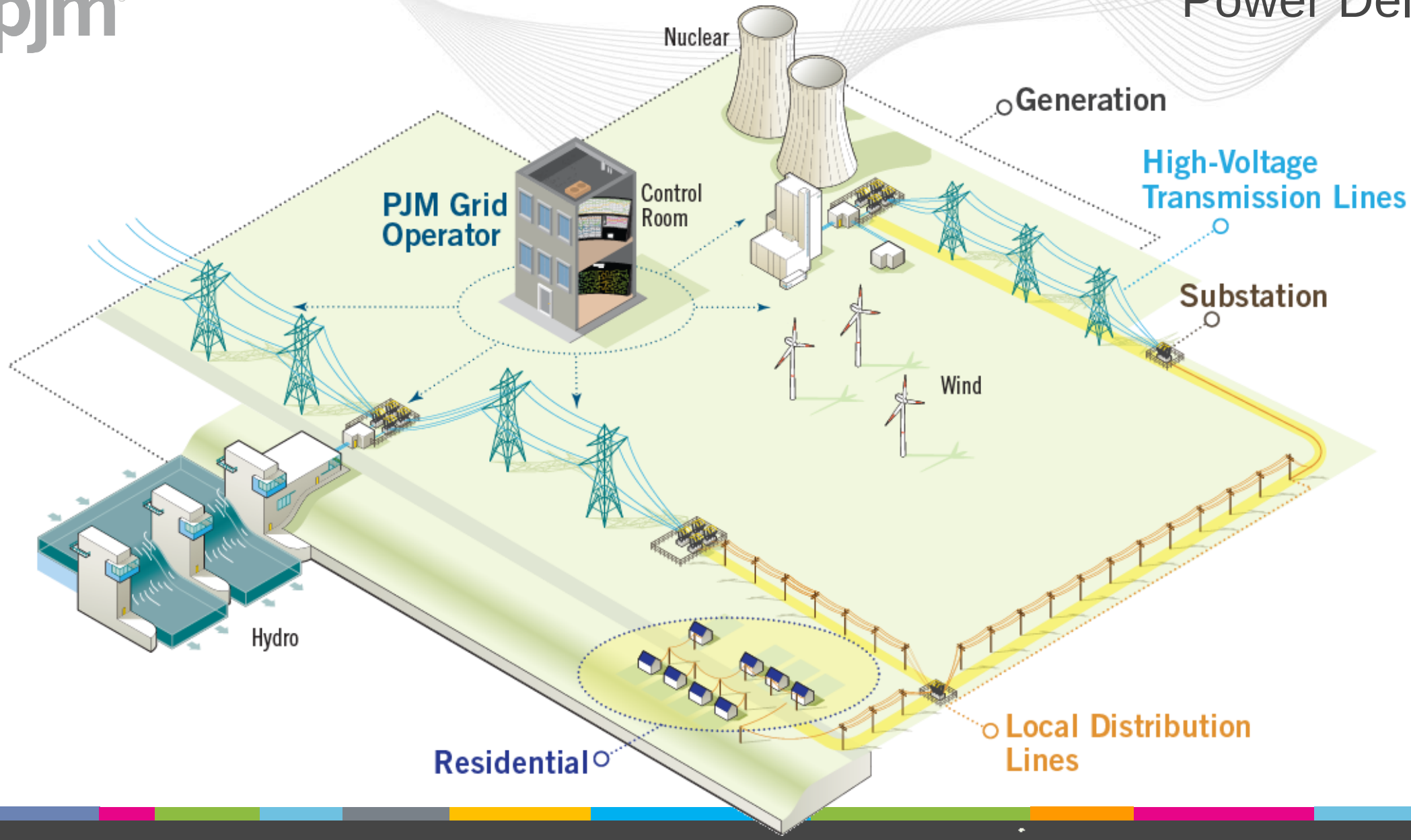
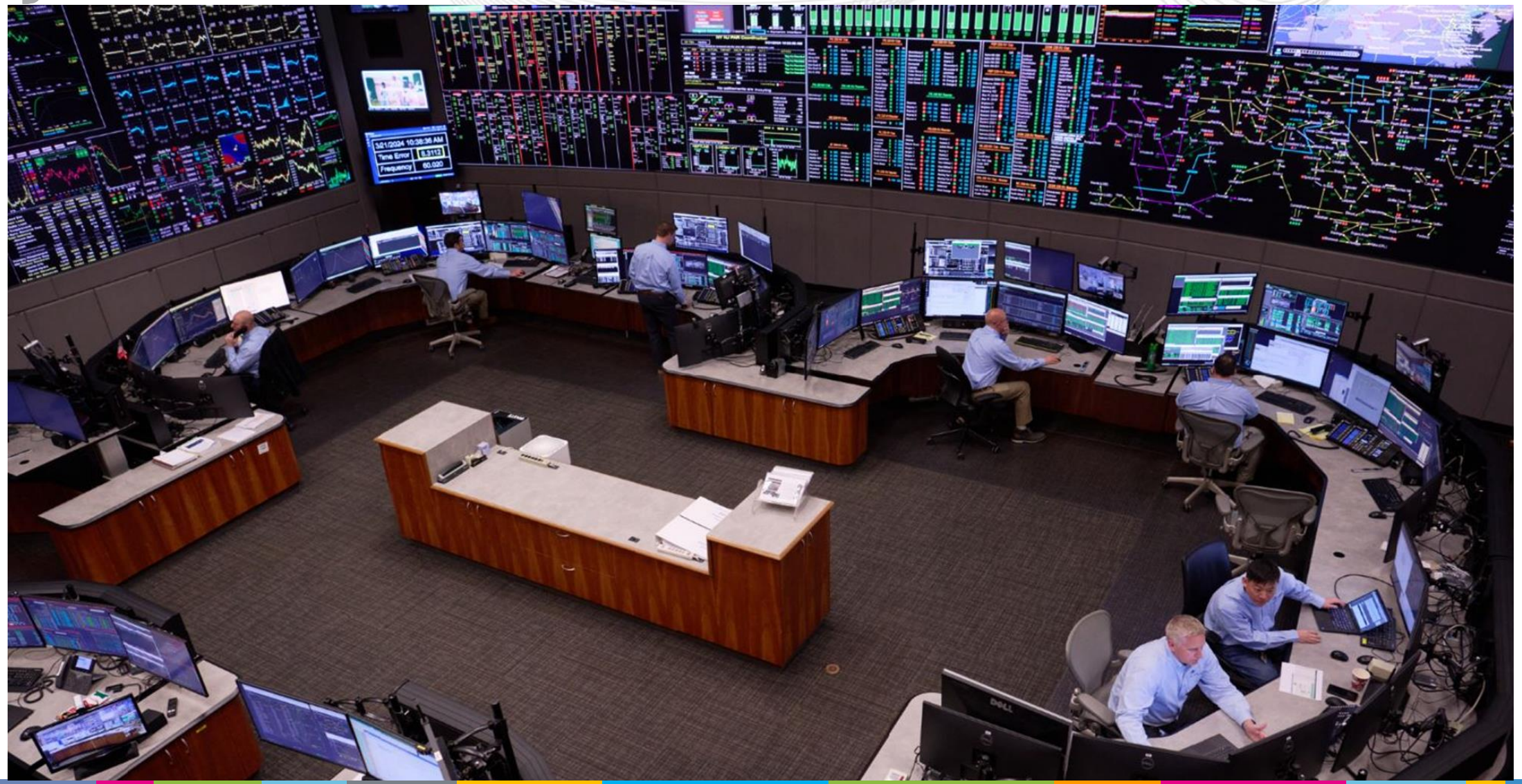
PJM: Maintaining Resource Adequacy During a Period of Transition

