

Power Play: Orchestrating the Future of Resource Planning

WHY ARE WE TALKING ABOUT RESOURCE PLANNING?

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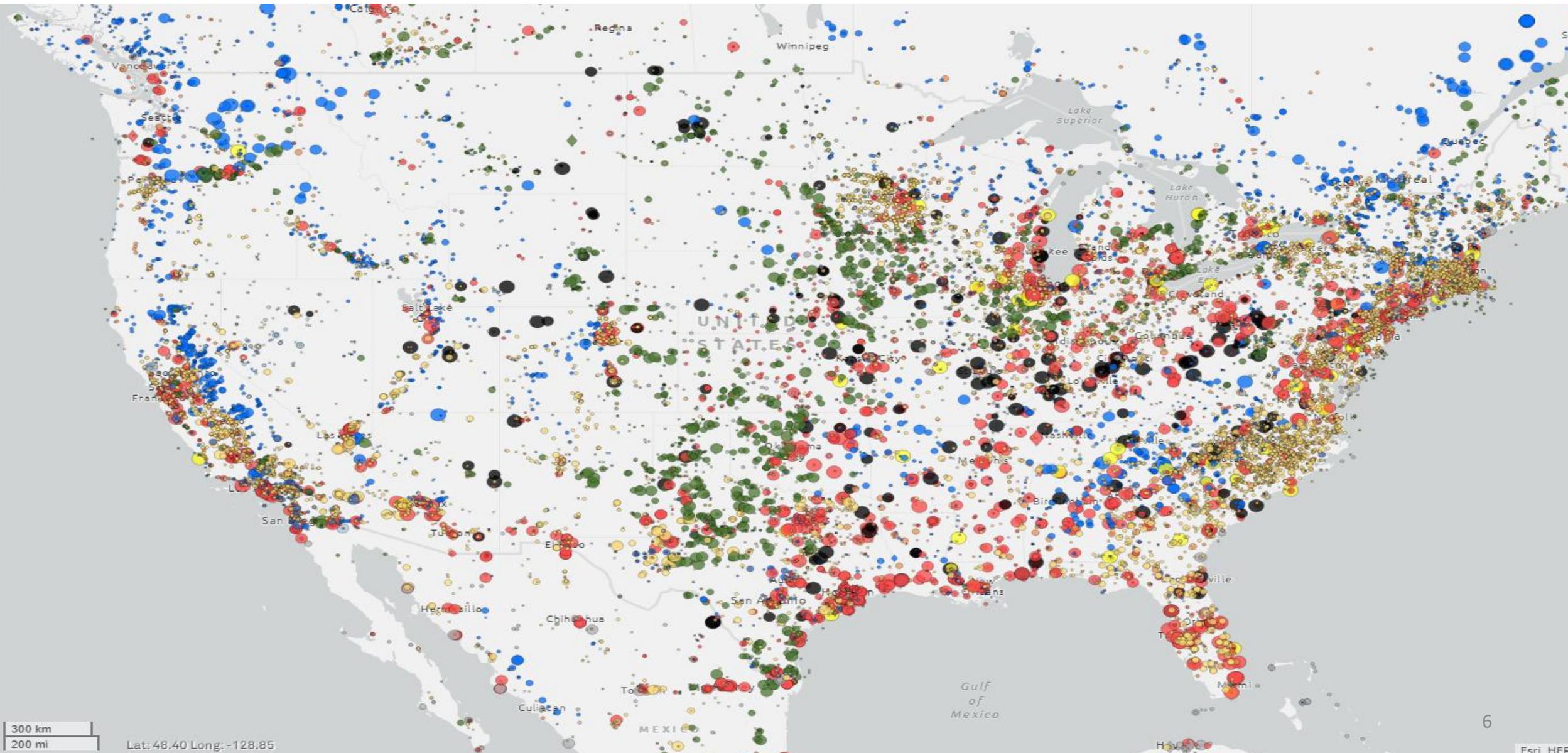
- Most of the media and attention is about data centers, which is certainly a big piece of the conversation
- But there are other factors as well, including load growth from reshoring, electrification, & electric vehicles
- How are we going to plan to serve the forecasted loads?
- That's where Resource Planning comes in

What is Resource Planning?

