

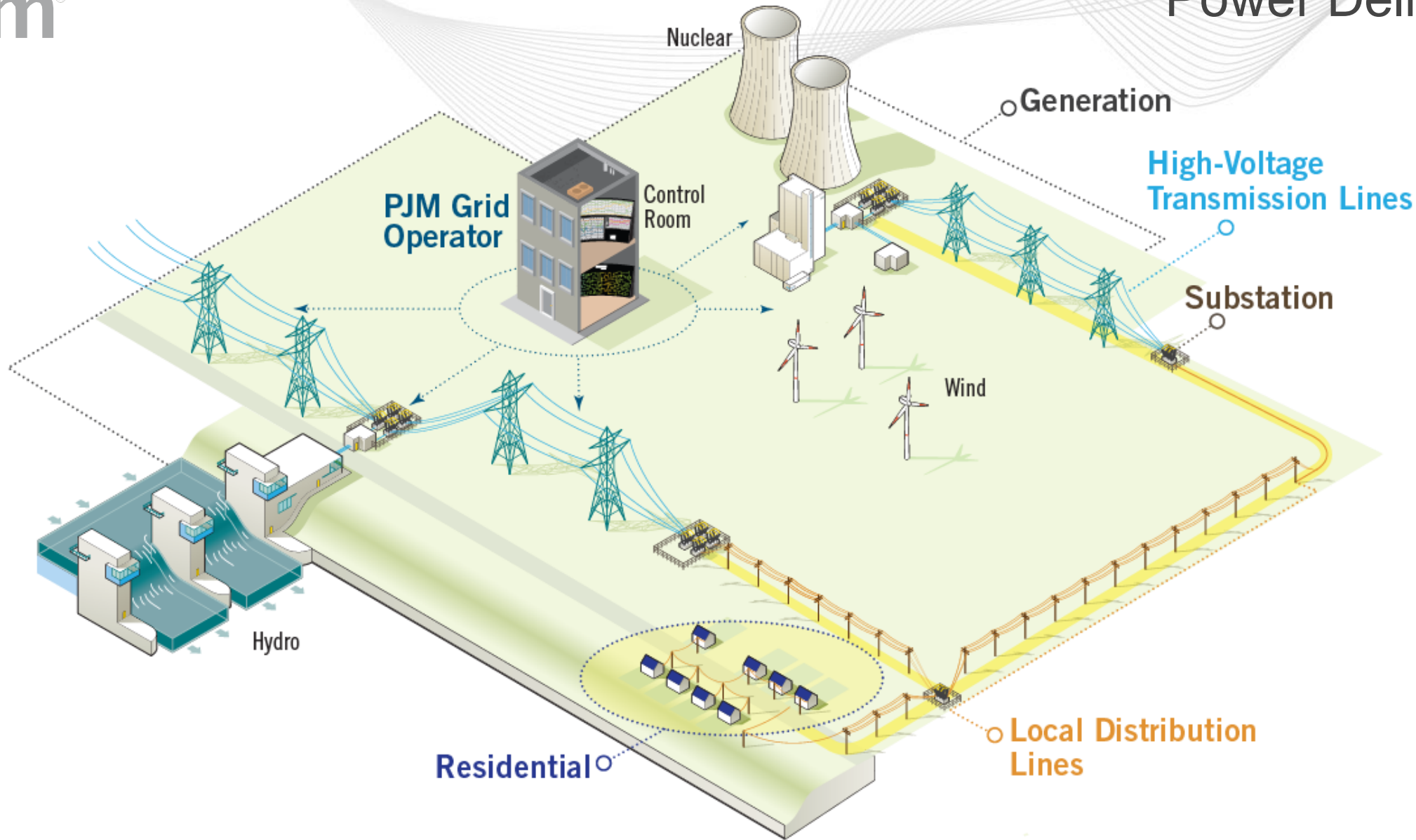


# PJM Introduction

Tim Burdis

Director, State Policy Solutions

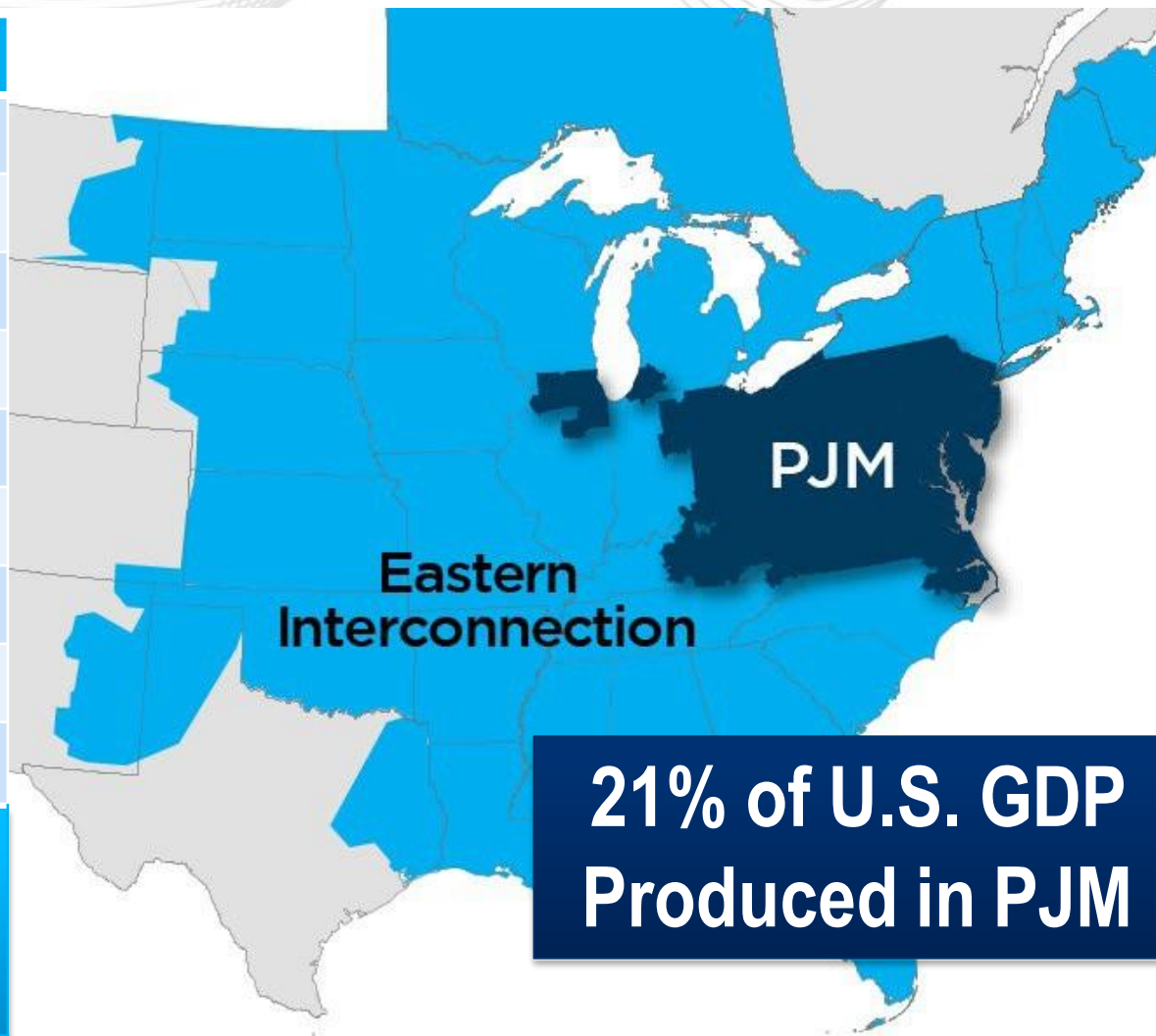
**Feb. 20, 2025**



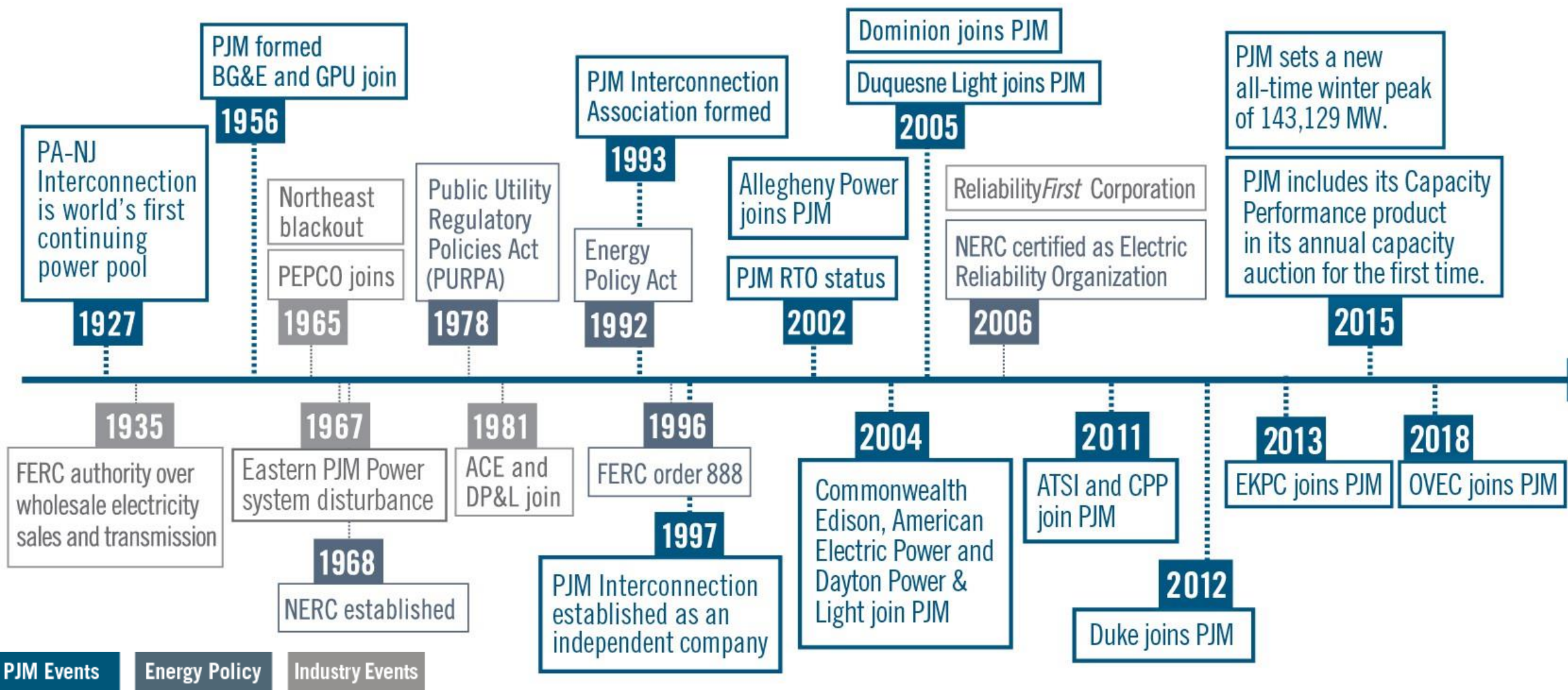
## Key Statistics

Member companies	1,090
Millions of people served	65+
Peak load in megawatts	165,563
Megawatts of generating capacity	180,785
Miles of transmission lines	88,185
Terawatt hours of annual energy	770
Generation sources	1,439
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



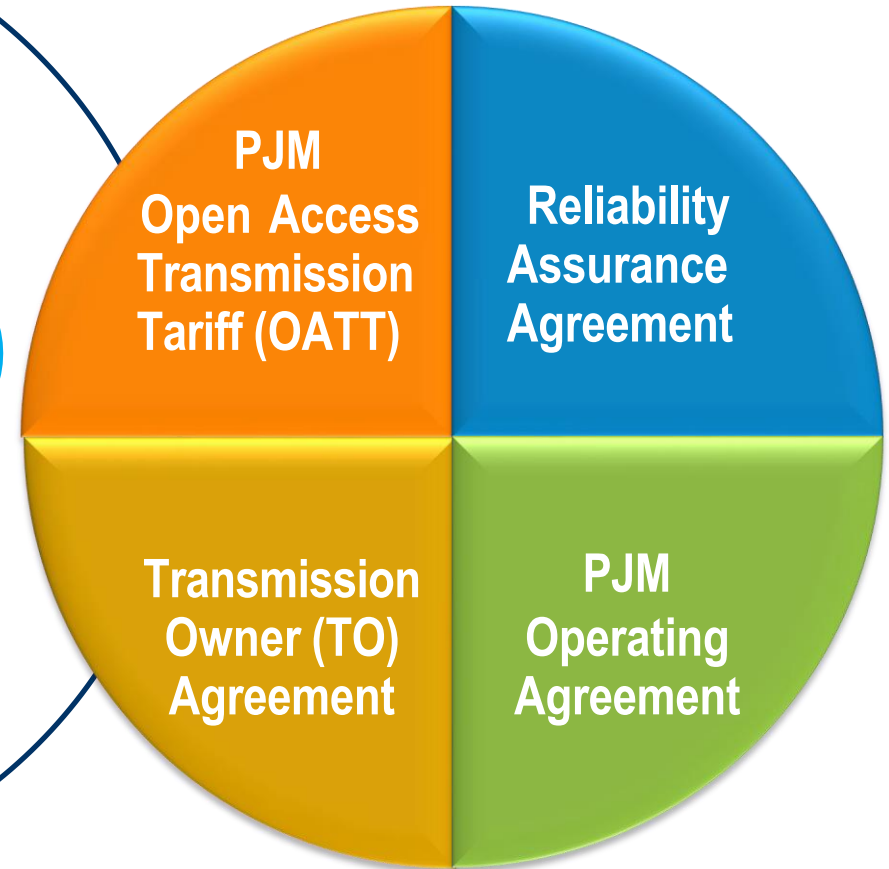
# How Is PJM Different from Other Utility Companies?

## PJM Does:

- Direct operation of the transmission system
- Remain profit-neutral
- Maintain independence from PJM members
- Coordinate maintenance of grid facilities

## PJM Does *NOT*:

- Own any transmission or generation assets
- Function as a publicly traded company with shareholders and concerns around “earnings”
- Perform maintenance on generators or transmission systems (e.g., repair power lines)
- Serve or direct any end-use customers (retail)



# RELIABILITY

A large green gear-shaped icon with a white rounded rectangle in the center containing the text for the Markets section.