Marcellus Shale Coalition
General Meeting

January 28, 2025

Power Delivery

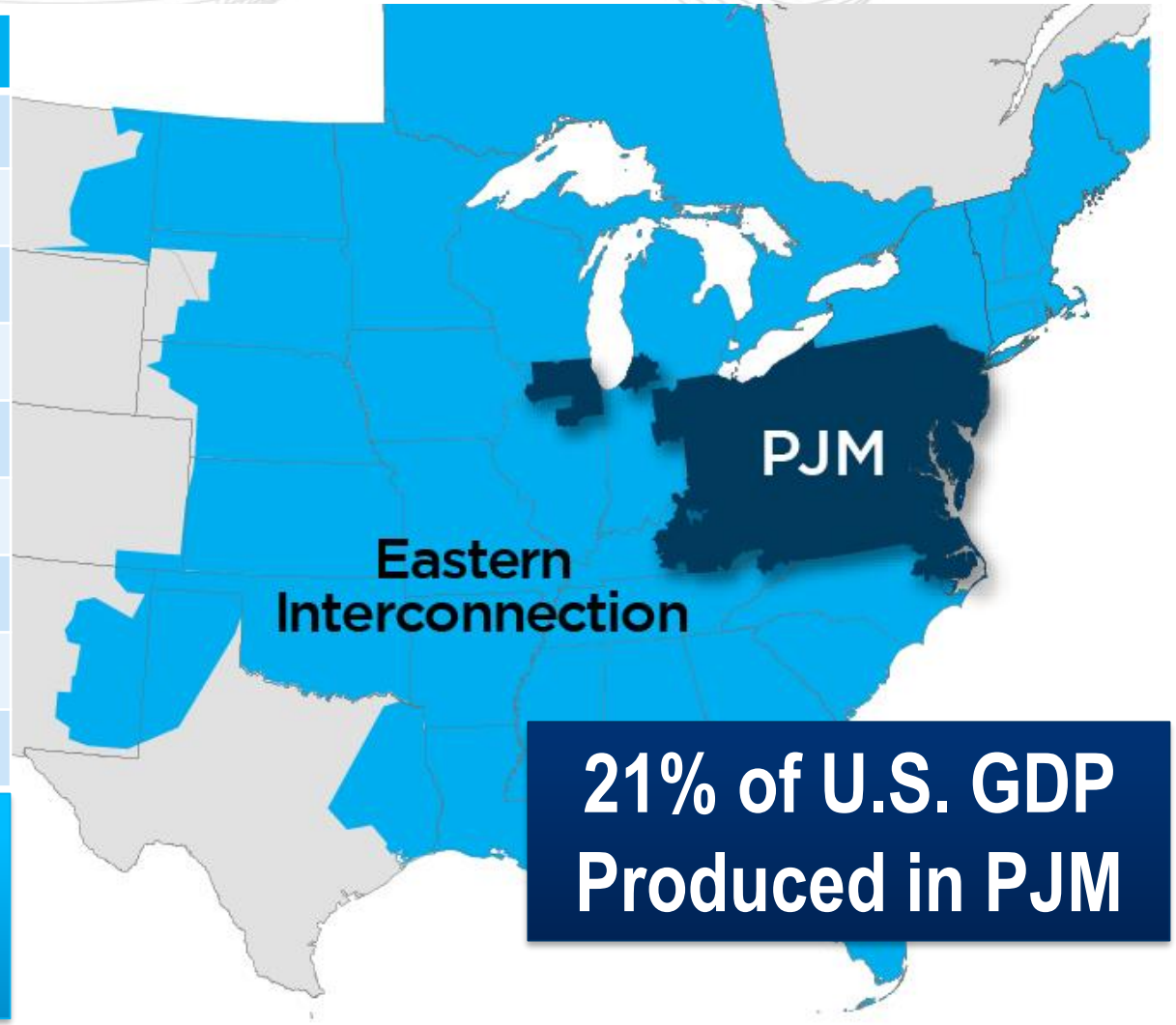




PJM as Part of the Eastern Interconnection

Key Statistics	
Member companies	1,090
Millions of people served	65+
Peak load in megawatts	165,563
Megawatts of generating capacity	183,254
Miles of transmission lines	88,185
Gigawatt hours of annual energy	770
Generation sources	1,419
Square miles of territory	368,906
States served	13 + DC

- 26% of generation in Eastern Interconnection
- 25% of load in Eastern Interconnection
- 20% of transmission assets in Eastern Interconnection



As of 2/2024

PJM Evolution

Joined in 1927

Joined in 1956

Joined in 1965

Joined in 1981

Joined in 2002

Joined in 2004

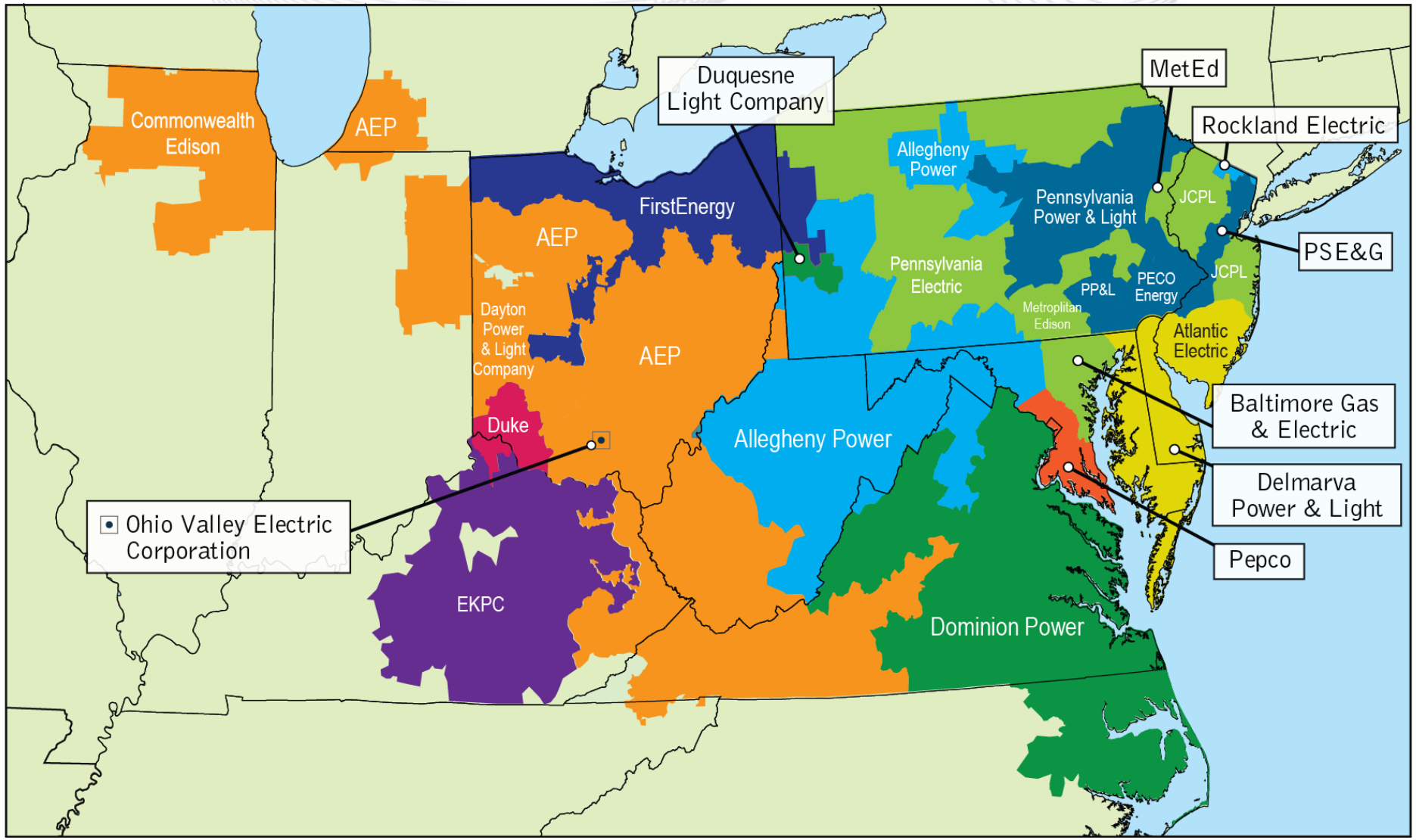
Joined in 2005

Joined in 2011

Joined in 2012

Joined in 2013

Joined in 2018



PJM's Role as a Regional Transmission Organization

PLANNING

Planning for the future like...

