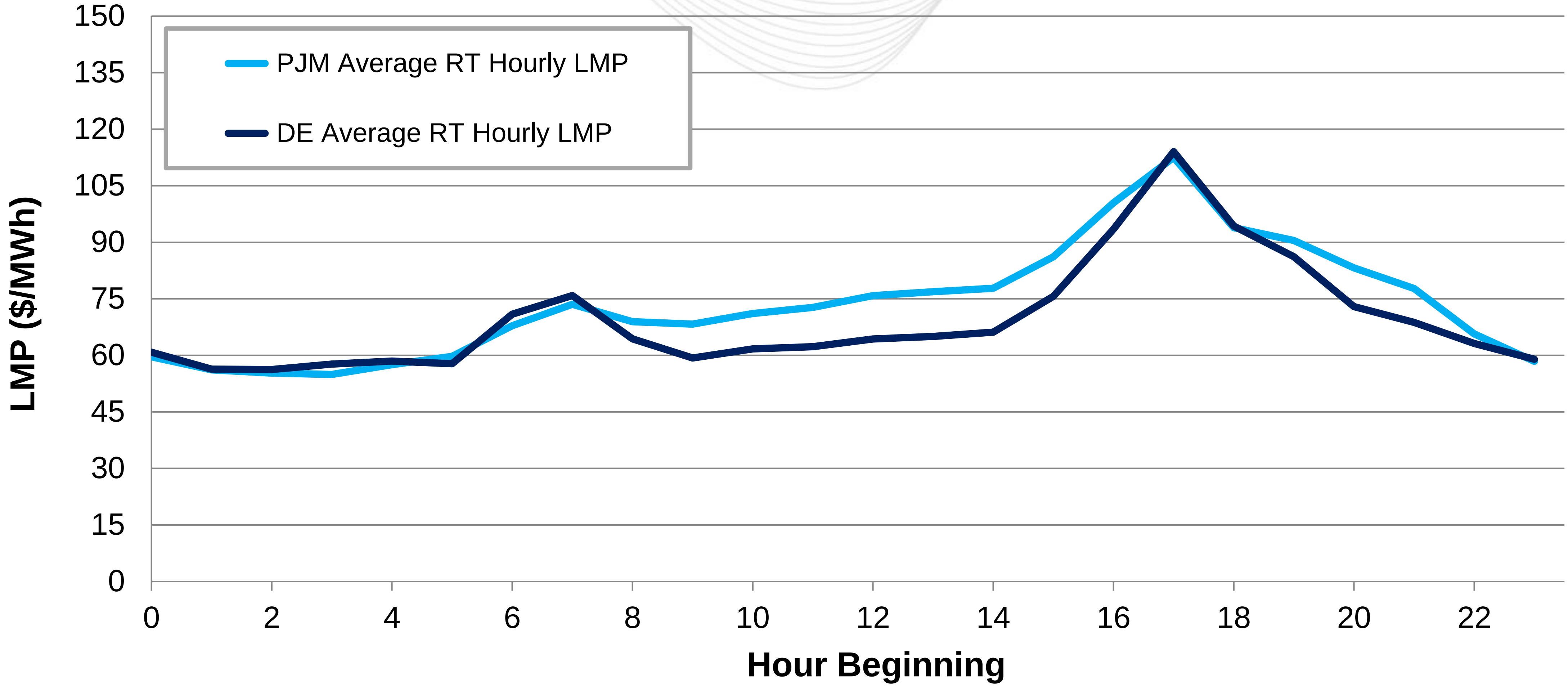


Note: The significant price spike in late Dec. 2022 was a result of Winter Storm Elliott's impact on system conditions.