## Markets

- Energy
- Capacity
- Ancillary services

A large orange gear-shaped icon with a white rounded rectangle in the center containing the text for the Operations section.

## Operations

- Grid operations
- Supply/demand balance
- Transmission monitoring

A large dark blue gear-shaped icon with a white rounded rectangle in the center containing the text for the Regional Planning section.

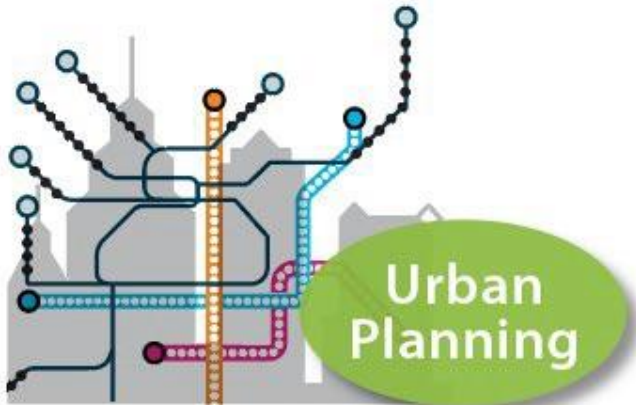
## Regional Planning

- 15-year outlook

## PLANNING



Planning for the future like...



## OPERATIONS



Matches supply with demand like...



## MARKETS



Energy Market Pricing like...



Home > Markets > PJM, Members Preserve Reliability Through Arctic Outbreak

Markets News Operations

## PJM, Members Preserve Reliability Through Arctic Outbreak

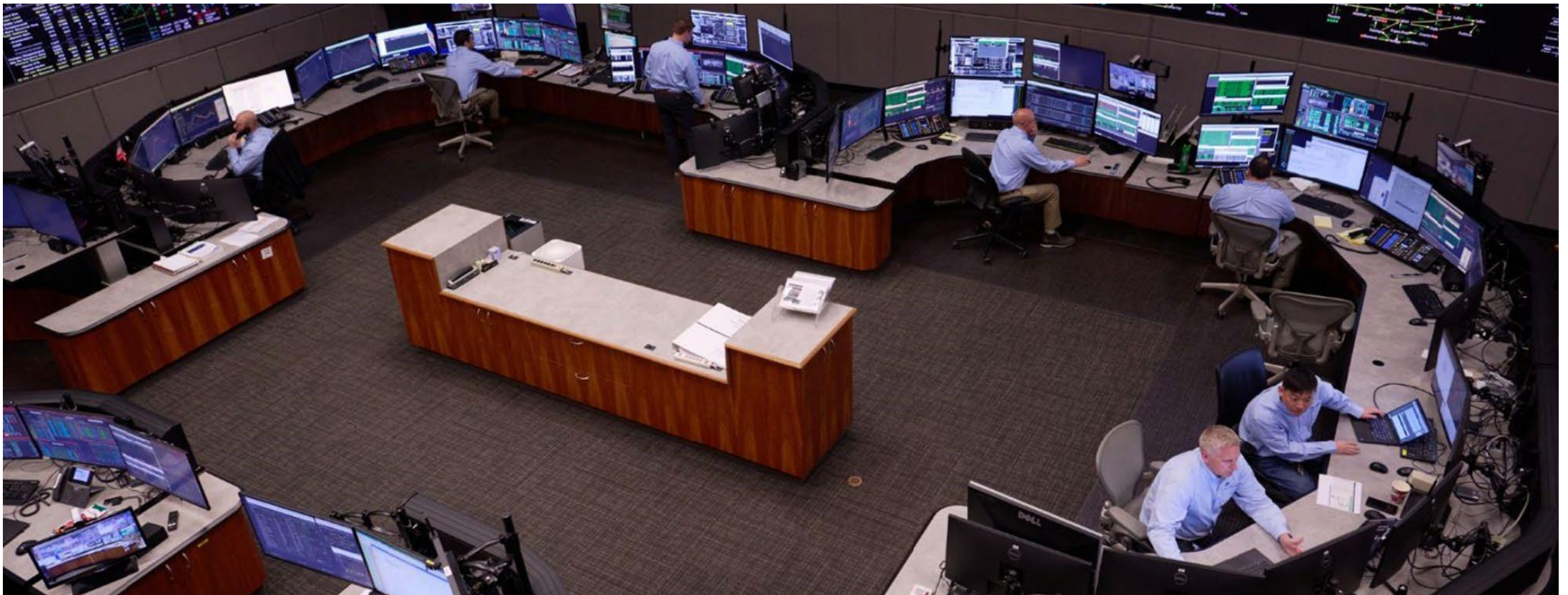
*Load Forecasting, Communications, Generator/Transmission Performance Were Strengths*

February 7, 2025

👁 4



PJM on Thursday reviewed the extensive actions taken by the grid operator and its members to successfully maintain reliability through the record-breaking, extended cold temperatures that swept through the region through the Martin Luther King Jr. holiday period.