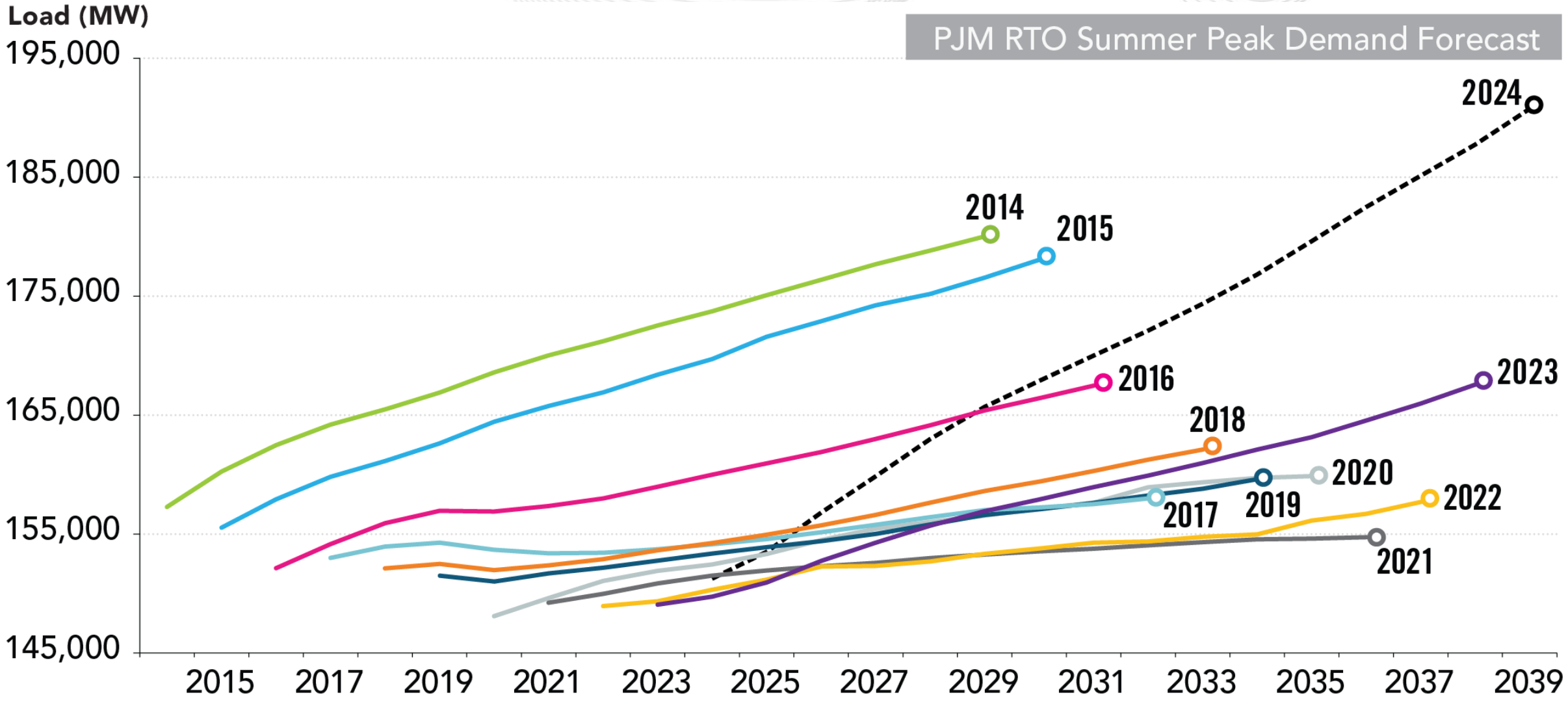
OPERATIONS

Matches supply with demand like...

MARKETS

Energy Market Pricing like...

Electricity Demand Growth



Load Forecast Process

Peak demand forecast is used in RTEP and the RPM auctions and is submitted to various agencies such as NERC, FERC, state commissions, etc.

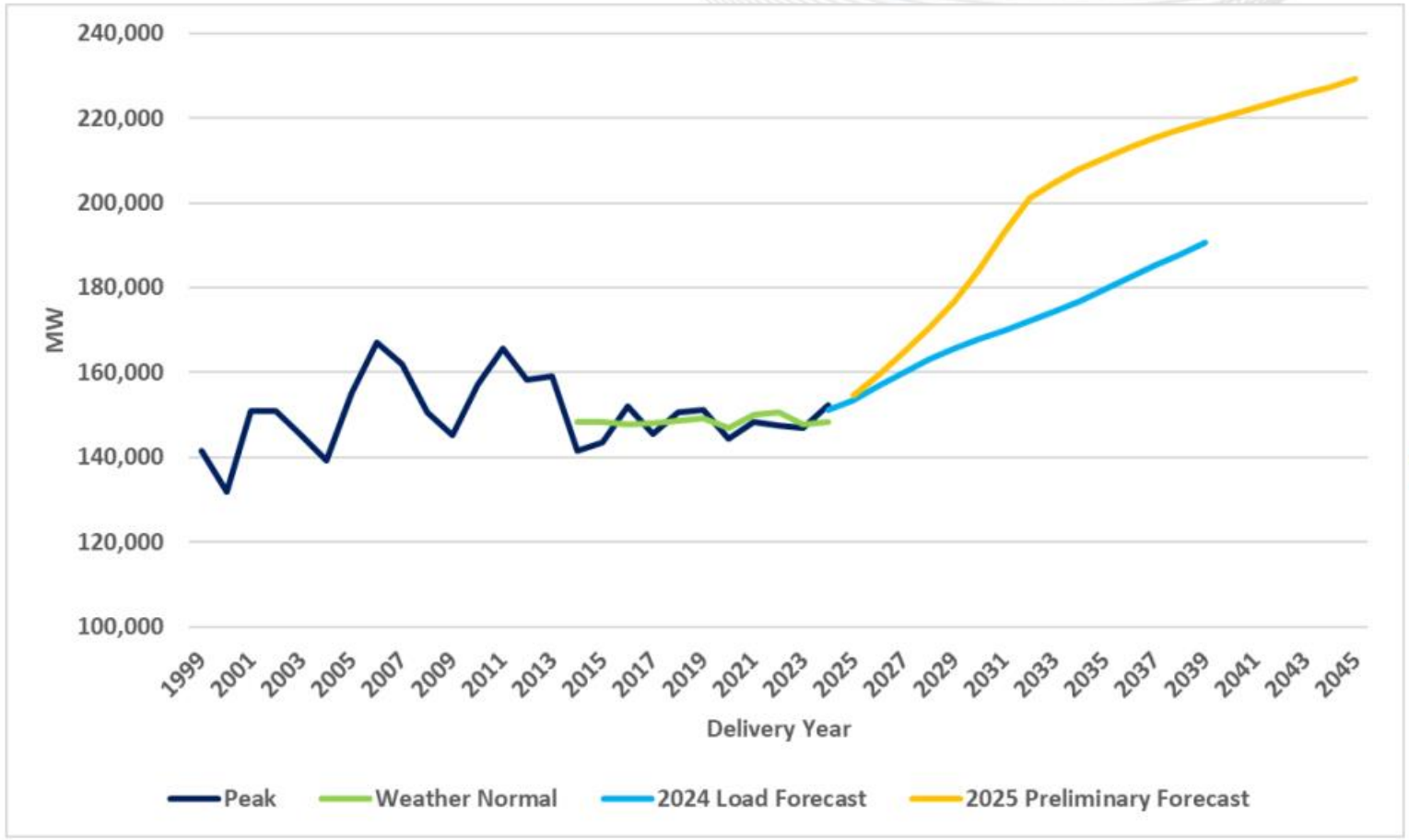
Energy forecast is used in market efficiency planning and for PJM budgeting purposes.

Planning horizon is now 20 years.

Forecast is based on a multivariable regression model.

Forecast is reviewed with stakeholders and a final forecast is published in January.

