

Maryland's Near-Term Challenge:

Preserving Resource Adequacy During a Period of Transition

Maryland House of Delegates
Economic Matters Committee

January 15, 2025



Load (MW)

195,000

185,000

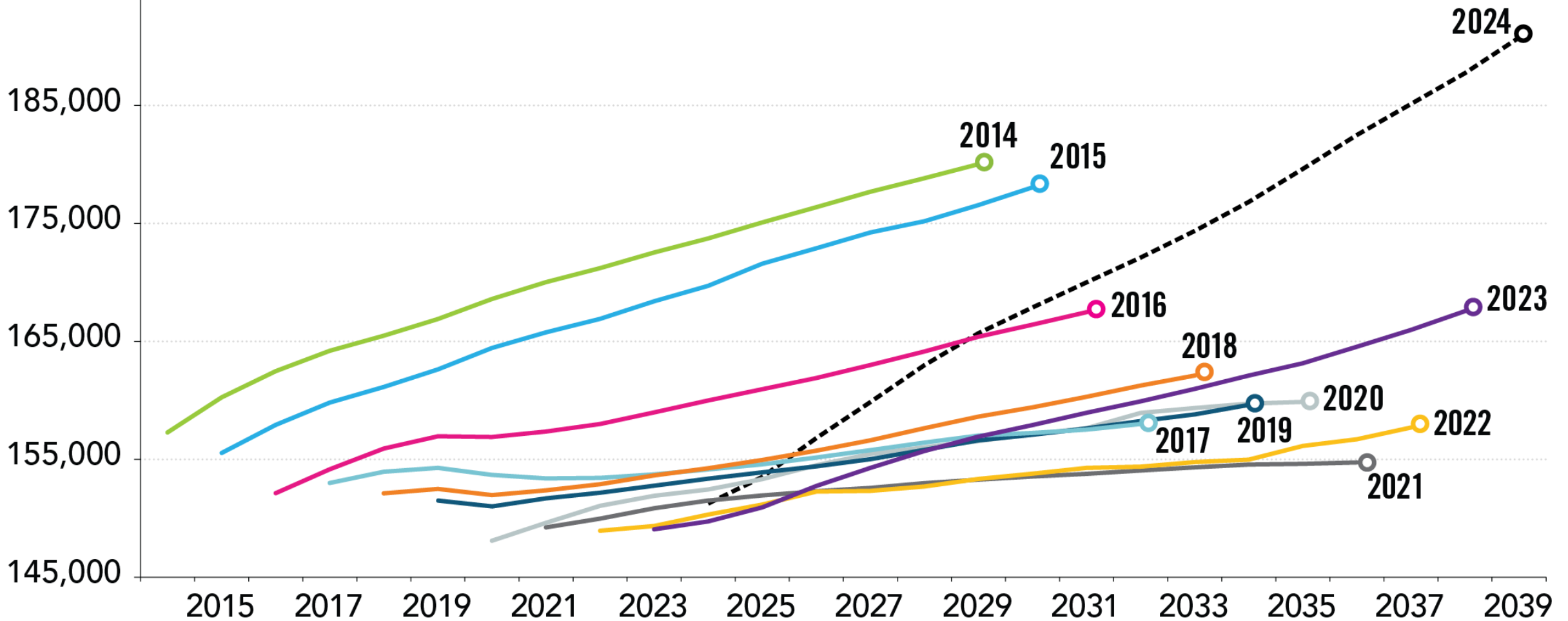
175,000

165,000

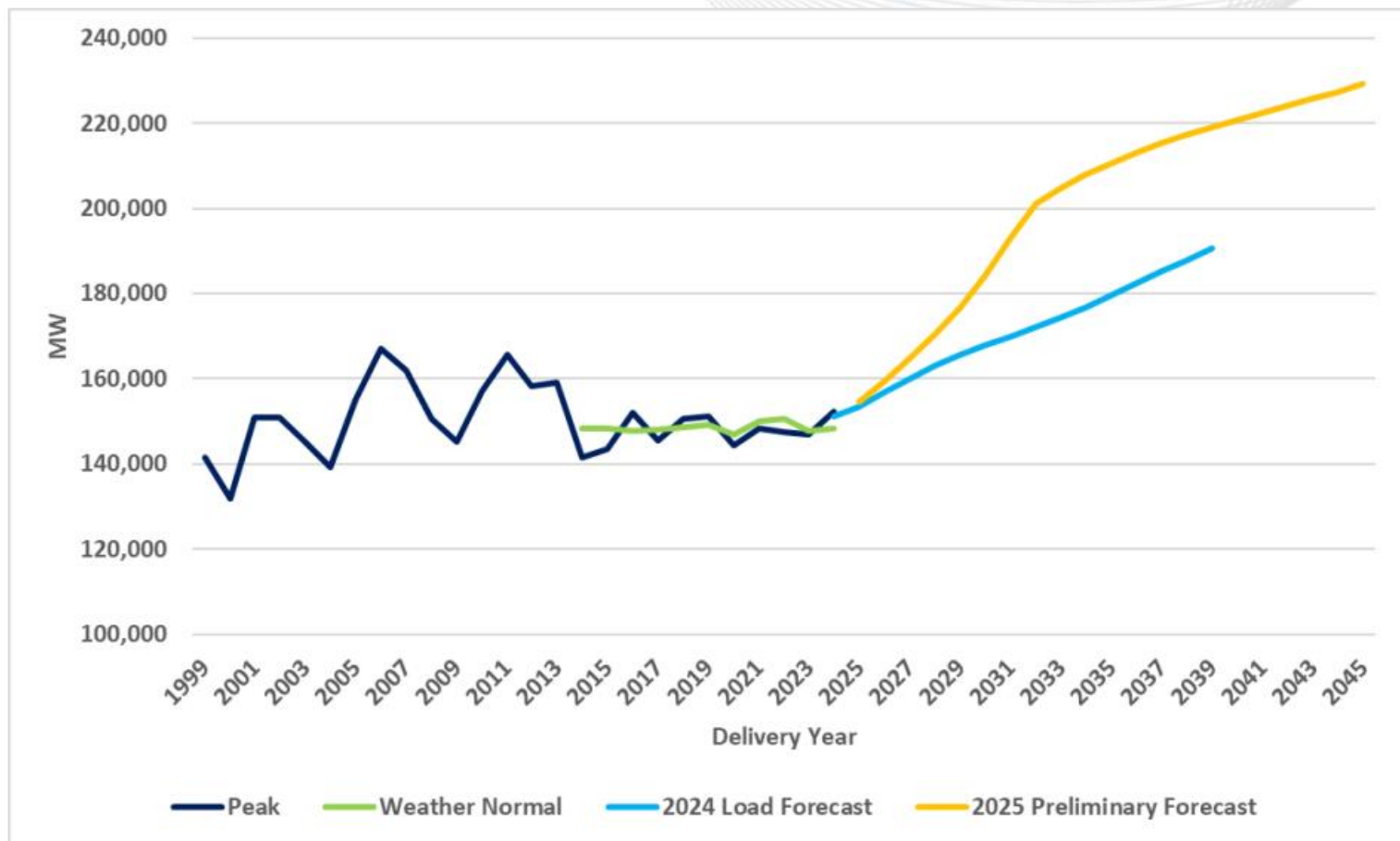
155,000

145,000

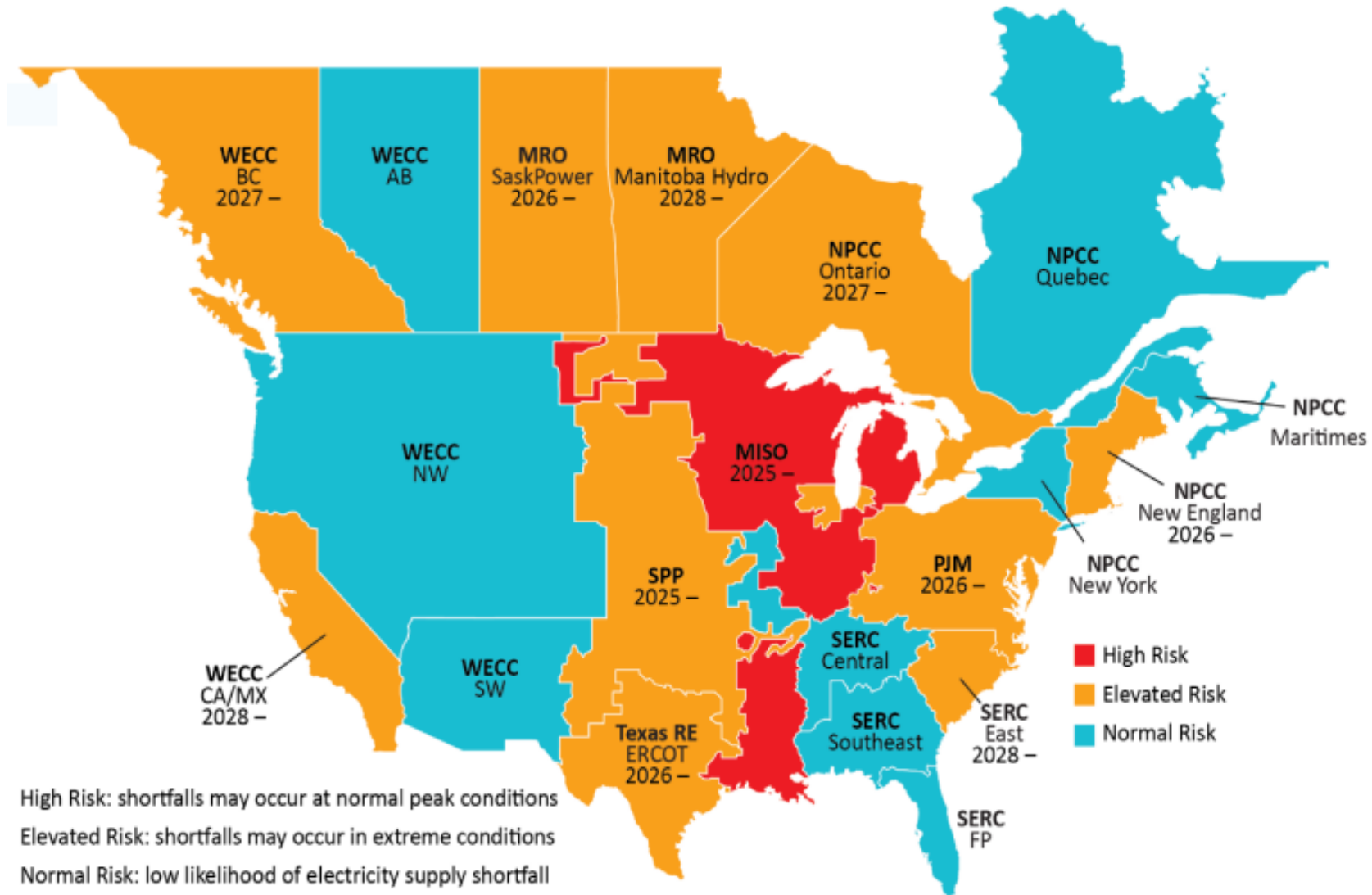