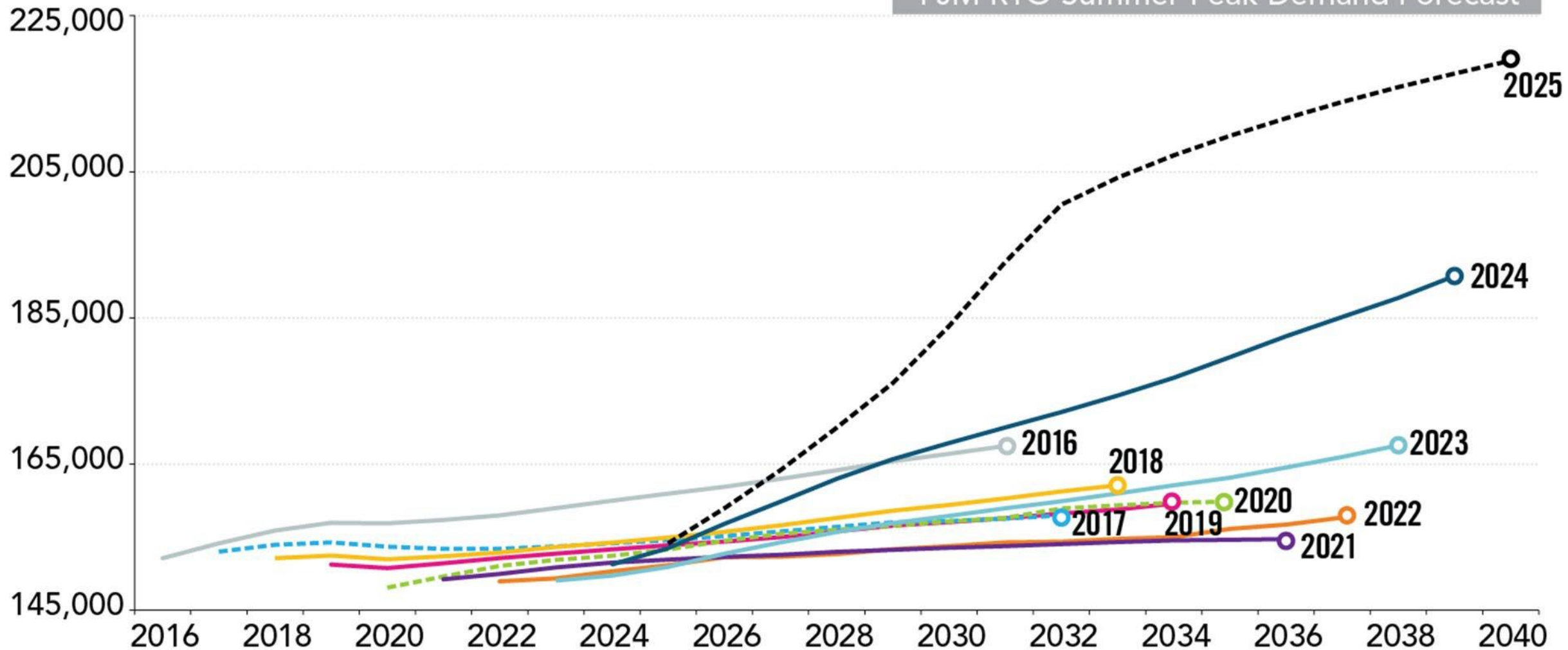




# Electricity Demand Growth

Load (MW)

PJM RTO Summer Peak Demand Forecast



DIVE BRIEF

**PJM expects summer peak load to grow 2% a year on average, driven by data centers**

**Chevron to build gas plants to power data centers amid AI boom**

By Reuters

**Blackstone to Acquire 774-MW Virginia Gas Plant in 'Data Center Alley' in Reported \$1B Deal**

**US electricity demand to surge to 128GW by 2029 due to data center growth - report**

The report identifies the PJM and ERCOT as areas that will experience the largest growth in demand

POWER

**Dominion Plans for Long-Term Virginia Data Center Power Demand, Connects with PJM on Transmission Lines**

Dominion Energy Virginia this month has released a comprehensive, long-term regional plan to meet growing power demand, and jointly proposed several new large transmission projects with First Energy and American Electric Power (AEP) to strengthen electric reliability across the 13-state PJM region over the next decade.

“Over the 2024-2025 forecast period of this report, global electricity consumption is expected to increase at the fastest pace in years, fueled by robust economic growth, intense heatwaves and continued electrification worldwide.”

**The rise of artificial intelligence (AI) has put the electricity consumption of data centers in focus, making better stocktaking more important than ever.**

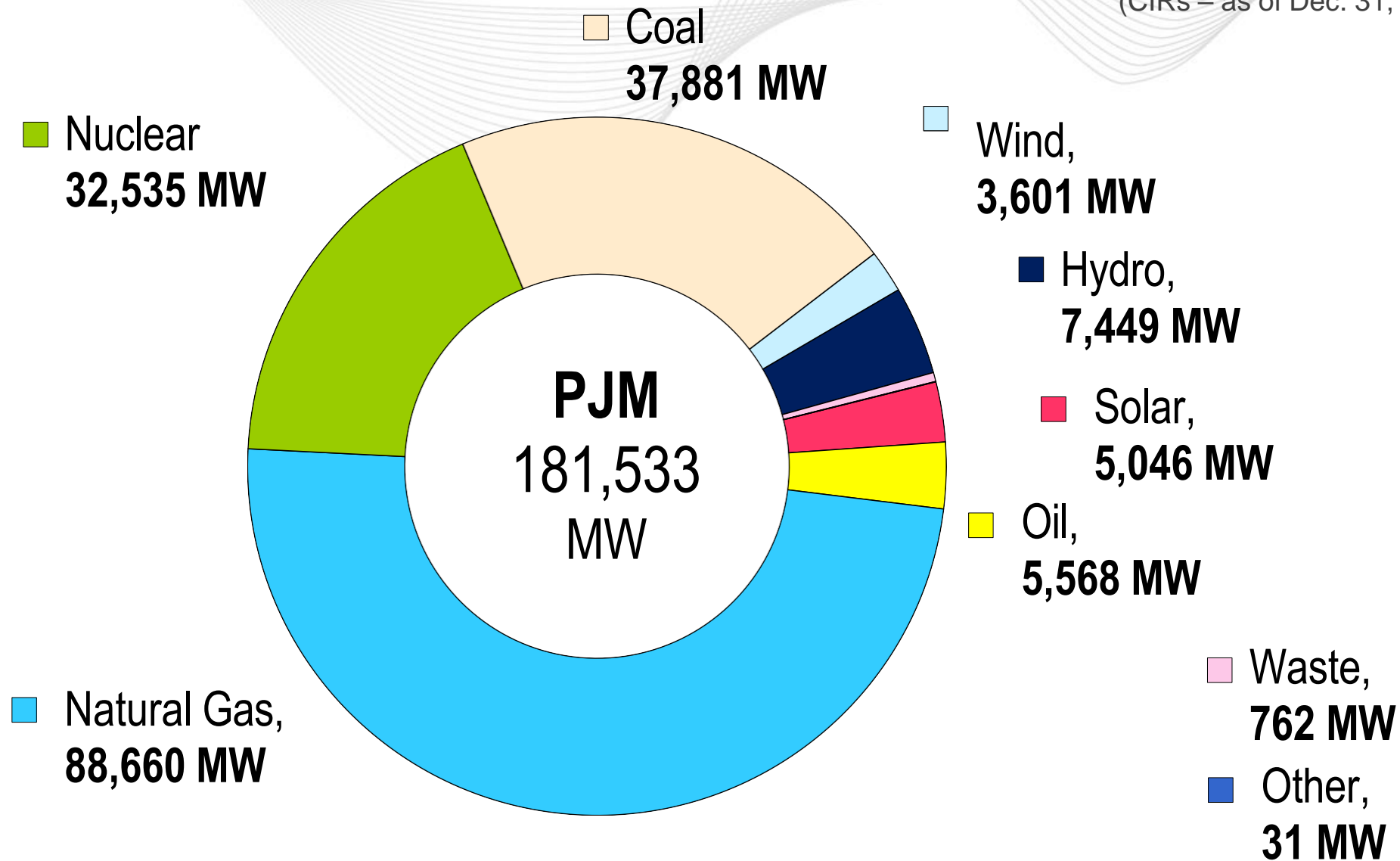
The 4% growth expected for 2024 is the highest since 2007, with the exceptions of the sharp rebounds in 2010 after the global financial crisis and in 2021 following the Covid-induced demand collapse.