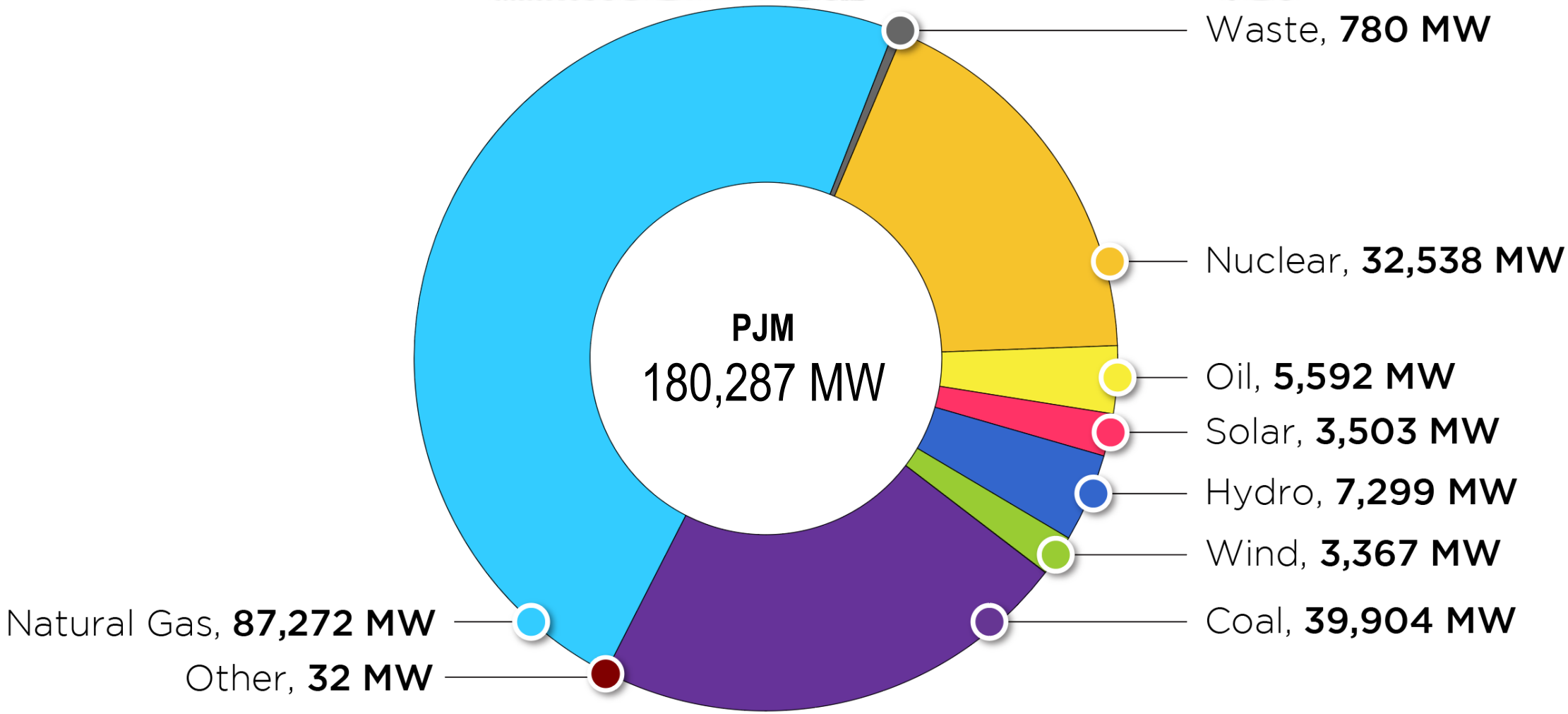
Summer Forecast Comparison 2024 vs 2025 Preliminary



- 15/20-year/ Annualized Growth Rate
  - 2024 Forecast: 1.6%
  - Prelim 2025: 2.0%
- Select year comparisons (Prelim 2025 vs 2024 Forecast)
  - 2026: +1.8% (~2,700 MW)
  - 2028: +4.7% (~7,600 MW)
  - 2030: +9.9% (~16,600 MW)
  - 2039: +14.9% (~28,300 MW)

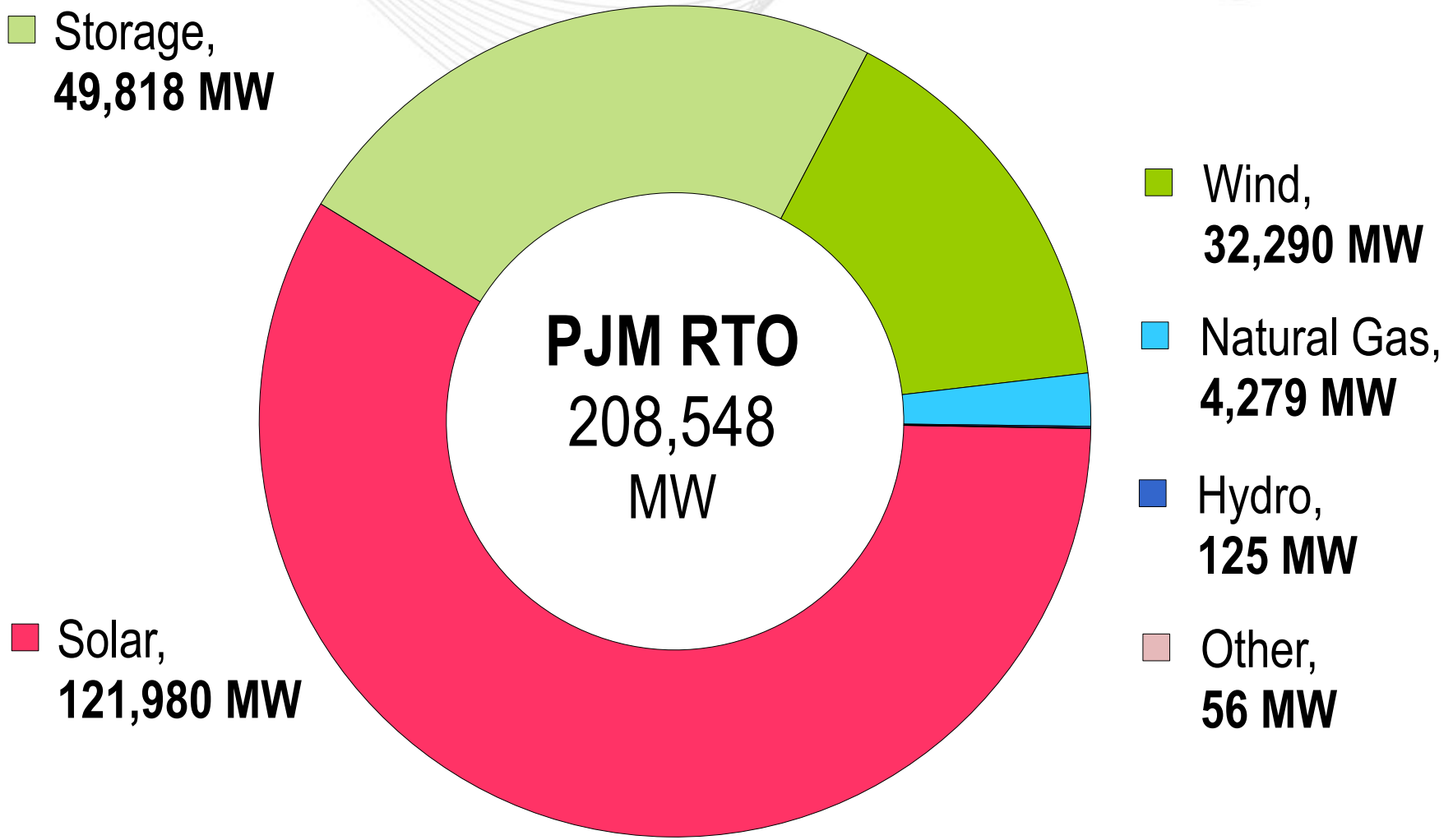
PJM Existing Installed Capacity Mix

(CIRs – as of Dec. 31, 2023)



PJM Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of August 6, 2024)



ELCC Ratings – “What Can You Do For Reliability?”

Enhance reliability risk modeling in resource adequacy studies.

Improve capacity accreditation to reflect resources’ contribution during periods of risk.

Maintain the **capacity performance framework, but enhance** the rules and testing requirements.