Delaware – Average Hourly LMP

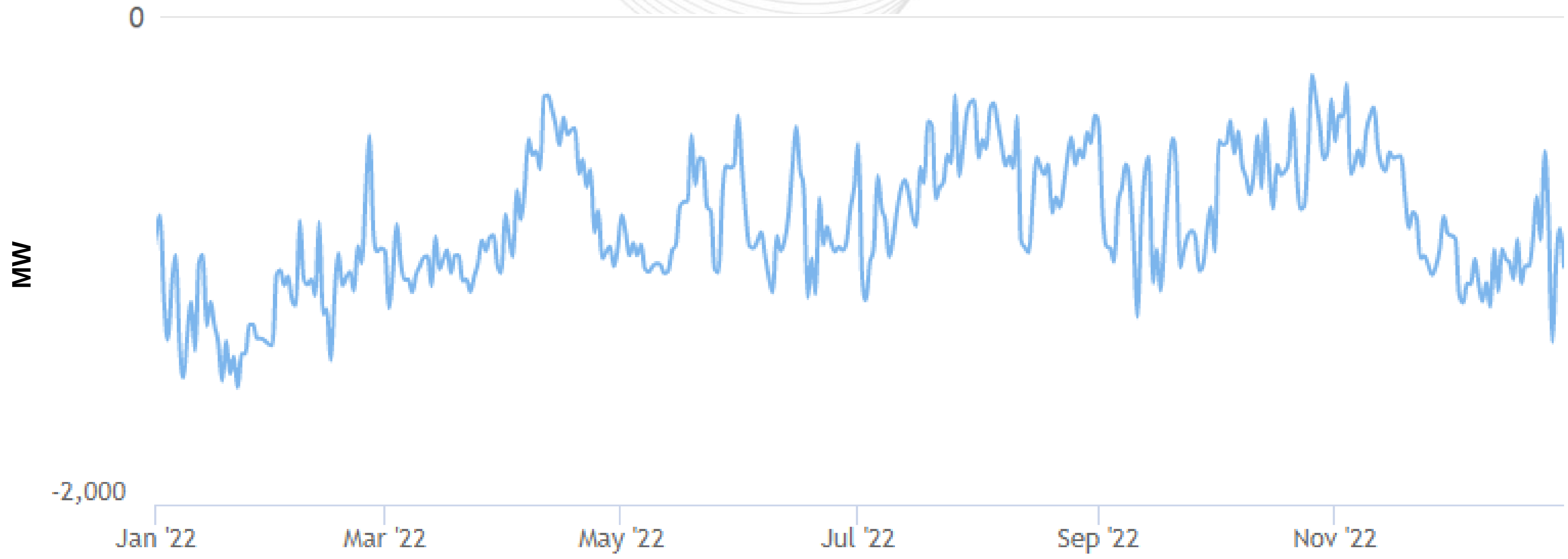
(Jan. 1, 2022 – Dec. 31, 2022)

Delaware's average hourly LMPs were generally at or lower than the PJM average hourly LMP.



Delaware – Net Energy Import/Export Trend

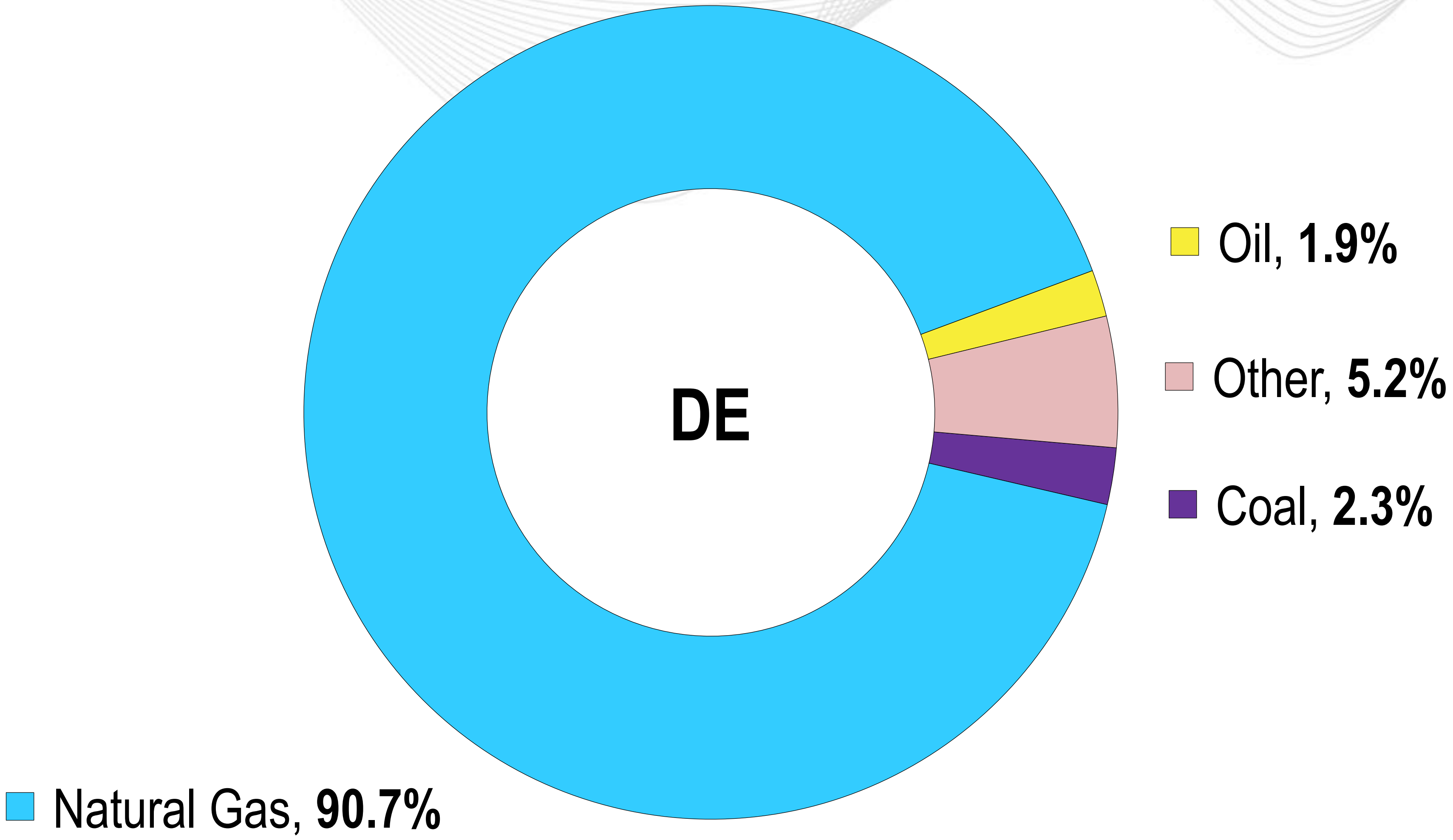
(Jan. 2022 – Dec. 2022)