PJM RTO Summer Peak Demand Forecast



Summer Forecast Comparison 2024 vs 2025 Preliminary

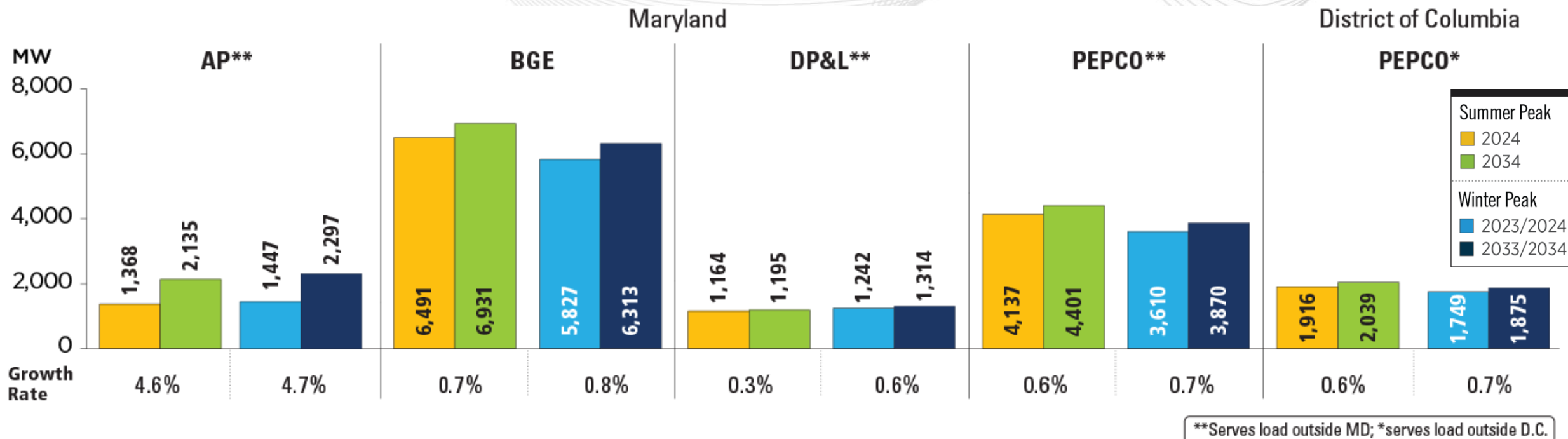


- 15/20-year/ Annualized Growth Rate
 - 2024 Forecast: 1.6%
 - Prelim 2025: 2.0%
- Select year comparisons (Prelim 2025 vs 2024 Forecast)
 - 2026: +1.8% (~2,700 MW)
 - 2028: +4.7% (~7,600 MW)
 - 2030: +9.9% (~16,600 MW)
 - 2039: +14.9% (~28,300 MW)