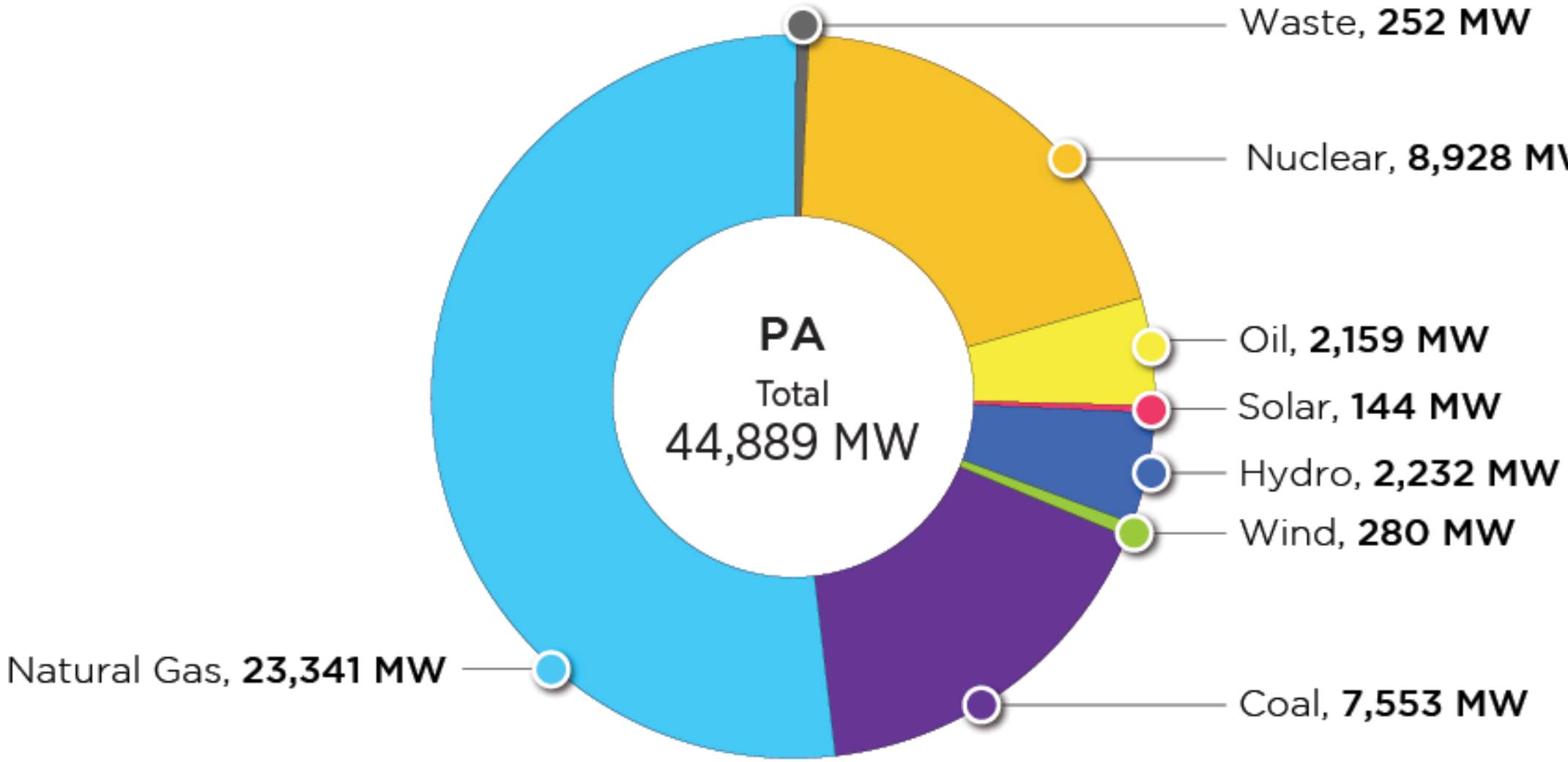
Improve other areas of the market construct, including balanced **market power mitigation** rules.*

	2025/2026 BRA ELCC Class Ratings
Onshore Wind	35%
Offshore Wind	60%
Fixed-Tilt Solar	9%
Tracking Solar	14%
Landfill Intermittent	54%
Hydro Intermittent	37%
4-hr Storage	59%
6-hr Storage	67%
8-hr Storage	68%
10-hr Storage	78%
Demand Resource	76%
Nuclear	95%
Coal	84%
Gas Combined Cycle	79%
Gas Combustion Turbine	62%
Gas Combustion Turbine Dual Fuel	79%
Diesel Utility	92%
Steam	75%

The following table provides the ELCC Class Ratings applicable to the 2025/2026 Base Residual Auction (BRA) as calculated under the methodology approved by FERC on January 30th, 2024 in FERC Docket No. ER24-99
**Market Power Mitigation changes in ER24-98 were not accepted by FERC.*

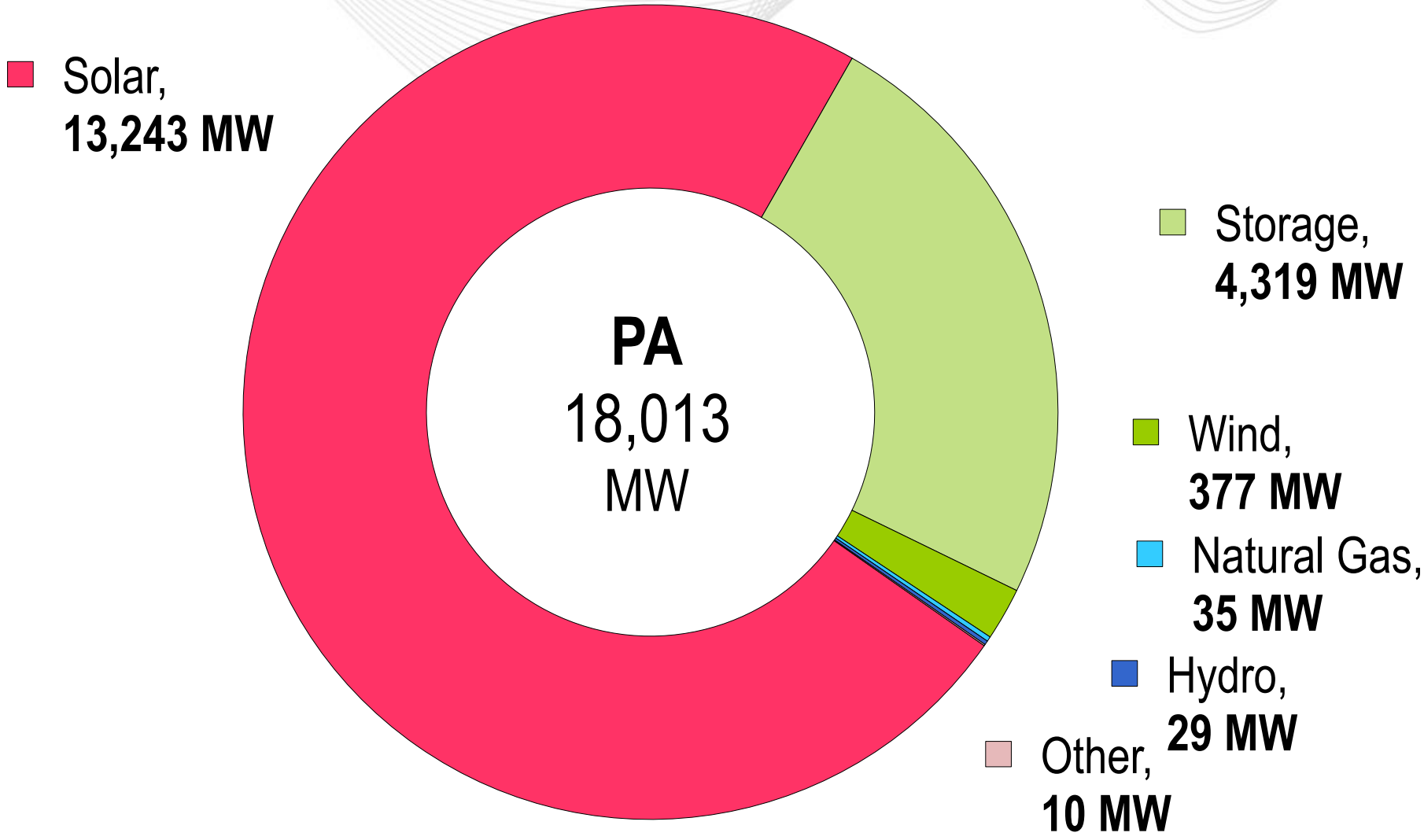
Pennsylvania – Existing Installed Capacity (MW) by Fuel Type