We expect this demand trend to continue in 2025, with growth also at 4%. In both 2024 and 2025, the rise in the world's electricity use is projected to be significantly higher than global GDP growth of 3.2%. In 2022 and 2023, electricity demand grew more slowly than GDP.

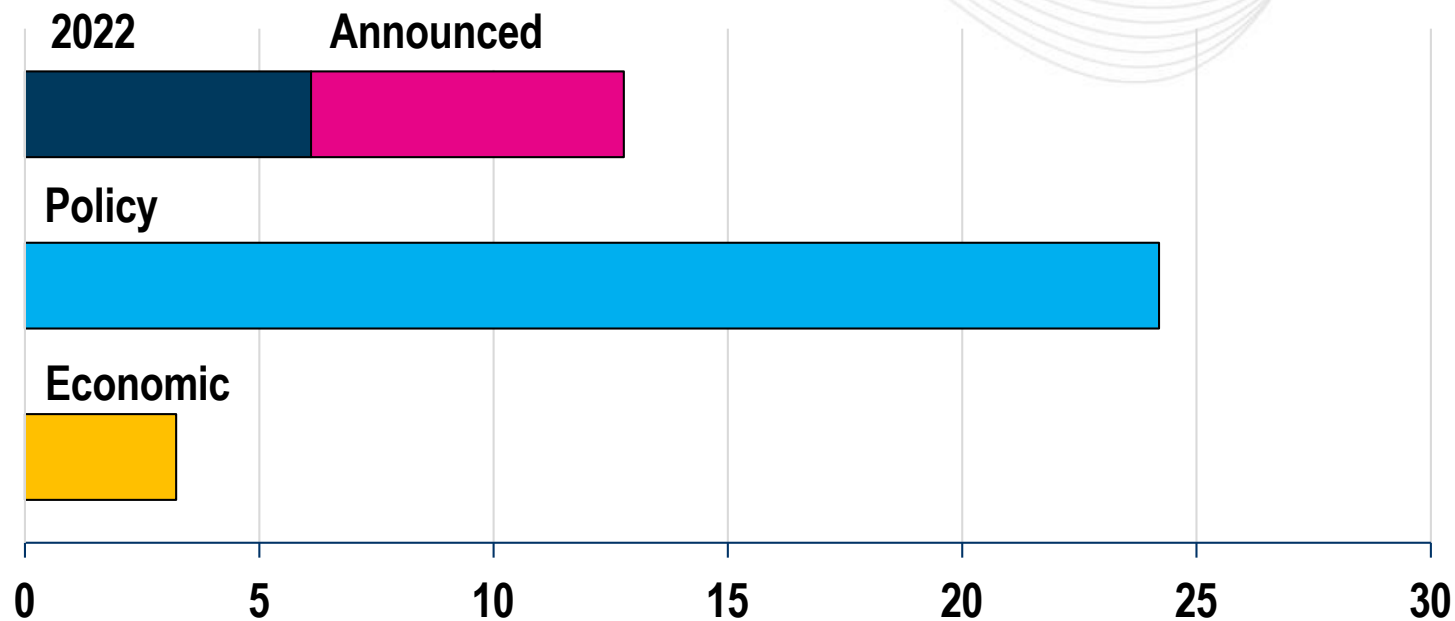
<https://www.iea.org/reports/electricity-mid-year-update-july-2024>

# PJM Existing Installed Capacity Mix

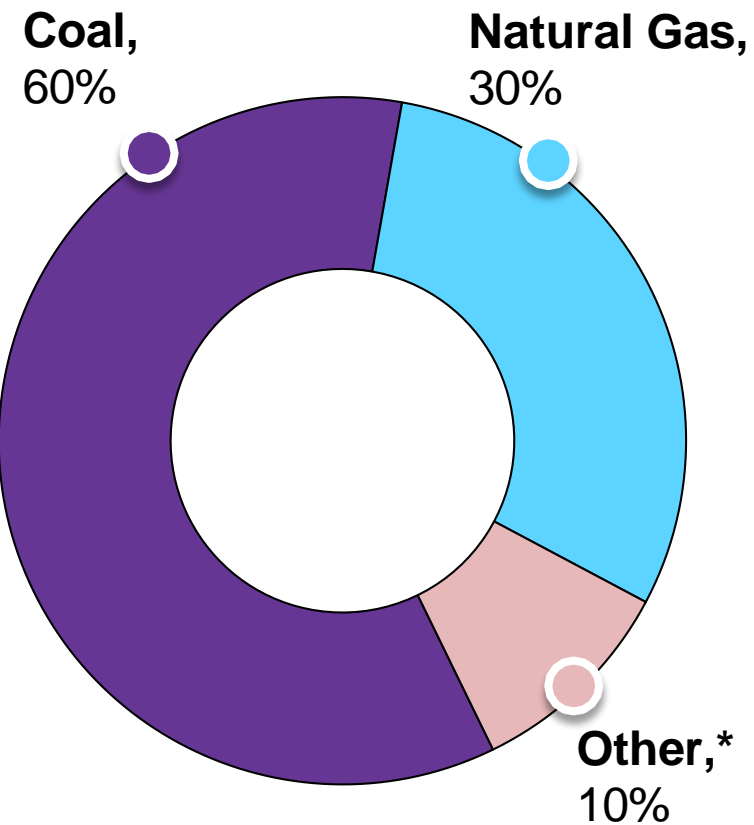
(CIRs – as of Dec. 31, 2024)



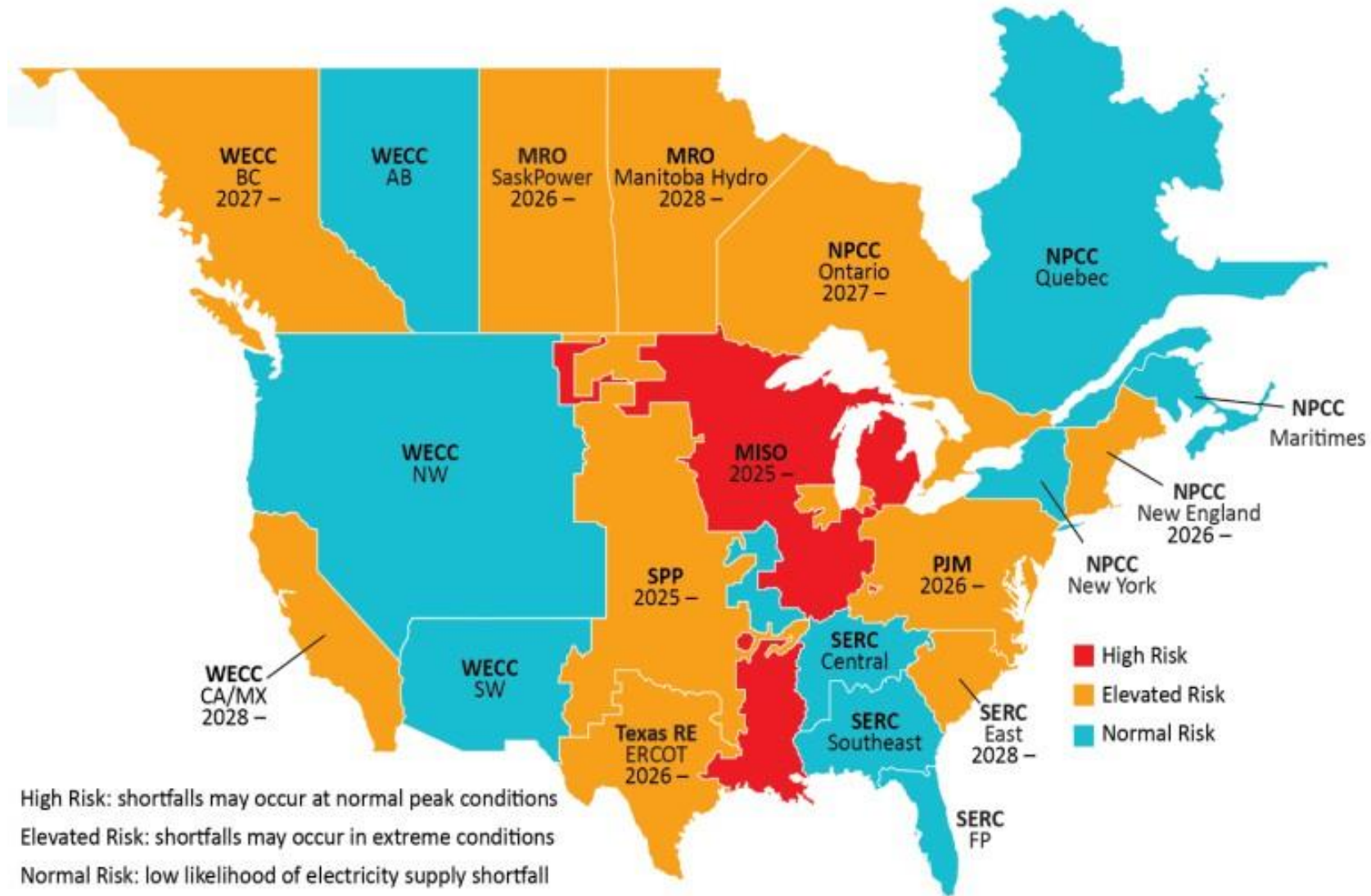
## Total Forecasted Retirement Capacity (GW)