Graphic: NERC

Maryland Utilities – 2024 Load Forecast Report



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

2024

151,247
MW

2034

176,822
MW

Growth Rate 1.6%

PJM RTO Winter Peak

2023/2024

134,659
MW

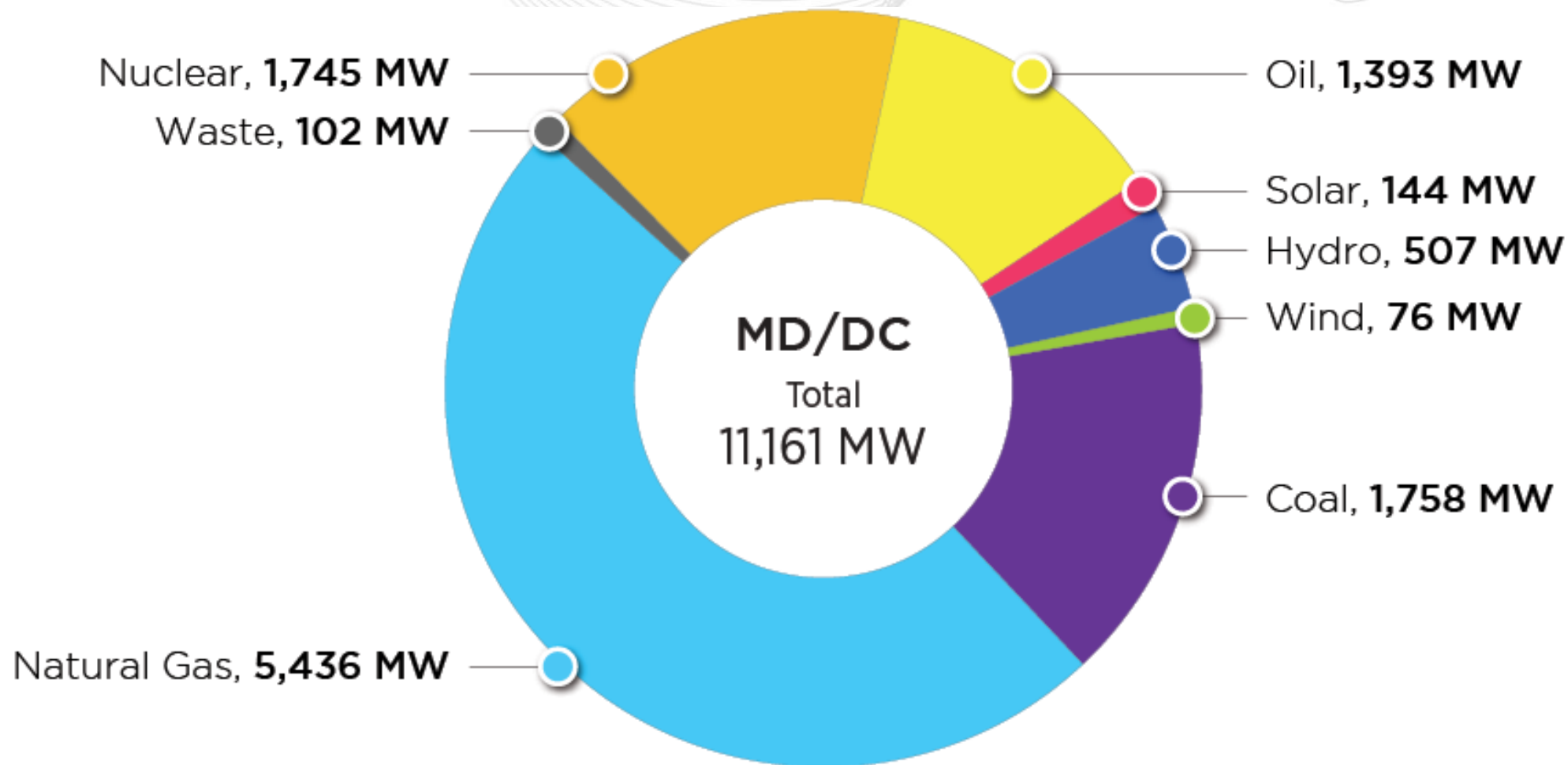
2033/2034

163,069
MW

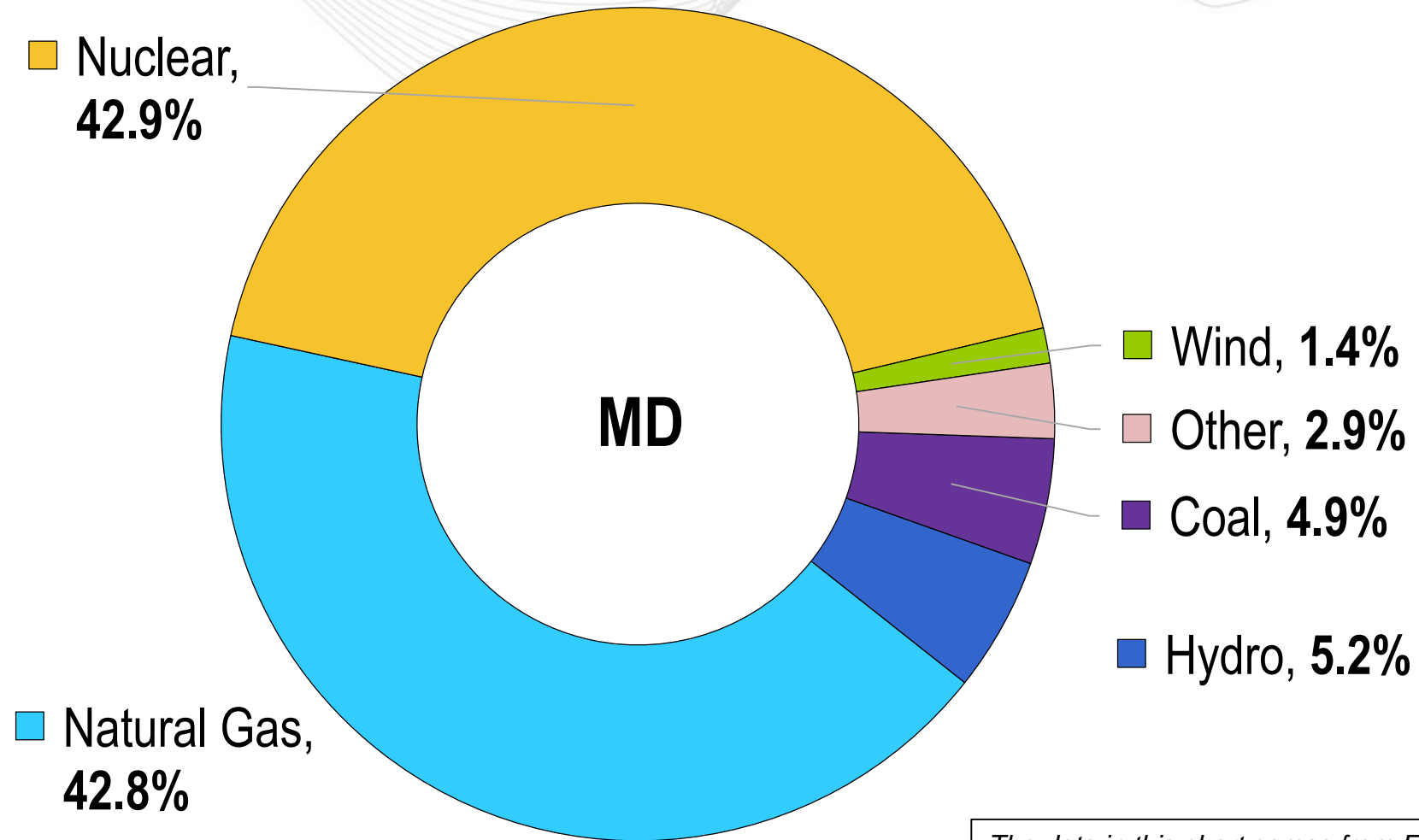
Growth Rate 1.9%

MD/DC – Existing Installed Capacity (MW) by Fuel Type

(Dec. 31, 2023)

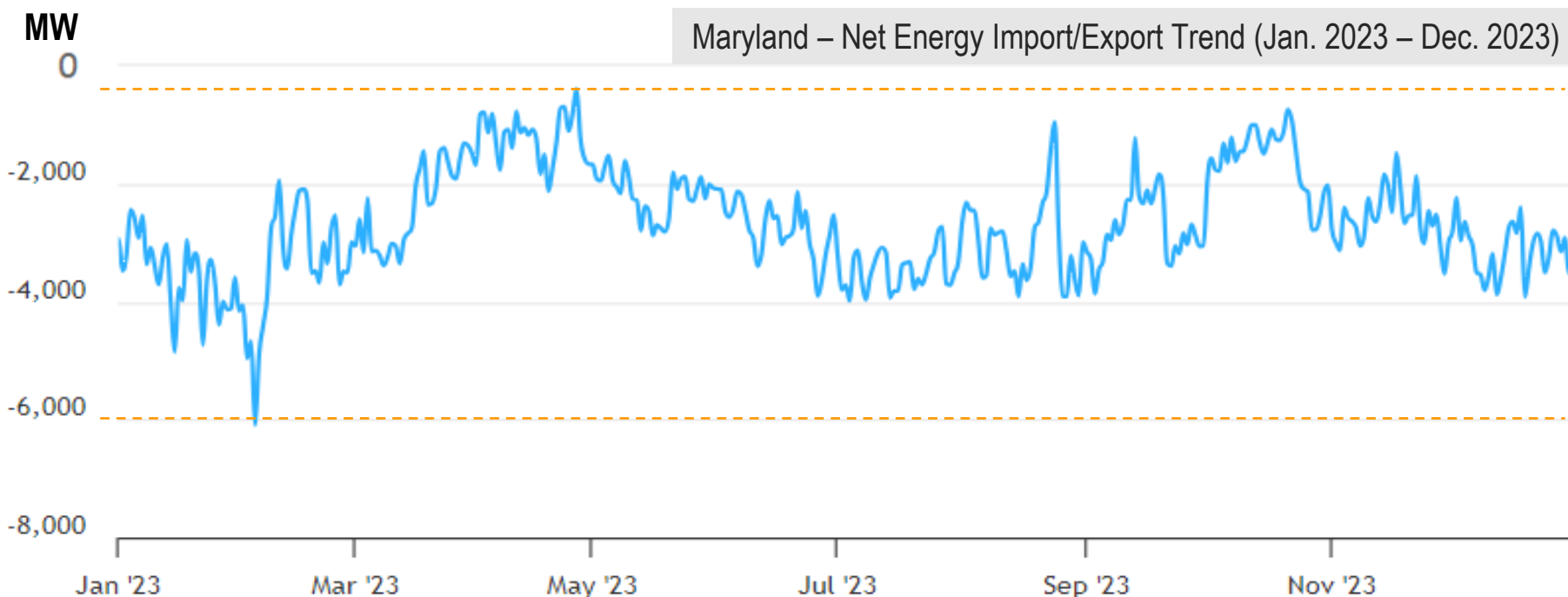


Maryland – 2023 Generator Production



The data in this chart comes from EIA Form 923 (2023).

Historically, Maryland has imported about 40% of its annual electric needs from other states. For example, in 2023 hourly imports were between 1,000 MW and 6,000 MW.



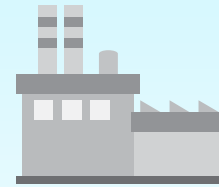
Takeaway: The lack of economic, in-state supply of locally available power makes Maryland more vulnerable to higher capacity prices.