(as of Dec. 31, 2023)



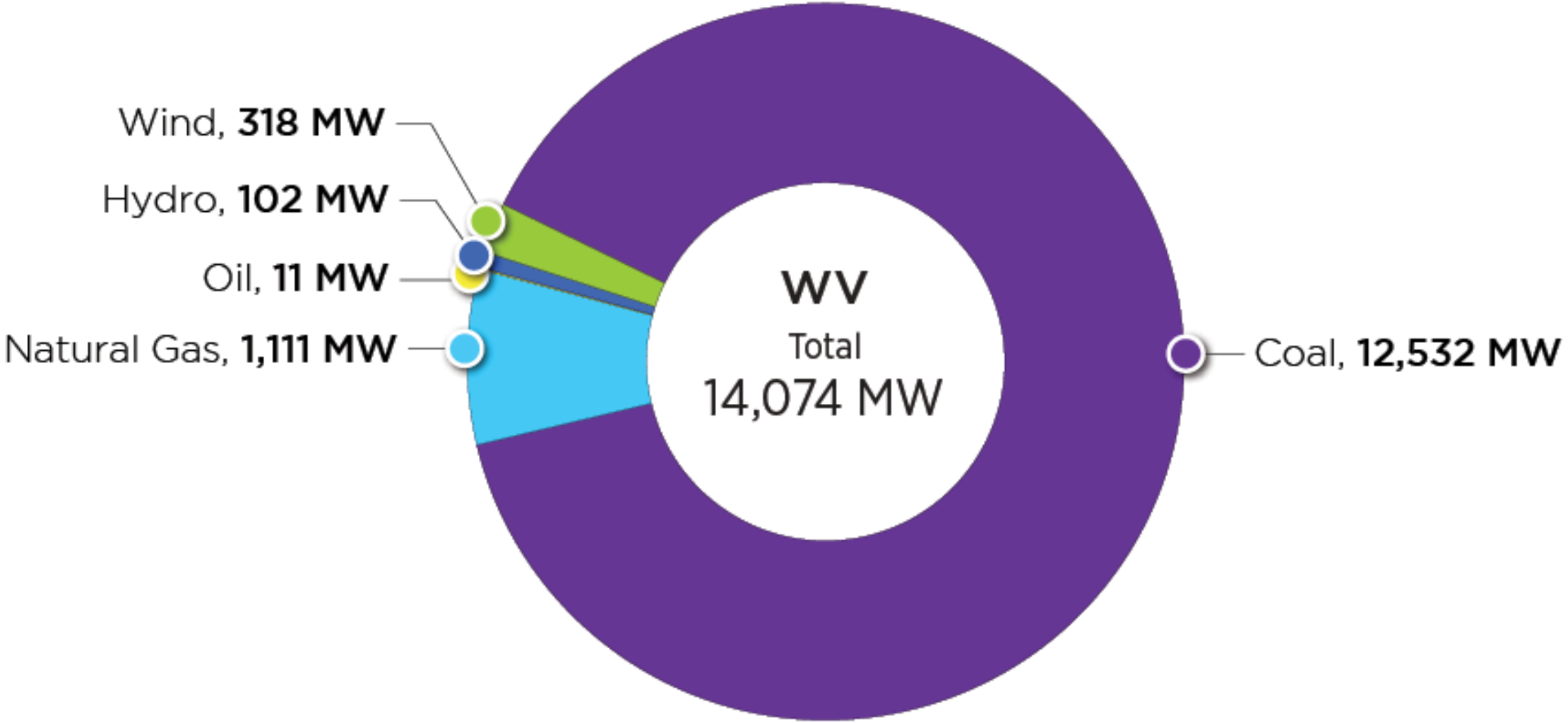
Pennsylvania Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of April 1, 2024)



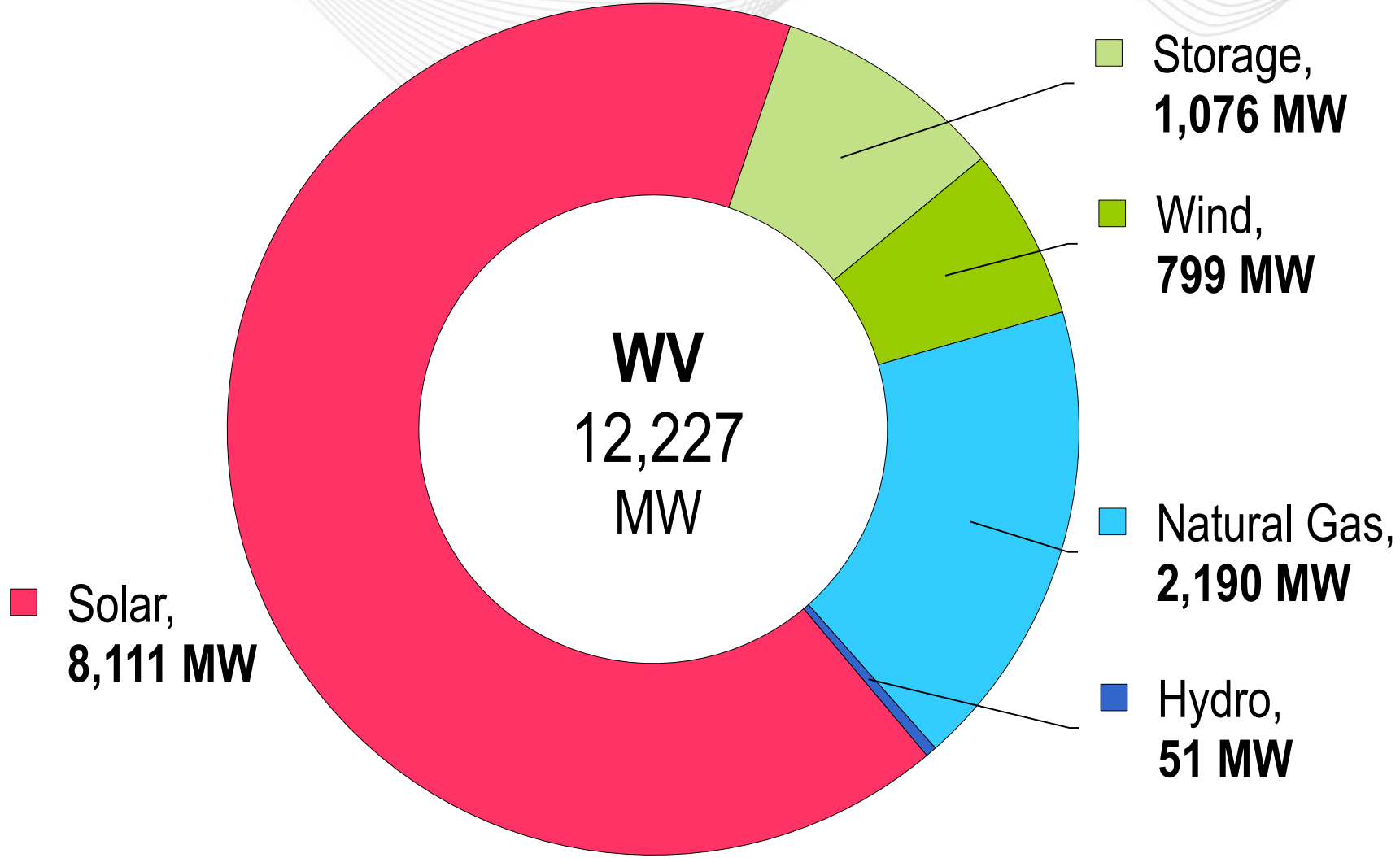
West Virginia – Existing Installed Capacity (MW) by Fuel Type