This **40 GW** represents **21% of PJM's current 192 GW** of installed generation



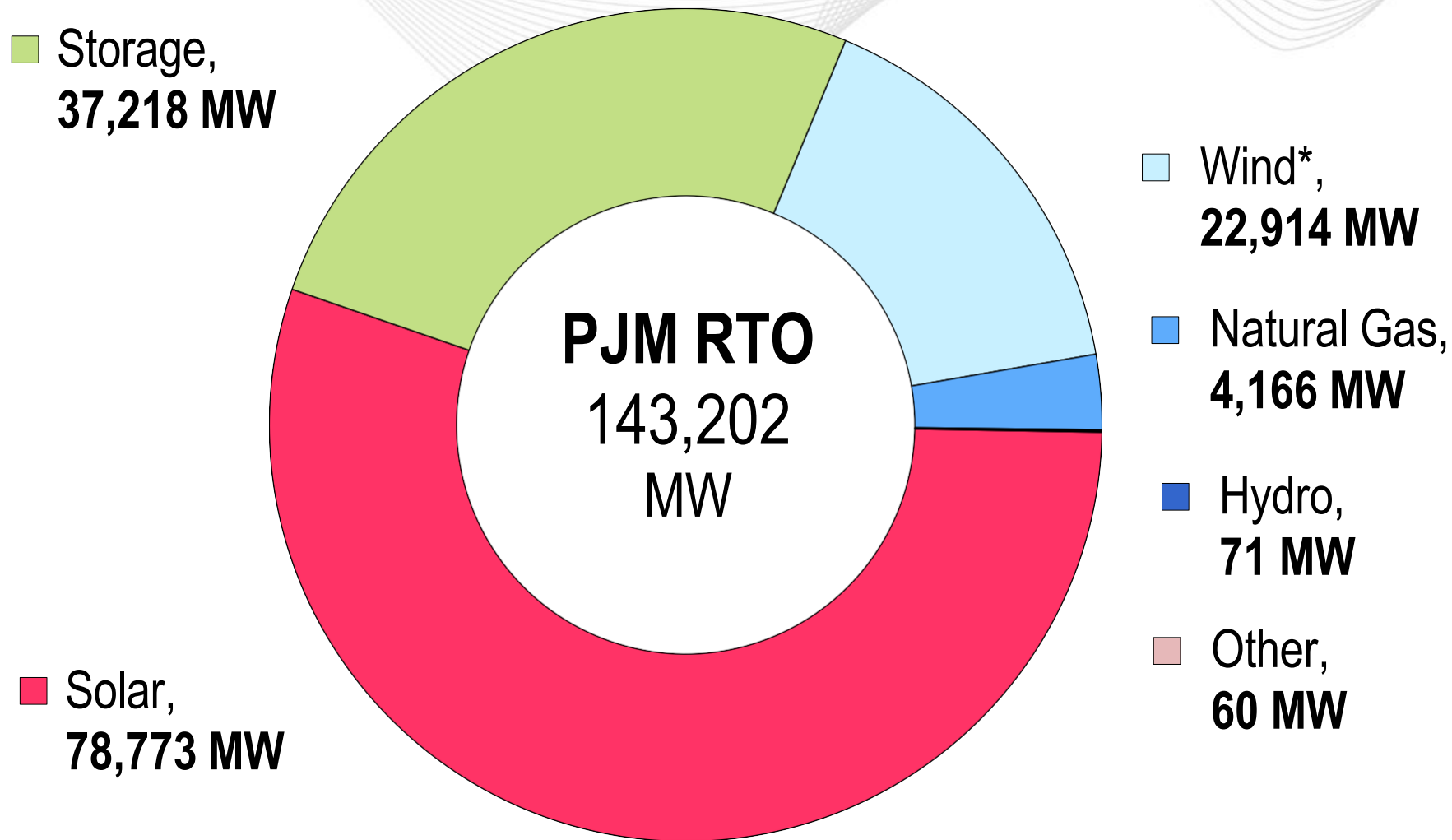
\*Other includes diesel, etc.



Graphic: NERC

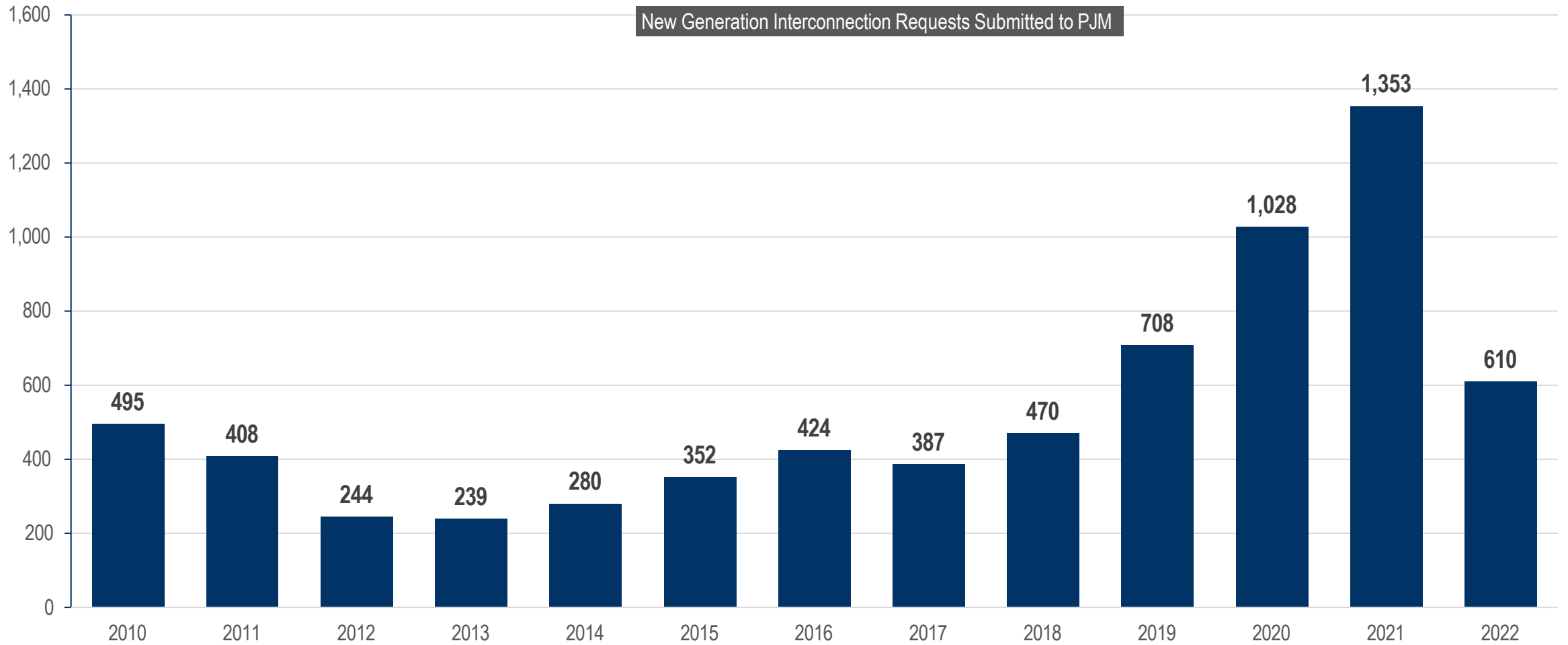
# PJM Queued Capacity (Nameplate) by Fuel Type

("Active" in the PJM Queue as of Jan. 31, 2025)



\*Includes offshore wind

# Interconnection Queue Projects By Year



# Implemented Interconnection Reforms

**April 23, 2021**

Stakeholders begin queue reform through Interconnection Process Reform Task Force.

2021

**May–November 2021**

Stakeholders hash out issues in seven policy workshops.

**April 8, 2022**

Final meeting of Interconnection Process Reform Task Force

2022

**April 27, 2022**

PJM Members Committee overwhelmingly endorses reform package.

**June 14, 2022**

Interconnection process reform package filed with FERC.