Positive values represent exports and negative values represent imports.

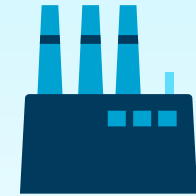
Generators Retiring Without Replacement Resources



Generation Retirements & Additions Since 2018



-6,000 MW



+1,600 MW

Takeaway: Maryland, already an importer of power, has seen the retirement of 6,000 MW of resources since 2018 and the addition of only 1,600 MW of resources during that time frame.

Maryland – Generator Deactivation Requests

Unit	TO Zone	Fuel Type	Request Received to Deactivate	Actual or Projected Deactivation Date	Age (Years)	Capacity (MW)
Dickerson CT1	PEPCO	Oil	7/25/2022	10/23/2022	55	18.0
Morgantown CT2			4/12/2022	10/1/2022	51	16.0
Morgantown CT1					52	16.0
Morgantown Unit 2		Coal	6/9/2021	5/31/2022	50	619.4
Morgantown Unit 1					51	613.3
Unit	TO Zone	Fuel Type	Request Received to Deactivate	Actual or Projected Deactivation Date	Age (Years)	Capacity (MW)
Morgantown CT 6	PEPCO	Oil	12/22/23	6/1/2024	50	54
Morgantown CT 5						
Morgantown CT 4						
Morgantown CT 3						
Wagner CT 1	BGE	Diesel	10/16/23	6/1/2025	56	13
Wagner 4		Oil			51	397
Wagner 3		Coal			64	305
Wagner 1		Natural Gas			67	126
Warrior Run GEN1	AP	Coal	9/29/23	6/1/2024	21	180
Easton Diesel	DP&L	Diesel	6/9/23	10/1/2023	9	2
Brandon Shores 2	BGE	Coal	4/6/23	6/1/2025	32	643
Brandon Shores 1					39	639
Vienna 10	DP&L	Oil	3/24/23	6/1/2025	55	14
Vienna 8					51	153



Illustrative PJM 2030 Reliability Scenario Balance Sheet

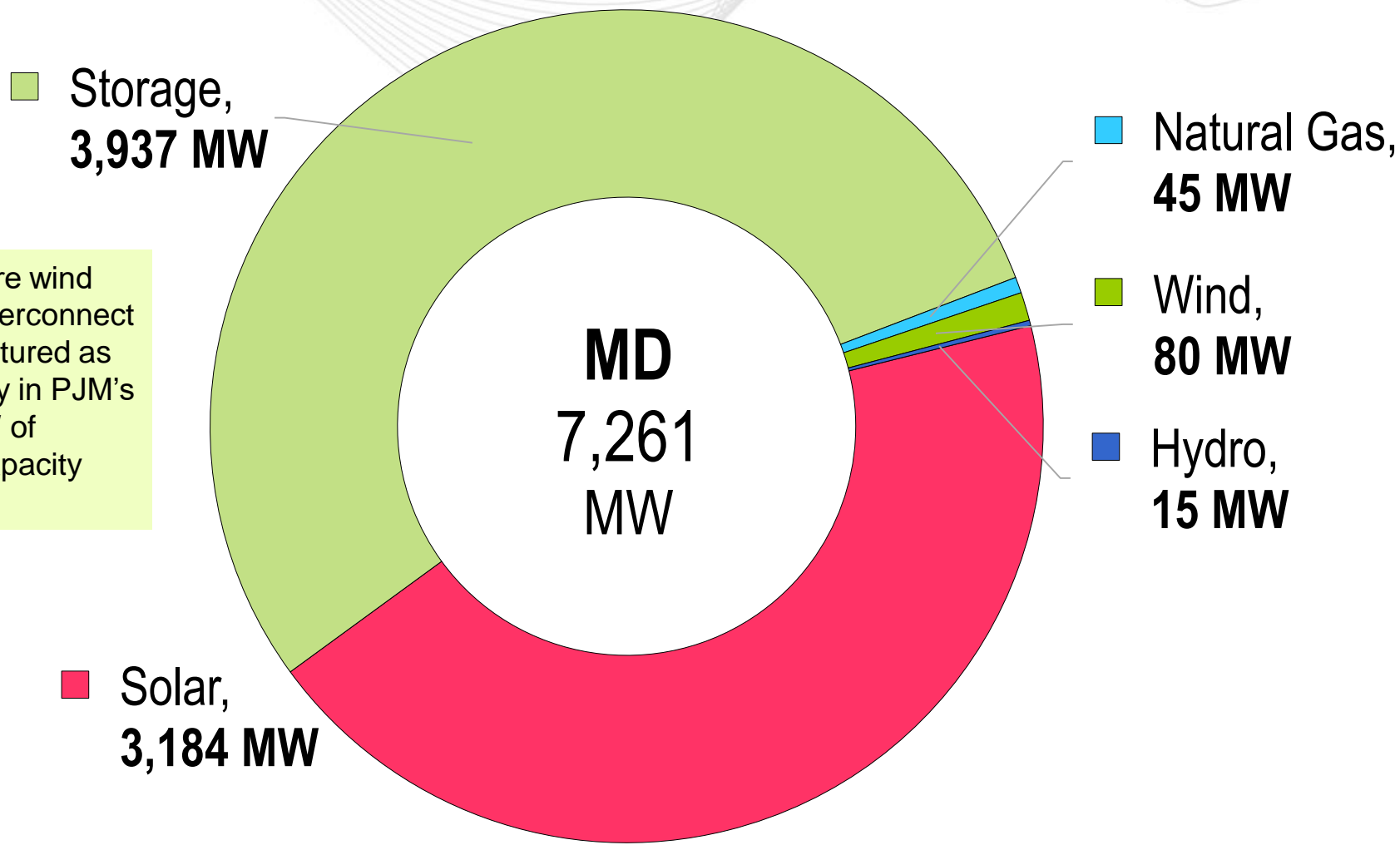
Scenario

Study Year: 2030/31 Forecasted Summer Peak: 167,876 Preliminary Forecast Pool Requirement: 0.9296		No New Entry (GW)	40% New Entry (GW)	62% New Entry (GW)	100% New Entry (GW)
Supply	2025/26 ELCC Adjusted Offered Capacity*	145	145	145	145
	ELCC Adjusted Forecasted Deactivations (2025-2030)	-17	-17	-17	-17
	ELCC Adjusted New Resource Entry Rate	0%	40%	62%	100%
	ELCC Adjusted New Resource Entry	-	18	28	45
Total ELCC Adjusted Available Capacity		128	146	156	173
Demand	Preliminary Reliability Requirement (Forecast Summer Peak * Forecast Pool Requirement)	156	156	156	156
Balance Sheet		-28	-10	0	+17

*Includes estimated FRR resources committed for the 25/26 Delivery Year.