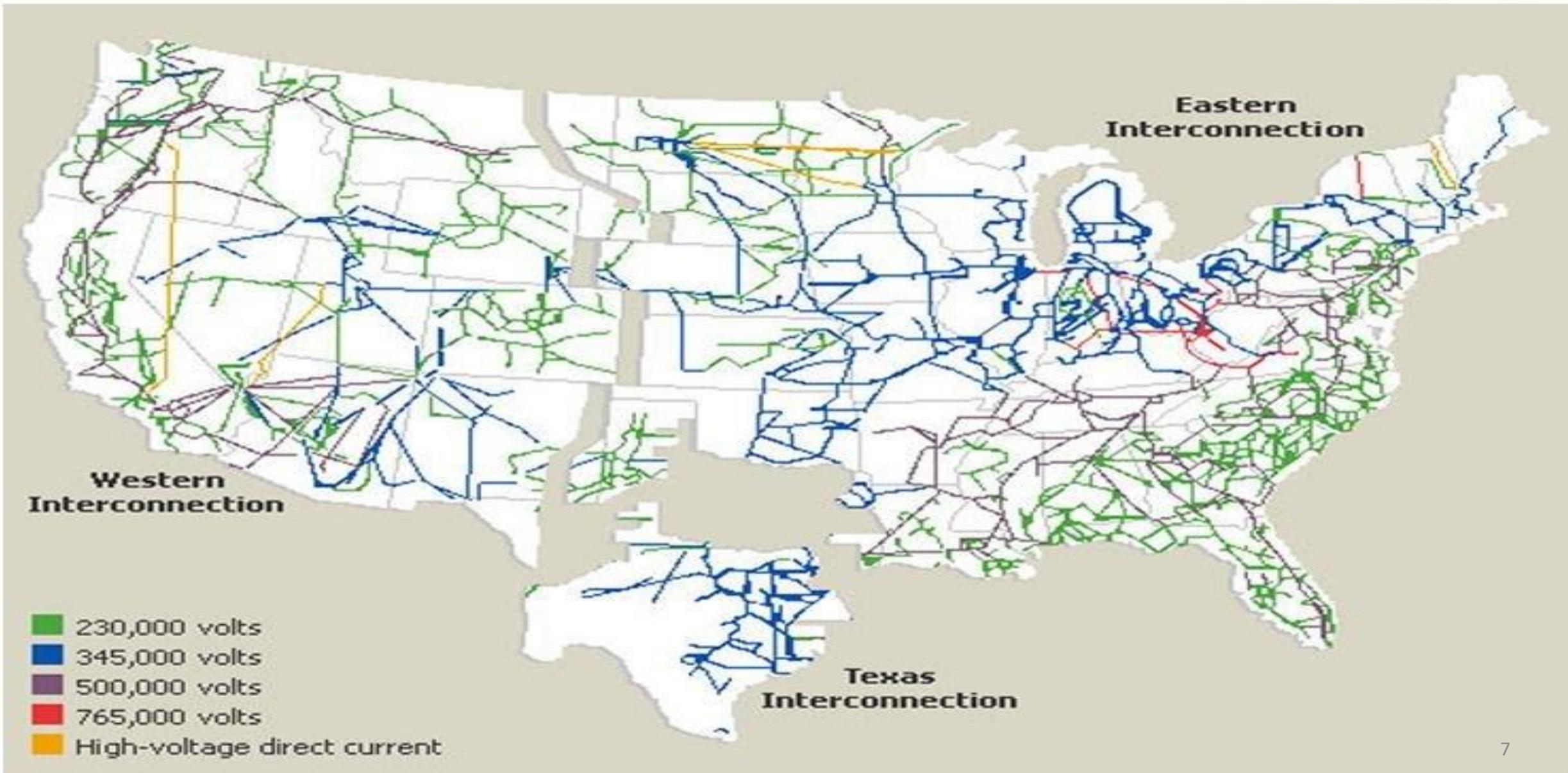
- An ongoing process of developing a long-term forecast for electricity needs (*demand and energy*) and determining what resources can meet those requirements
- Generation additions do not typically line up perfectly with load additions, so timing plays a big part of the discussions
- Means different things for different entities
 - Buckeye's job is to procure and deliver reliable power to its members at a stable and affordable price
 - PJM's job is to ensure grid reliability for the region