**Nov. 29, 2022**

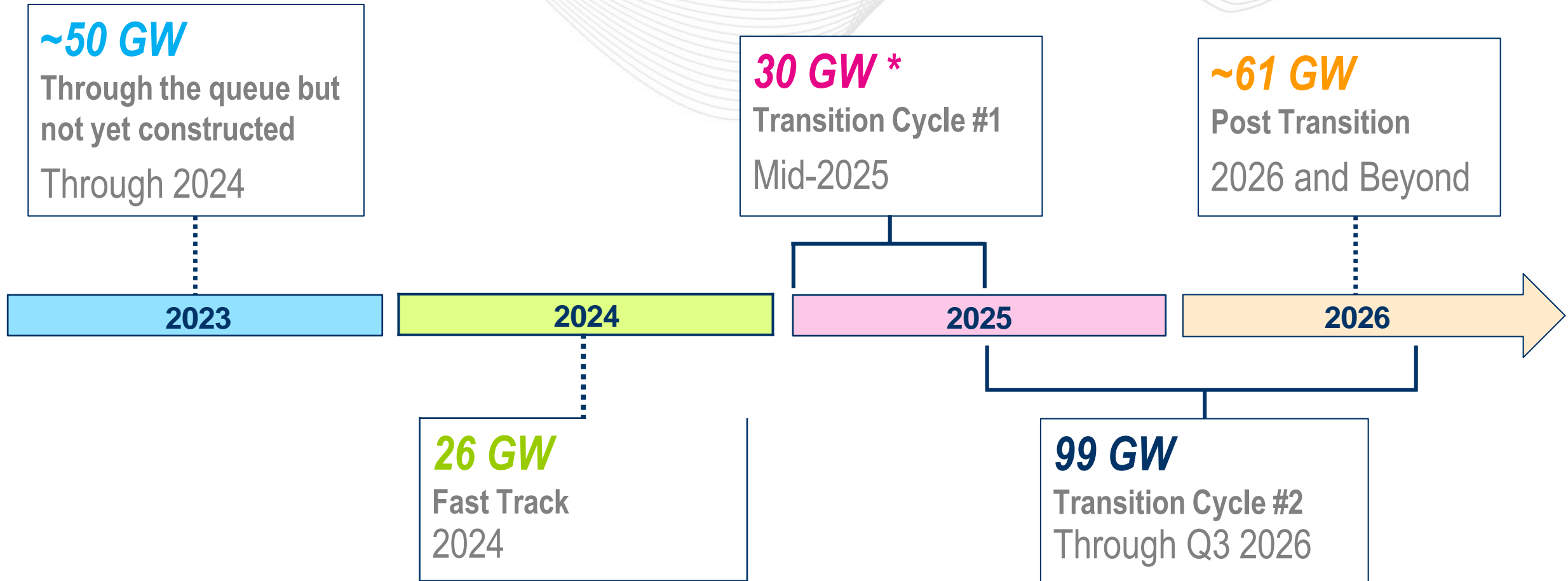
FERC issues order approving reforms.

2023

**July 10, 2023**

Interconnection process reform transition begins.

# Initial Queue Breakdown and Timeline

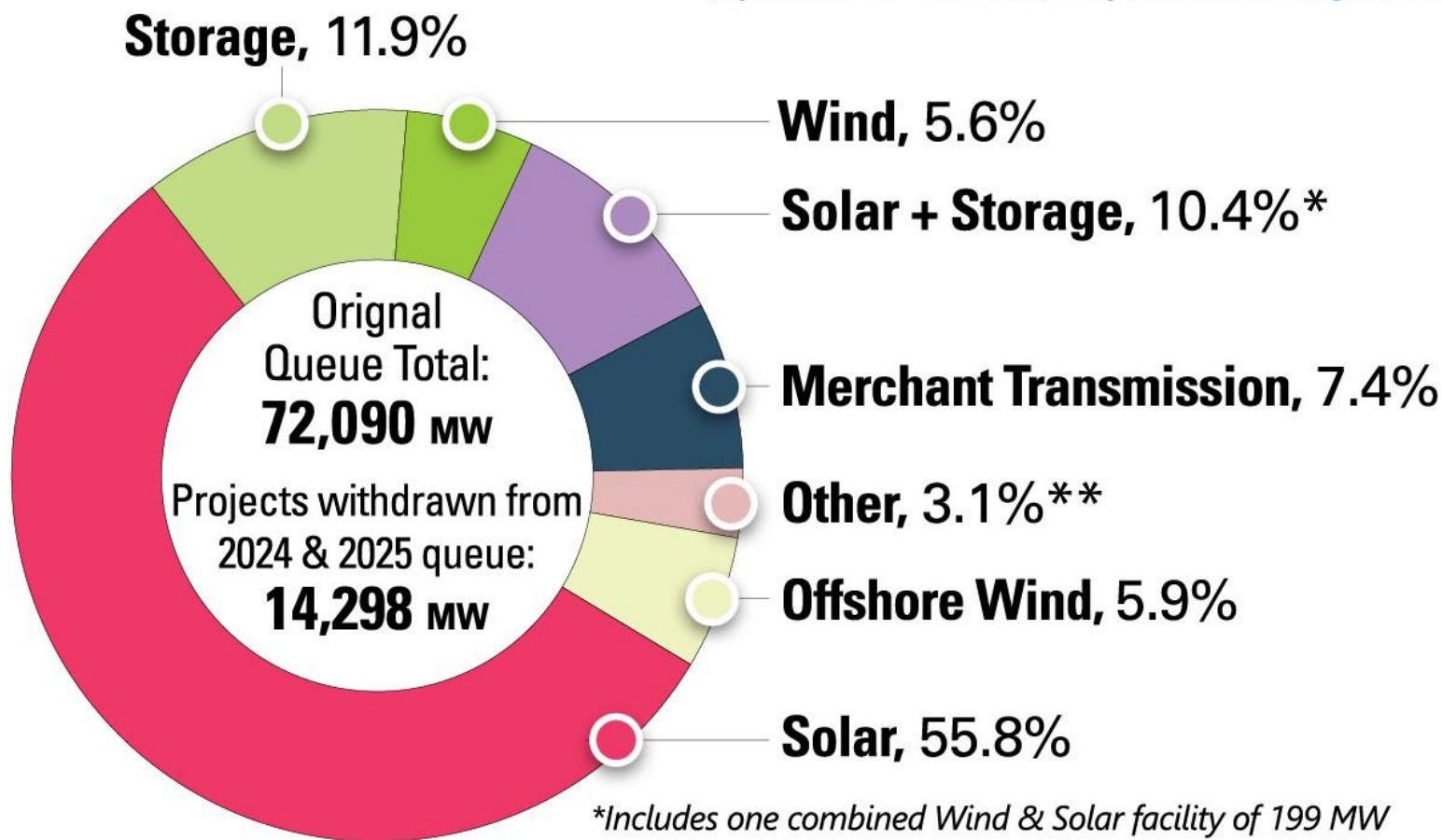


\* TC1 was 46 GW prior to Decision Point 1.

## 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
<b>Total</b>	<b>488</b>	<b>55,646.00</b>



*\*Includes one combined Wind & Solar facility of 199 MW*

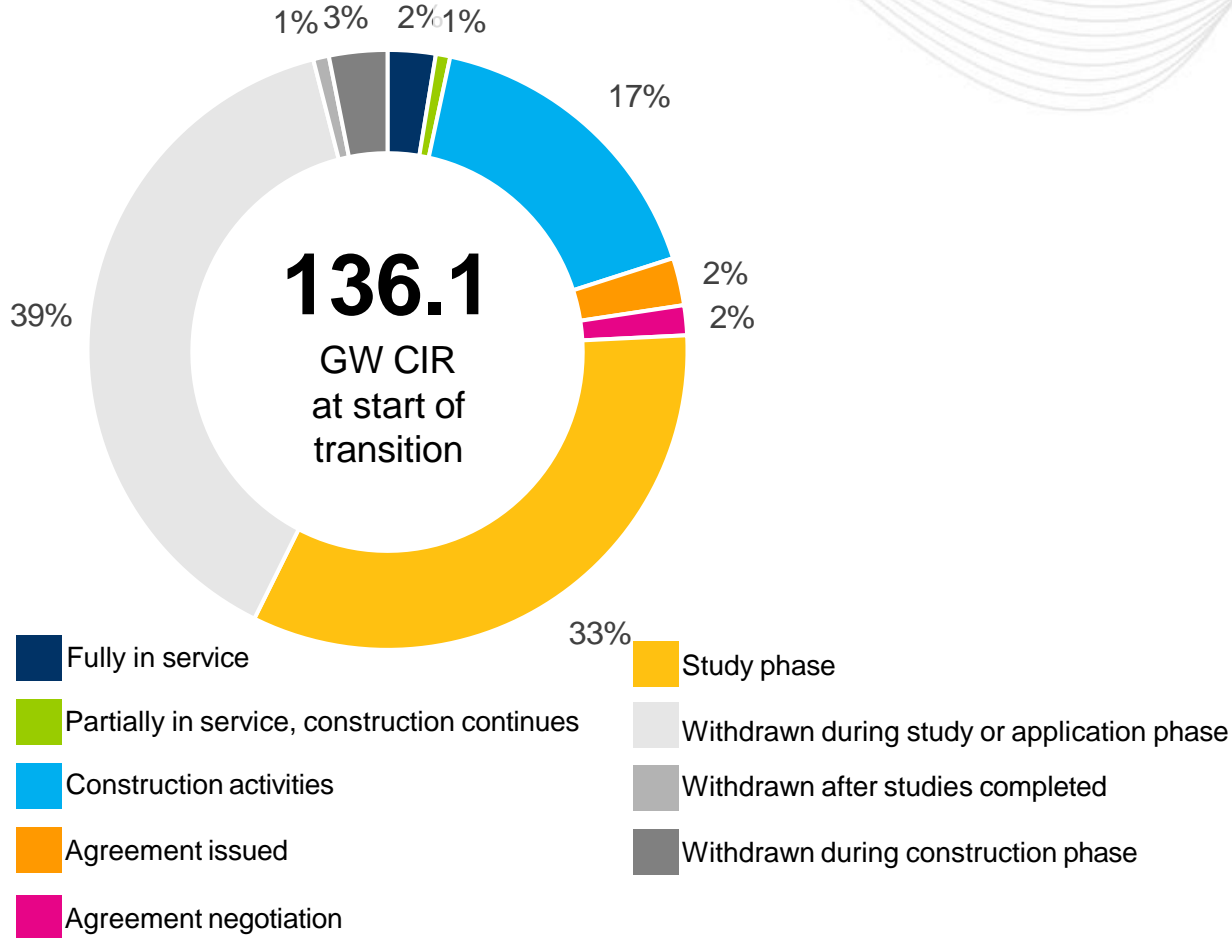
*\*\*Other: Natural Gas (1,646.7 MW, 3.0%) and Hydro (51 MW, 0.1%)*