Maryland Queued Capacity (Nameplate) by Fuel Type

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



Because Maryland's offshore wind projects are proposed to interconnect into Delaware, they are captured as Delaware's queued capacity in PJM's RTEP. There are 6,674 MW of nameplate offshore wind capacity queued in Delaware.

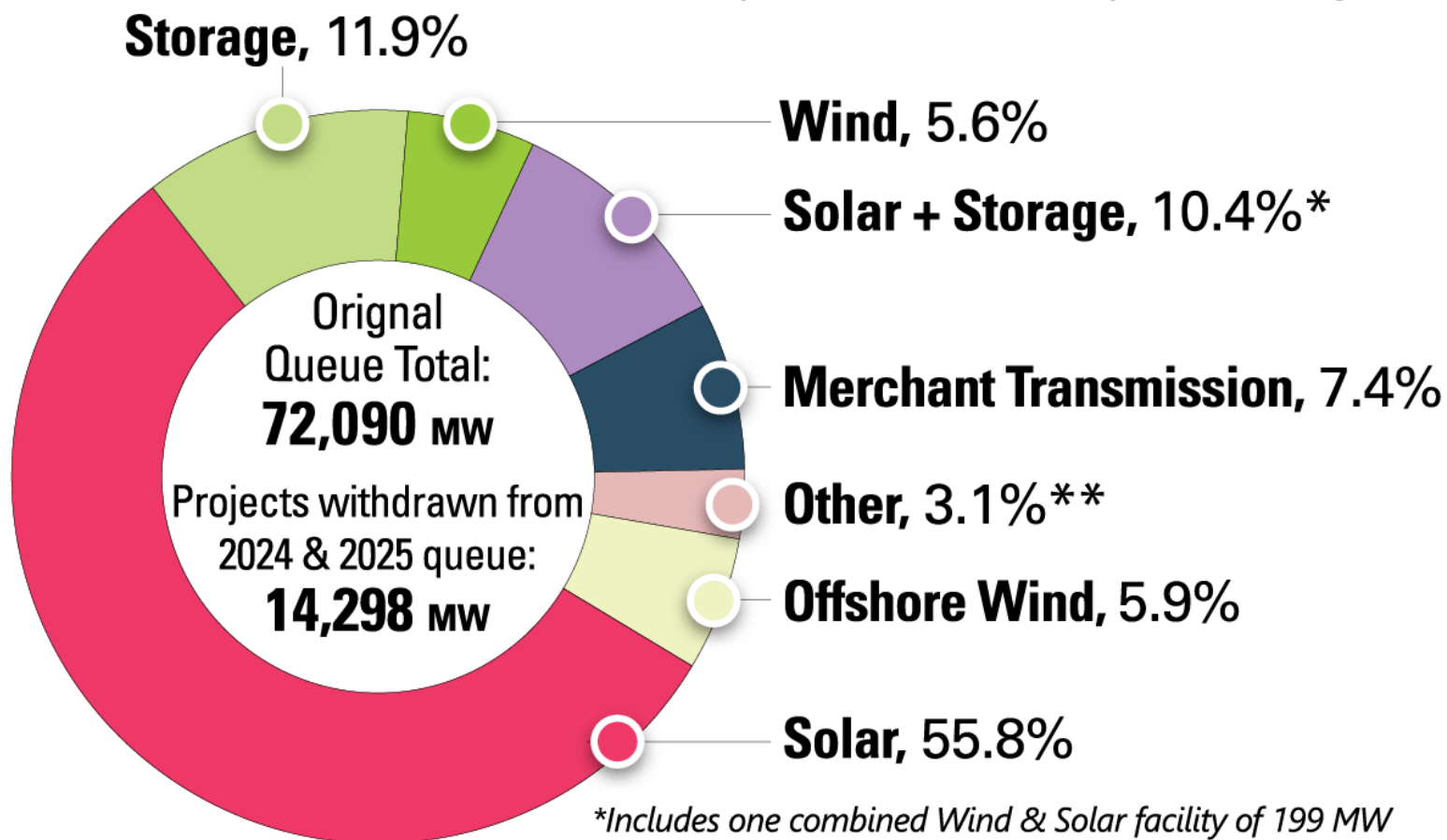
Projects To Clear PJM Interconnection Process in 2024 and 2025

Projects To Clear PJM Interconnection Process in 2024 and 2025

(Updated for Transition Cycle 1 as of Aug. 1, 2024)

By State	Number of Projects	Total Nameplate Capacity (in MW)
DE	1	120.00
IL	62	10,861.95
IN	63	11,568.64
KY	33	3,568.50
MD	6	1,245.00
MI	8	887.20
NC	21	1,542.90
NJ	20	1,204.80
OH	62	7,829.49
PA	91	3,696.10
VA	107	11,967.50
WV	14	1,154.00
Total	488	55,646.00