Positive values represent exports and negative values represent imports.

Operations

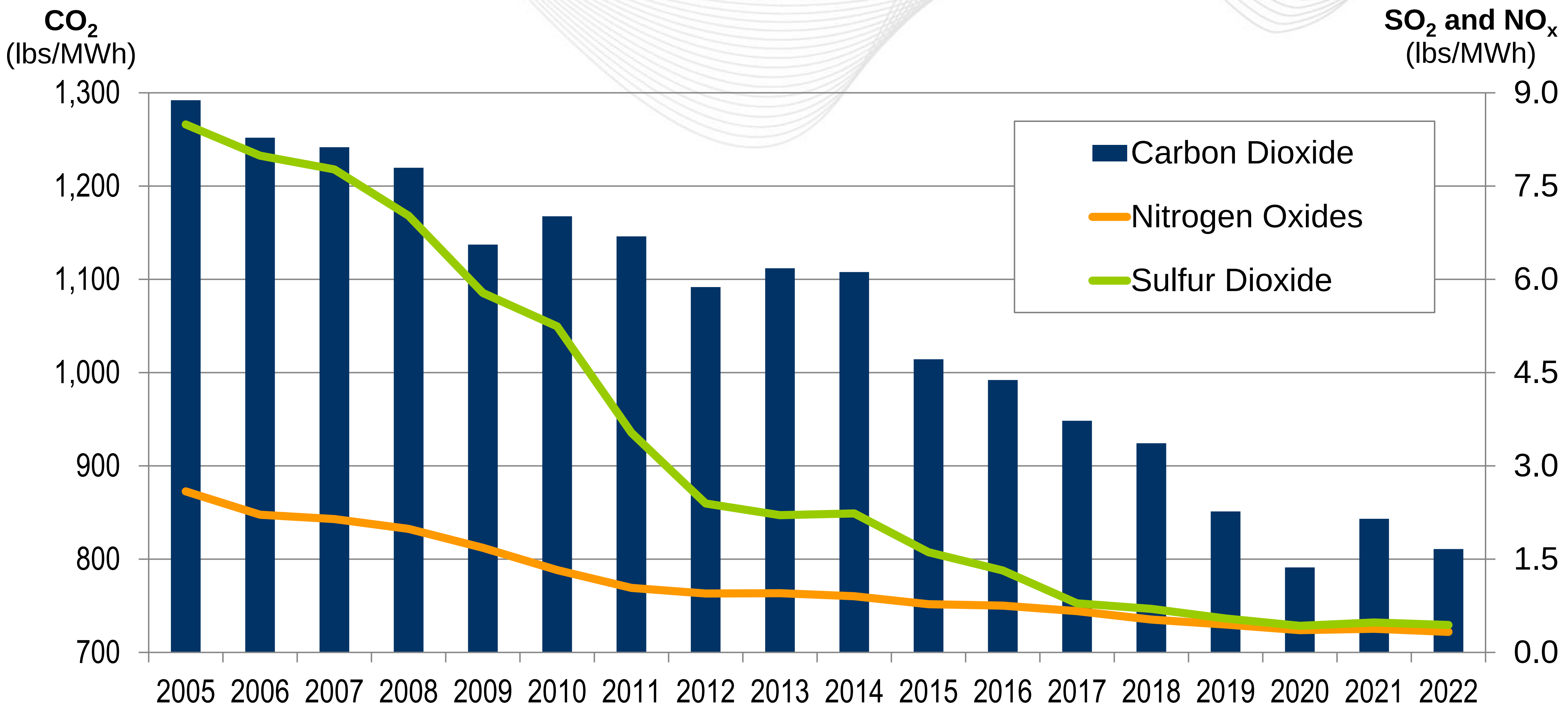
Delaware – 2022 Generator Production



The data in this chart comes from EIA Form 923 (2022).

2005 – 2022 PJM Average Emissions

(March 2023)



Delaware – Average Emissions (lbs/MWh)

(March 2023)