*Please note some projects have reduced project megawatts.*

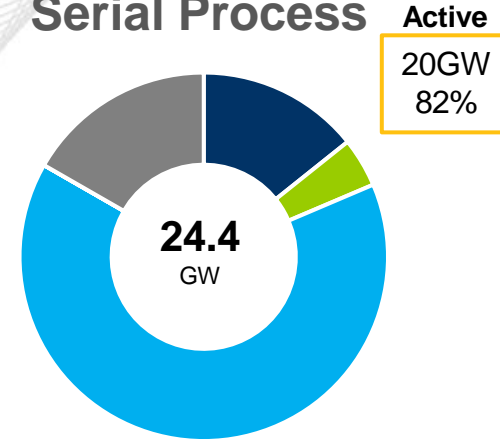
# Cluster Study Progress

## Capacity Interconnection Rights (MW CIR)

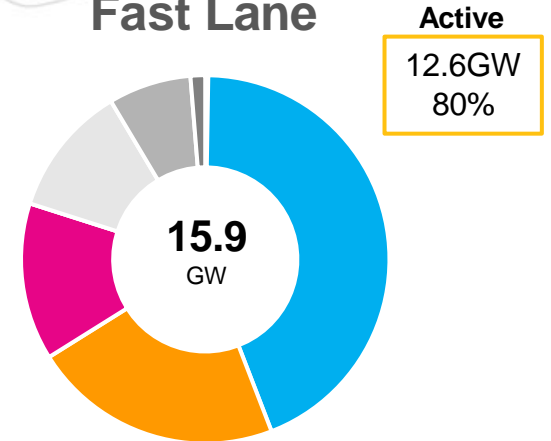
### All Clusters



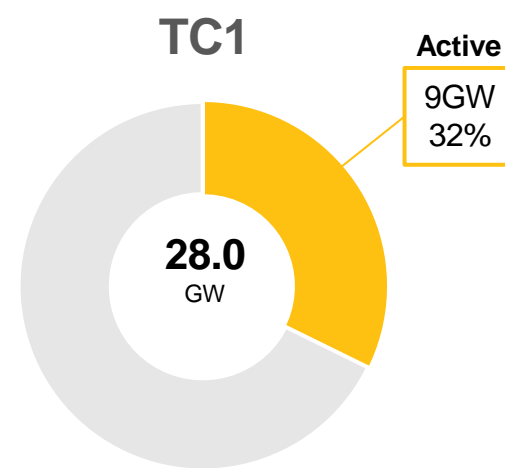
### Serial Process



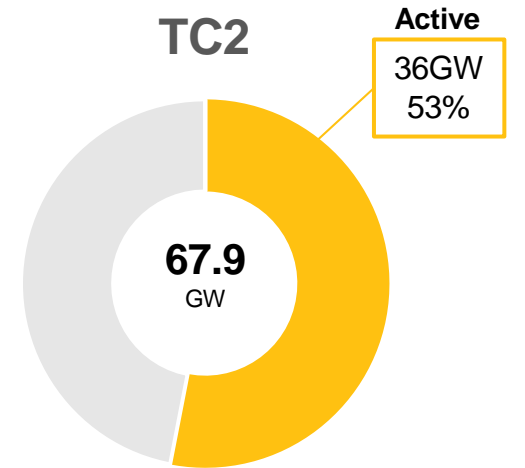
### Fast Lane



### TC1

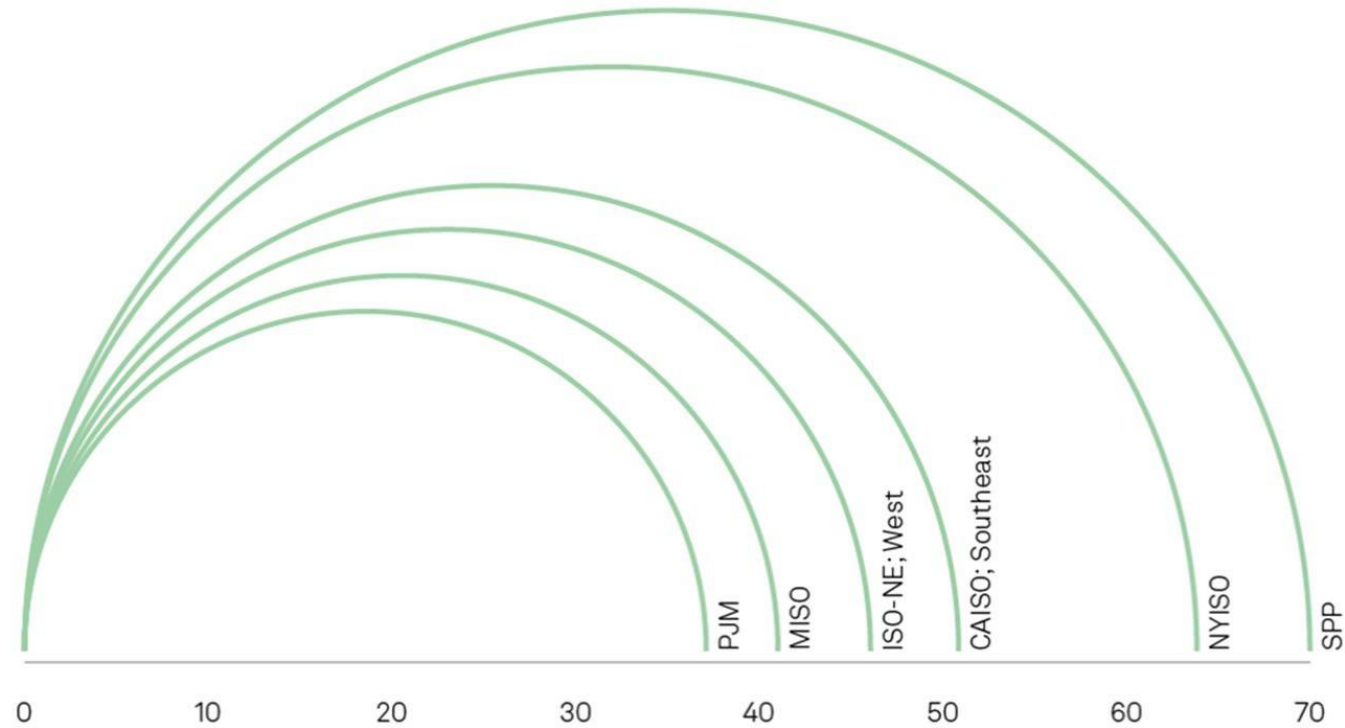


### TC2



As of 2/10/2025

Average time from queue date  
to proposed online date (months)



As of June 28, 2023.  
Active queues only.  
Only includes interconnection queues for which sufficient details were available.  
Source: Public company reports (see Excel attachment for details).  
© 2023 S&P Global.

## CIR Transfer

**Target:** New generation resources swapping-in for a deactivating generator that then 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