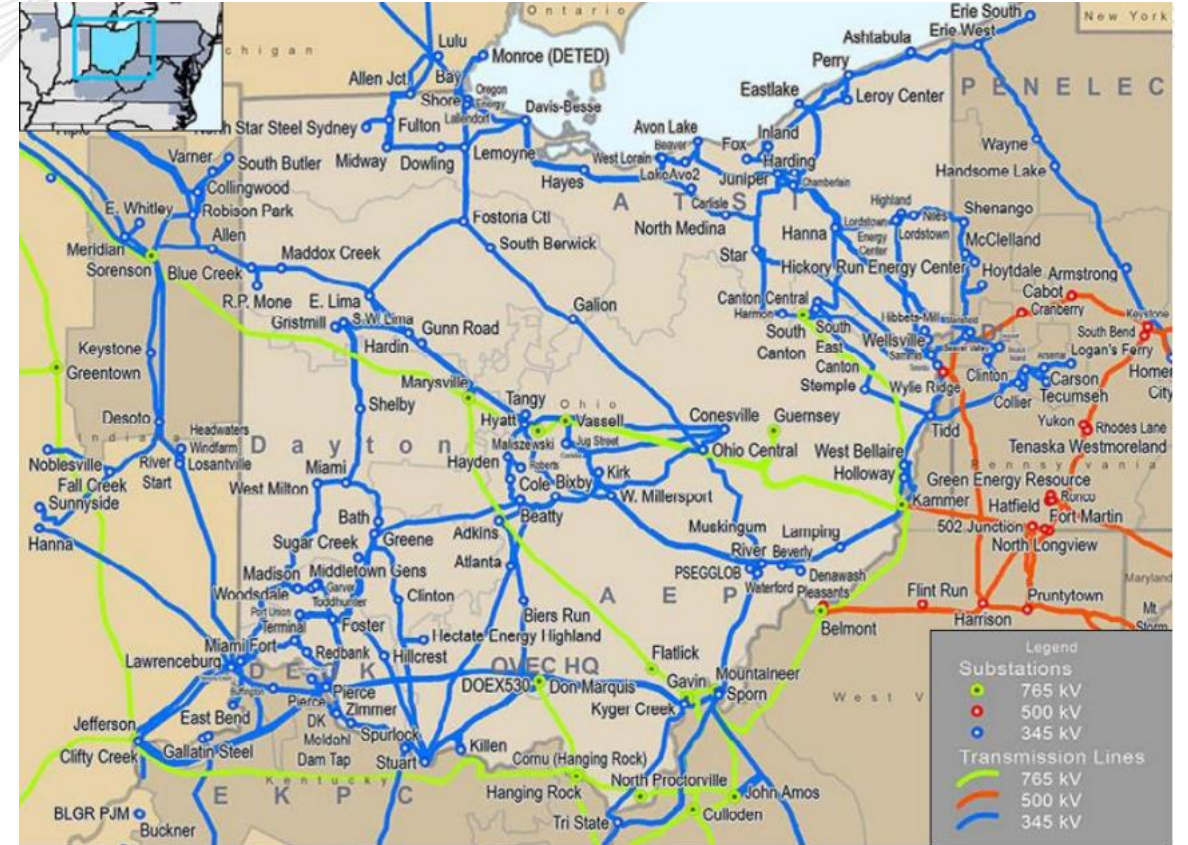
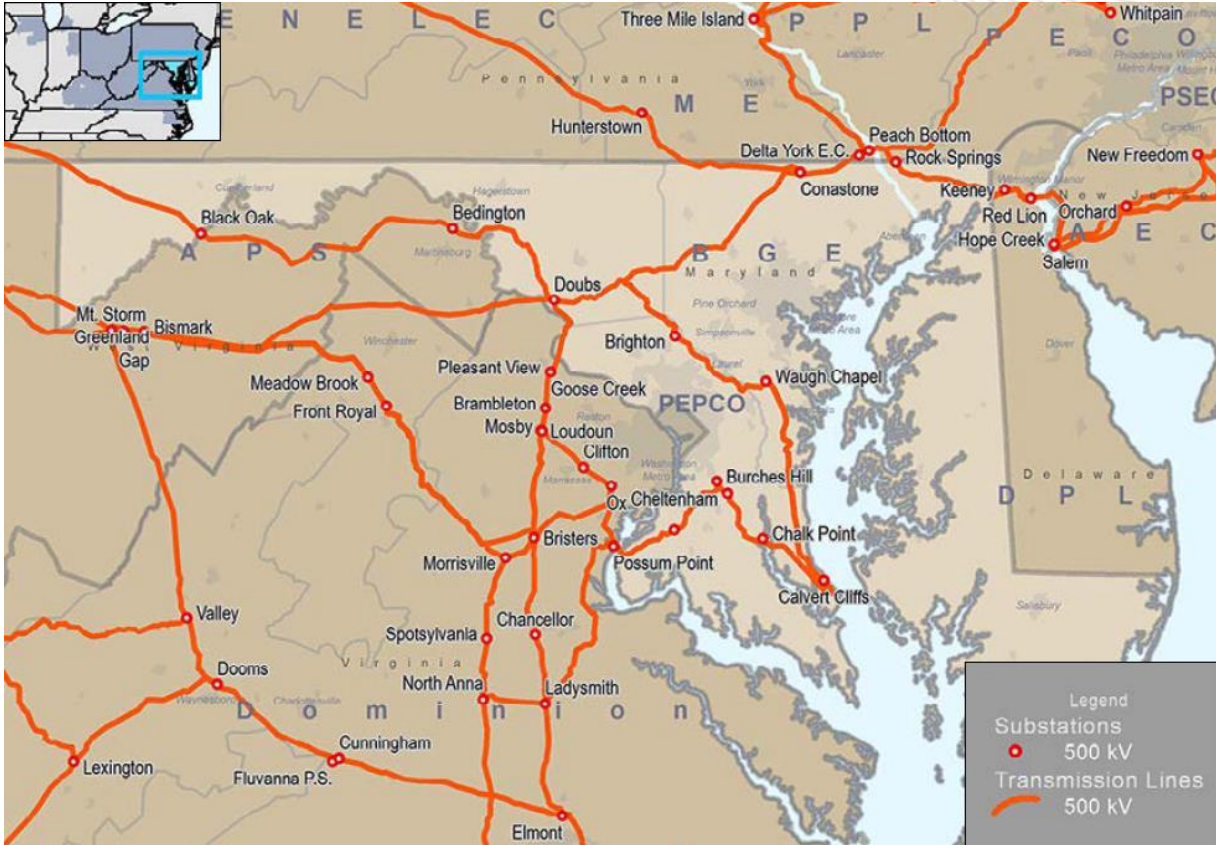
Please note some projects have reduced project megawatts.