(as of Dec. 31, 2023)



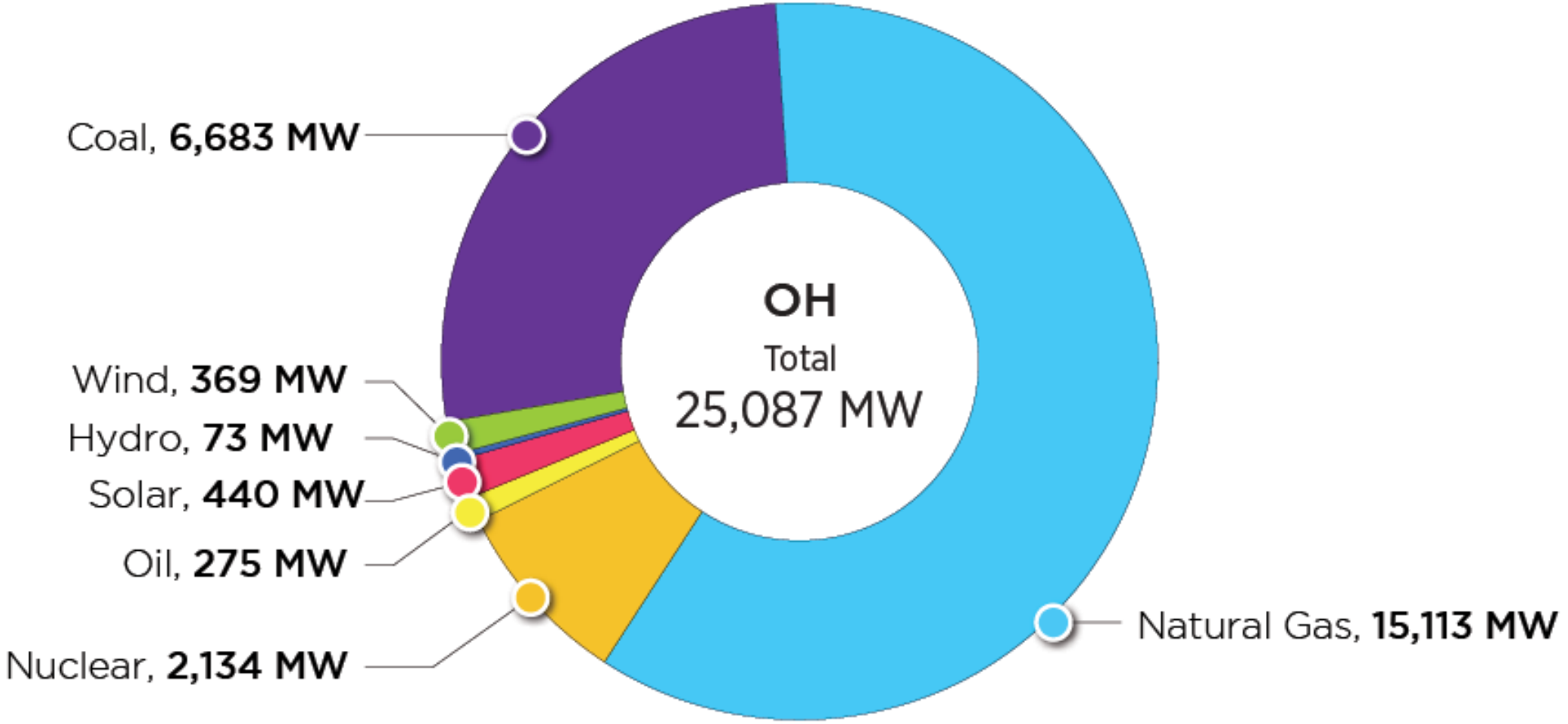
West Virginia Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of April 1, 2024)



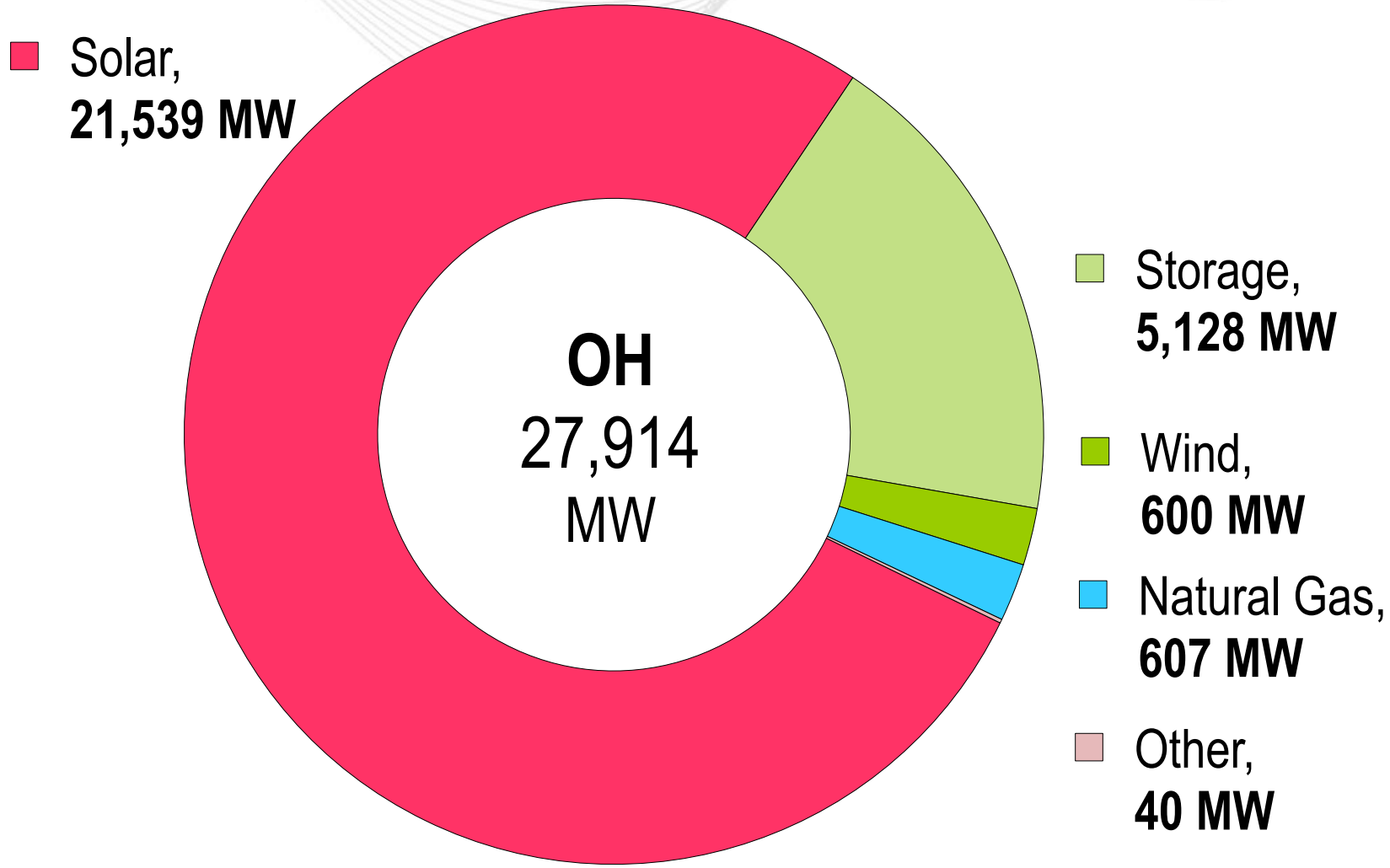
Ohio – Existing Installed Capacity (MW) by Fuel Type

(as of Dec. 31, 2023)