---

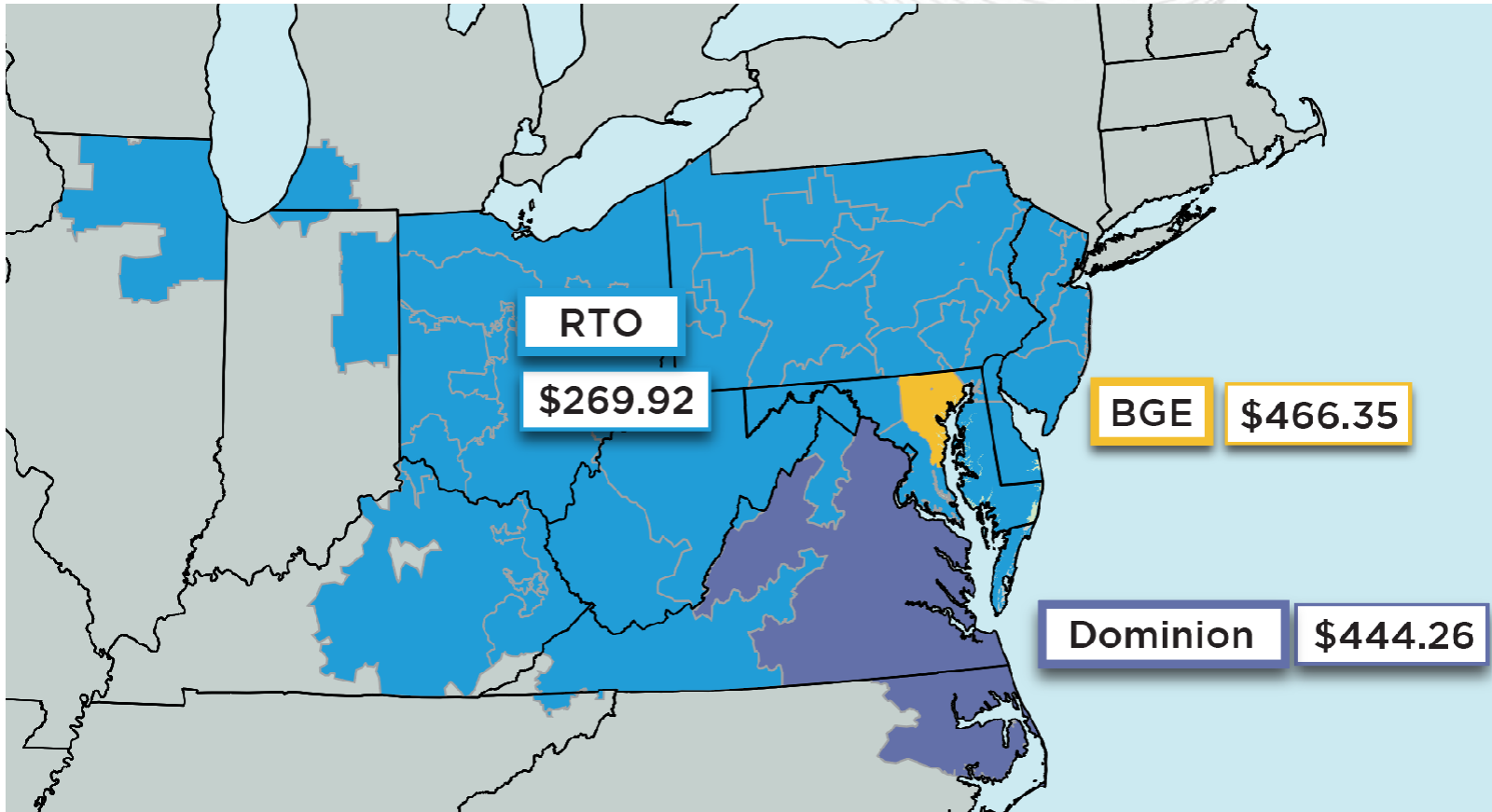
**Potential Outcome:** One-time expansion of the eligibility criteria for Transition Cycle #2 beyond active requests received prior to September 2021

## 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

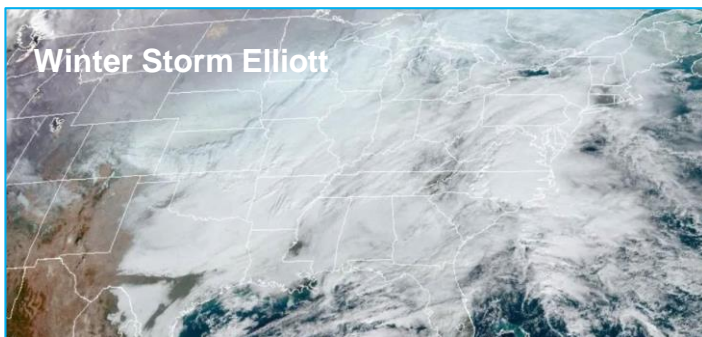


## RTO Price Comparison

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

	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%

## RELIABILITY



The PJM fleet has adequate resources and enough essential reliability services, but we need our generators to perform when called upon.

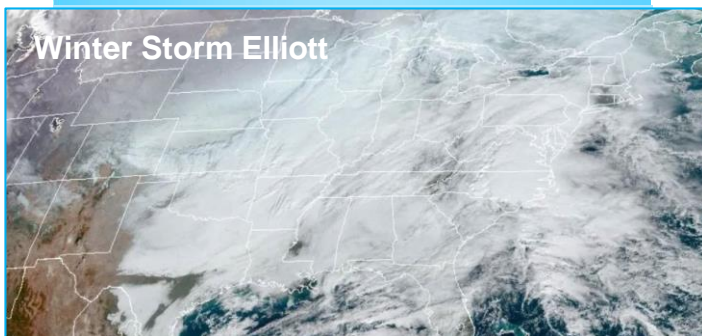


Generation retirements may outpace new entry with a simultaneous likelihood of load increasing, thereby creating resource adequacy concerns.



We will continue to need some amount of thermal generation to provide certain essential reliability services until a replacement technology is deployable at scale.

## The Immediate Concern



**Support**  
Resource  
Performance

## The Near-Term Concern



**Ensure**  
Resource  
Adequacy

## The Upcoming Concern



**Maintain & Attract**  
Essential Reliability  
Services



Sign In | Tools Sign In | Calendar

search Go

about pjm | training | committees & groups | planning | markets & operations | library

Ensuring a Reliable Energy Transition

Who We Are

Member Services

Careers

Home » About PJM » Ensuring a Reliable Energy Transition

## Ensuring a Reliable Energy Transition

“Ensuring a Reliable Energy Transition” is a multiyear initiative to preserve the reliable delivery of electricity as the grid undergoes historic transformation.

It affirms PJM’s leadership role as an independent regional transmission organization in identifying and addressing challenges to reliability amid the ongoing shift to a bulk electrical system that increasingly relies on renewable energy.

Through this initiative, PJM will clearly articulate established reliability concerns as well as actions to be taken to support reliability and alleviate these concerns. Development and implementation of these initiatives can only be done in concert with all stakeholders and government partners.

search Go | Communities | Calendar

committees & groups | planning | markets & operations | library

### Trending Topics

2022 Regional Transmission Expansion Plan Report [WEB](#)

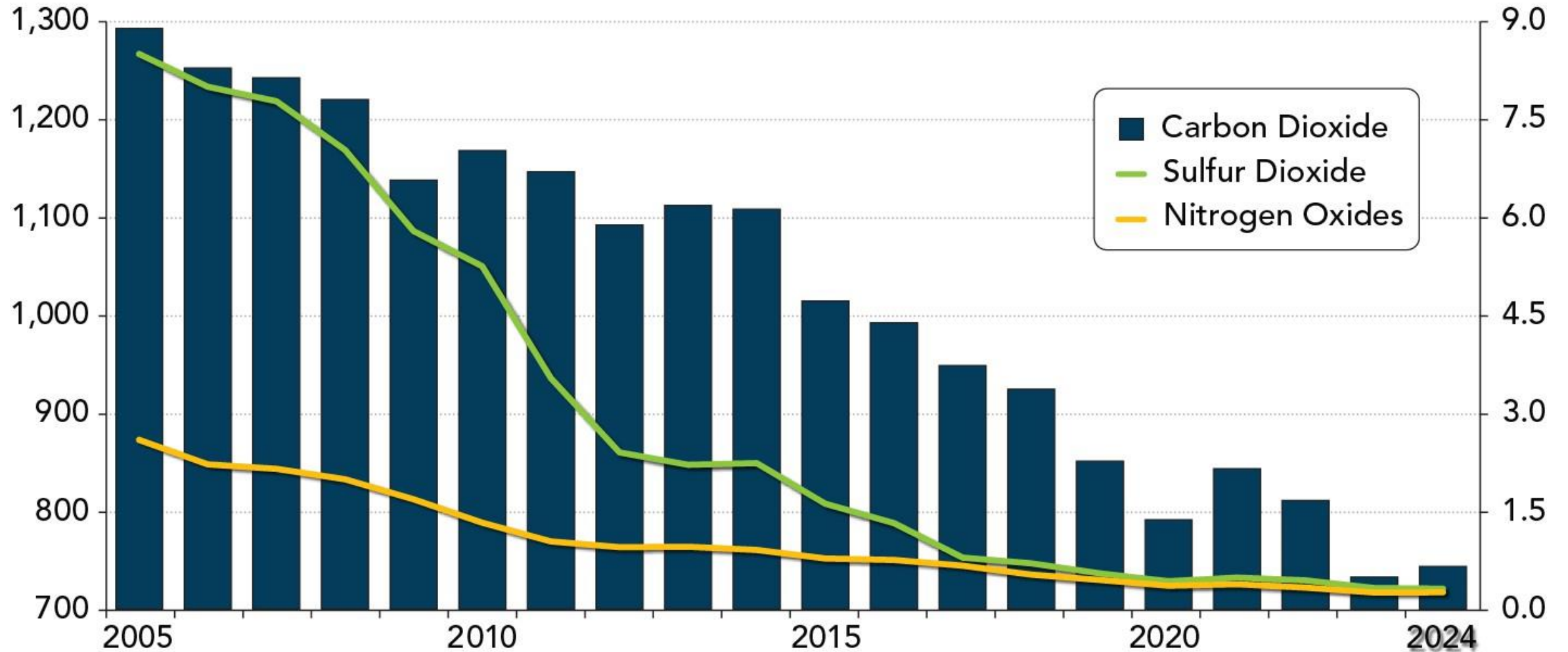
Energy Transition in PJM: Resource Retirements, Replacements & Risk [PDF](#)

Winter Storm Elliott Info [WEB](#)

Ensuring a Reliable Energy Transition

CO<sub>2</sub> lbs/MWh

SO<sub>2</sub> and NO<sub>x</sub> lbs/MWh



- **States should avoid policies intended to push *existing generation resources* off of the system until an adequate quantity of replacement generation is online and has been shown to be operating**
- **States should help to bring *new generation resources* onto the system as soon as possible**
- **States should address state and local challenges in the siting/permitting of all electricity infrastructure including *transmission infrastructure***
- **Consider consumer *cost increases* as a natural byproduct of policies that exacerbate the supply/demand imbalance.**