NATIONAL & REGIONAL INDUSTRY TRENDS

U.S. Generation Resources



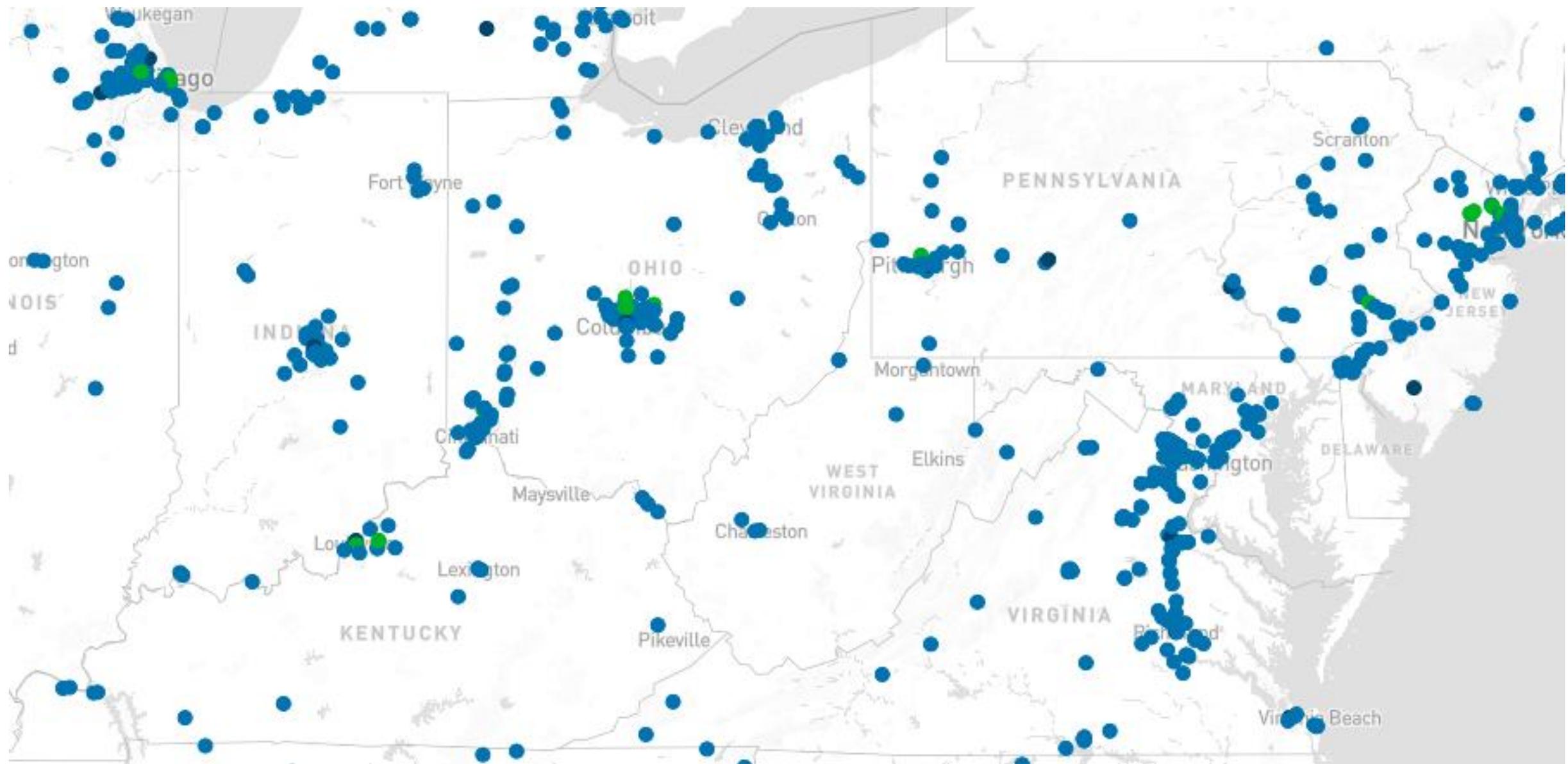
High Voltage Transmission Map



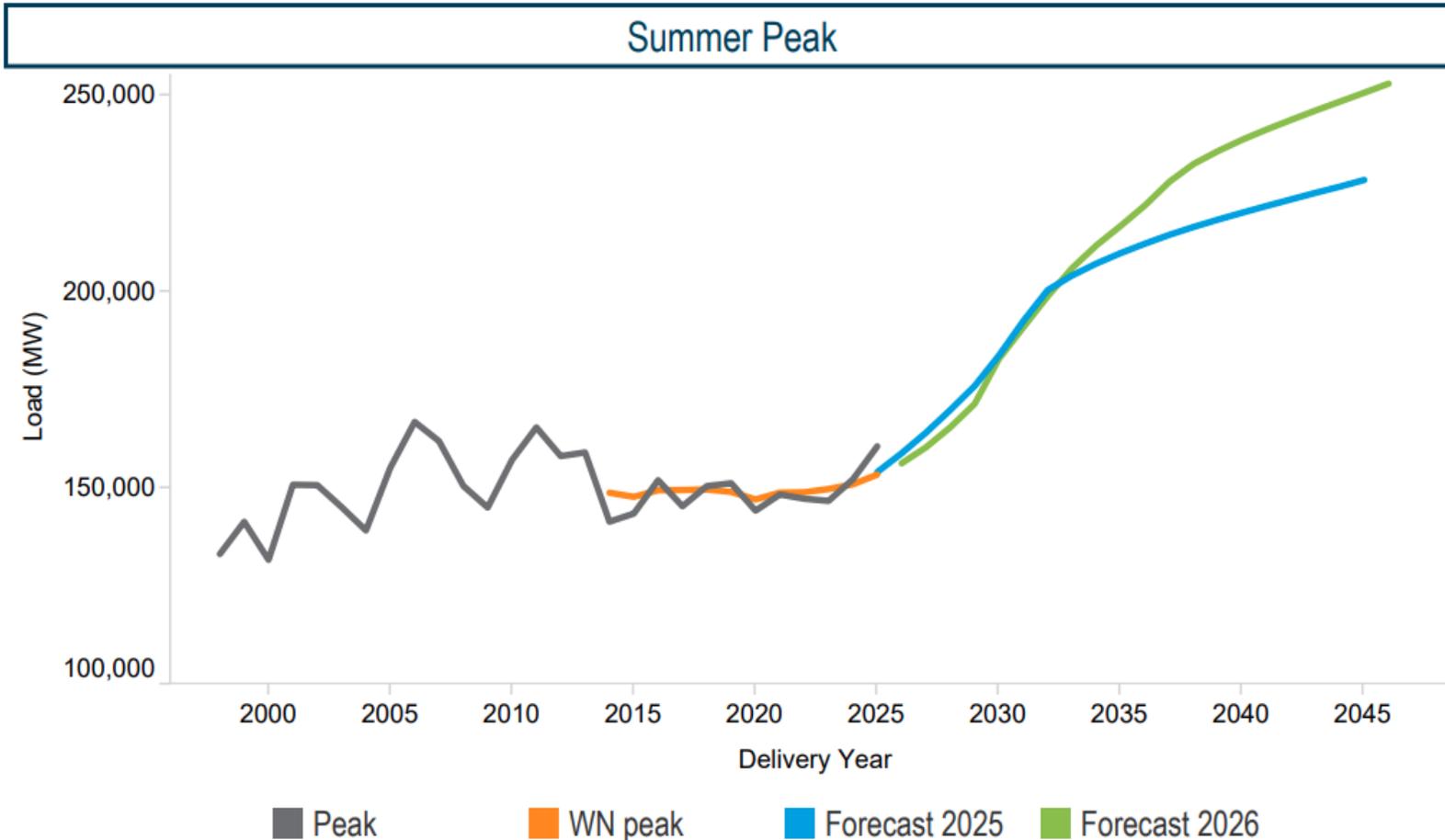
Industry Trends

- Rising electricity demand from reshoring manufacturing & electrification
- Expansion of data centers and artificial intelligence
- Continued thermal generation retirements
- Replacement generation not keeping up with the pace of load growth