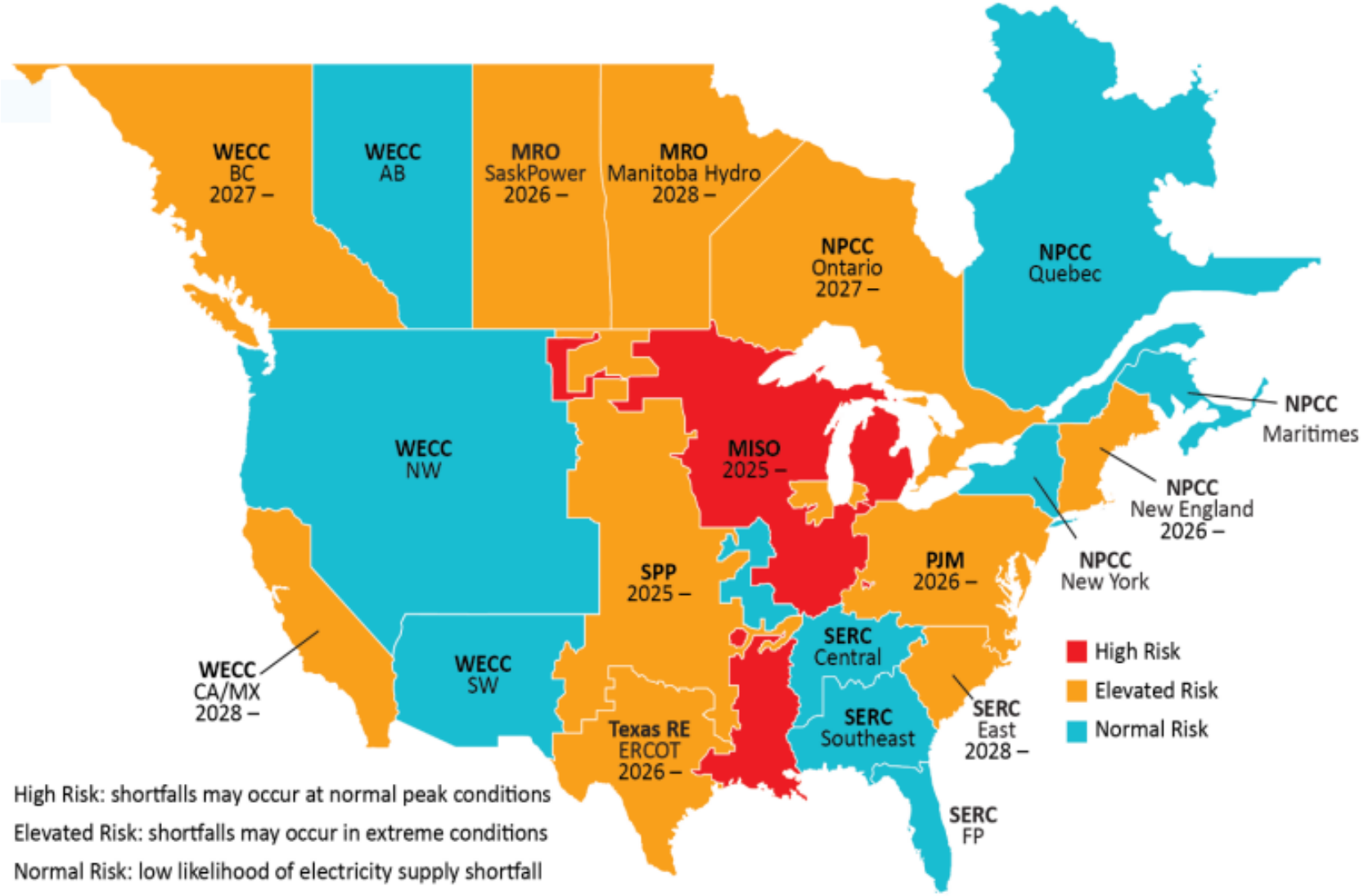


Ohio Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of August 6, 2024)

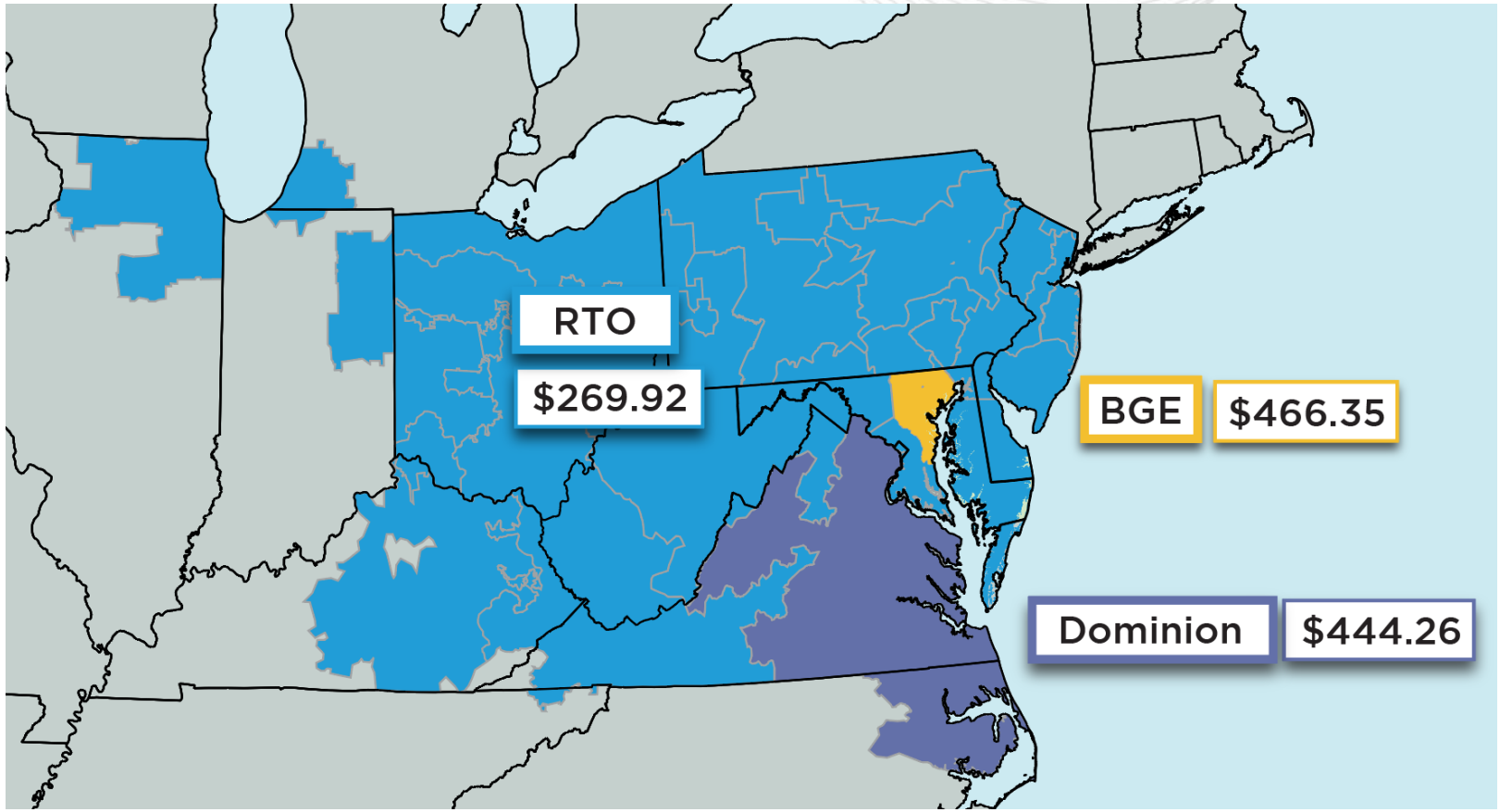


NERC: Long-Term Reliability Assessment



Graphic: NERC

Results of the 2025/2026 Capacity Auction



RTO Price Comparison

	2025/2026	2024/2025
RTO Price:	**$269.92/** MW-day	**$29/** MW-day
Reserve Margin	**18.5%**	**20.5%**
with IRM of:	*17.8%*	*14.7%*

Policy Takeaways

- **States should avoid policies intended to push generation resources off of the system until an adequate quantity of replacement generation is online and has been shown to be operating**

- **States should address state and local challenges in the deployment of new generation resources and electricity infrastructure, and enact policy to facilitate greater/quicker construction**

- **States should help to bring new resources onto the system as soon as possible**