*Includes one combined Wind & Solar facility of 199 MW

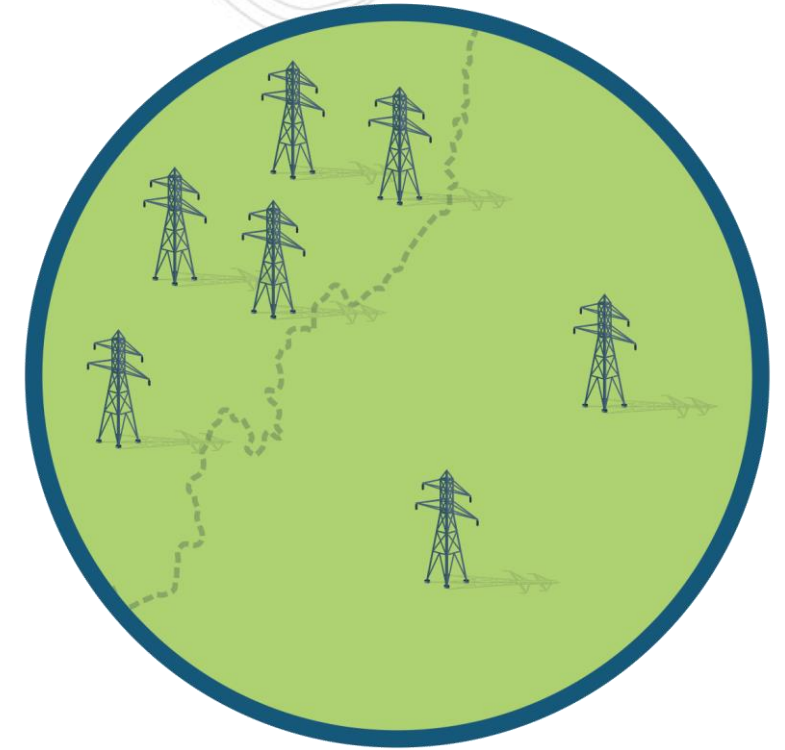
**Other: Natural Gas (1,646.7 MW, 3.0%) and Hydro (51 MW, 0.1%)

Existing High-Voltage Transmission in Maryland v. Ohio



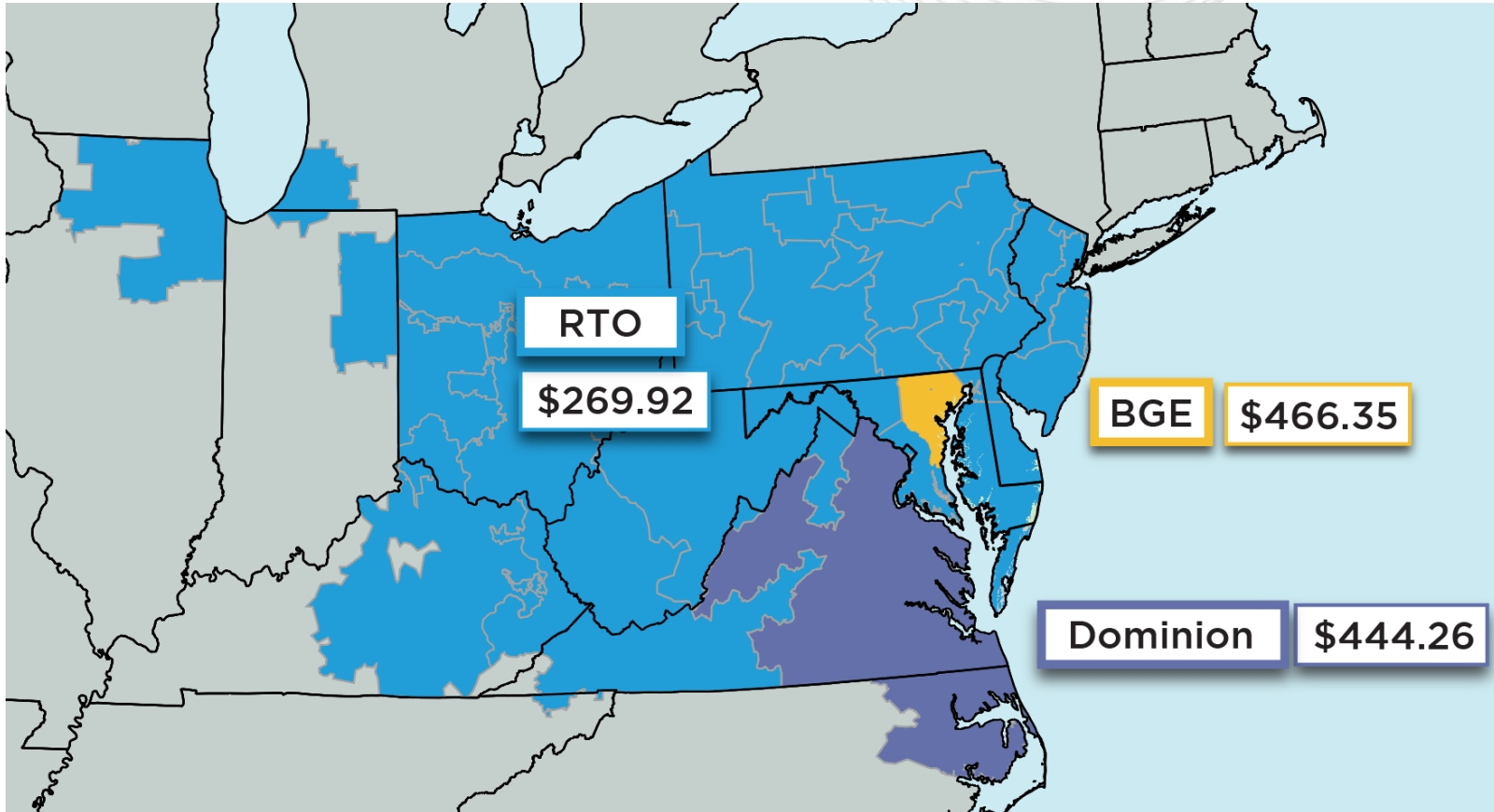
High-Voltage Electric Transmission Infrastructure Enhancements Are Presently Limited

The western part of the state enjoys access to a robust electric transmission system, but the central and eastern parts of the state have limited access. This increases the reliance on extensive power transfer imports to the zones where capacity shortfalls may exist.



Takeaway: This results in local congestion pricing increases in Maryland's central/eastern zonal energy market.

BGE Zone Hits Cap in 2025/2026 Capacity Auction



RTO Price Comparison

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

CIR Transfer

Target: New generation resources swapping-in for a deactivating generator don't need to go through queue

Potential Outcome: Permanent modifications to the process

Reliability Resource Initiative

Target: Queue opened for new shovel-ready resources that can come online quickly and contribute to reliability

Potential Outcome: One-time expansion of the eligibility criteria for Transition Cycle #2 beyond active requests received prior to September 2021

Surplus Interconnection Service

Target: Making it easier to add more generation to an existing site for generators that are not able to operate continually 24/7/365 (e.g. adding storage to renewable site)

Potential Outcome: Permanent modification to Surplus Interconnection Service criteria

- **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**