- PJM's recent capacity auctions have not procured enough generation to meet its reserve requirements

Data Centers in PJM Region



New PJM Load Forecasts



- Accurate load forecasts are critical to prevent overbuilding
- New data centers create a new challenge
- New guardrails to try to eliminate duplicative requests

Industry Overview

- Concerns about grid reliability with demand increasing faster than new generation
- Lots of attention at all levels: DOE, FERC, PJM, States, Utilities
- Industry appears to be moving toward requiring new large loads to have *new generation* or be interruptible
- Industry is starting to use designated Data Center Tariffs to formalize requirements specifically for data centers

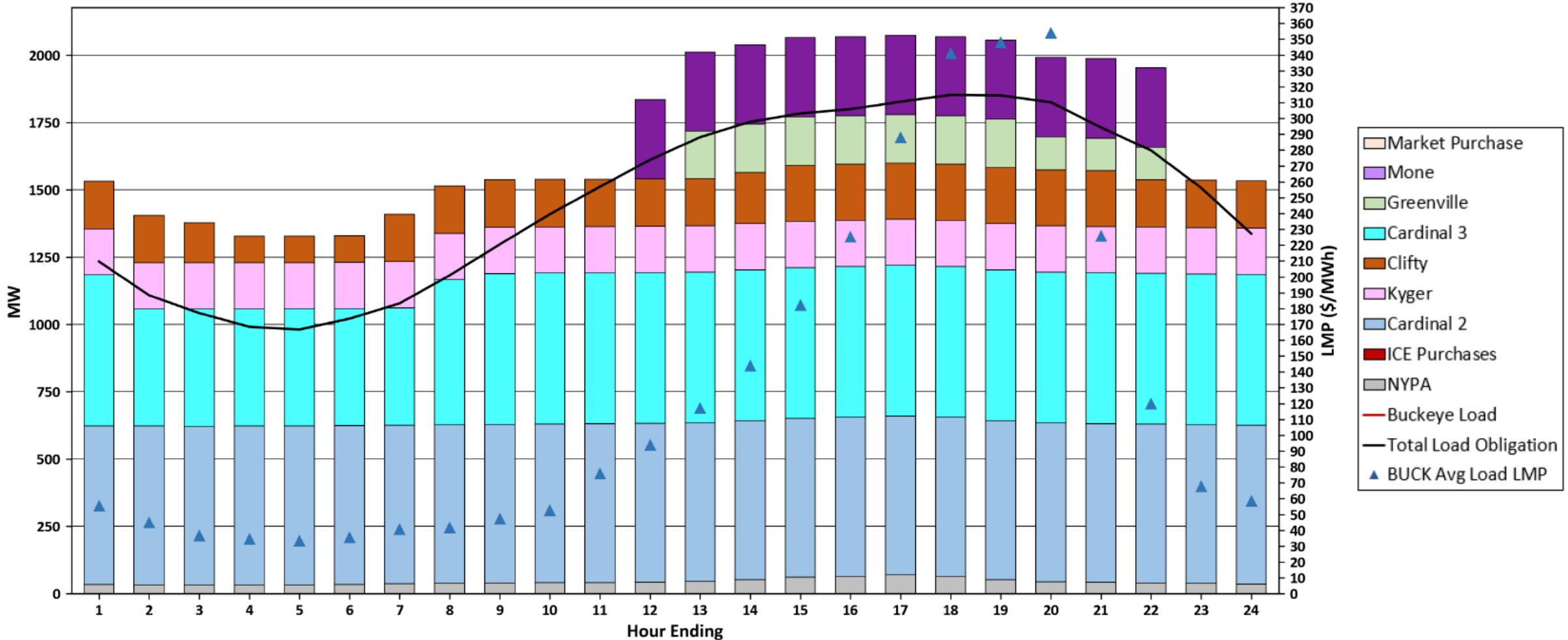
RESOURCE PLANNING BASICS

Key Steps to Resource Planning:

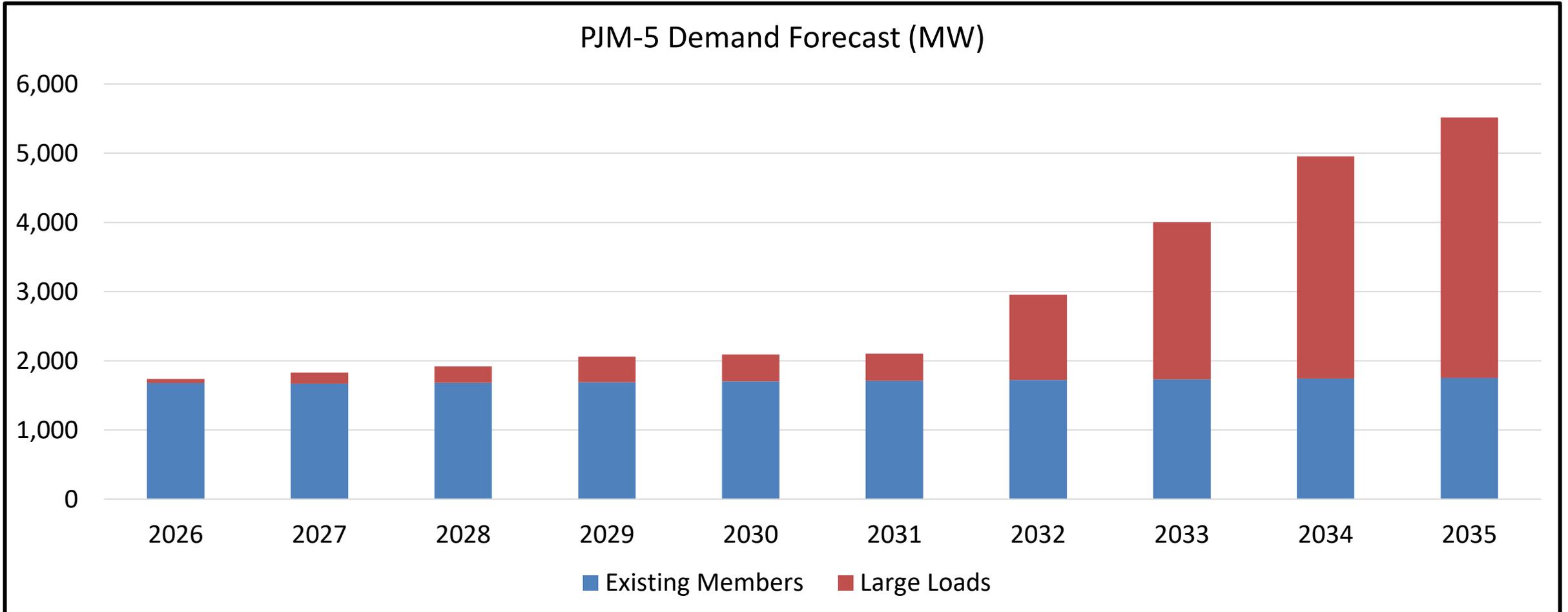
1. Have clear strategic priorities to understand the company's direction
2. Have a well-defined load forecasting process
3. Understand the generation resources you have
4. Identify additional generation options for future needs
5. Understand what is happening around you (regulatory / market forces)

Buckeye's Generation vs Load

Daily Energy Plan (06/24/25)



Large Loads in Ohio Cooperative Territories



OEC'S CURRENT GENERATION POSITION

Generation Resources

Mone Plant (NG)



Greenville Plant (NG)



OVEC - Clifty Creek Plant (C)



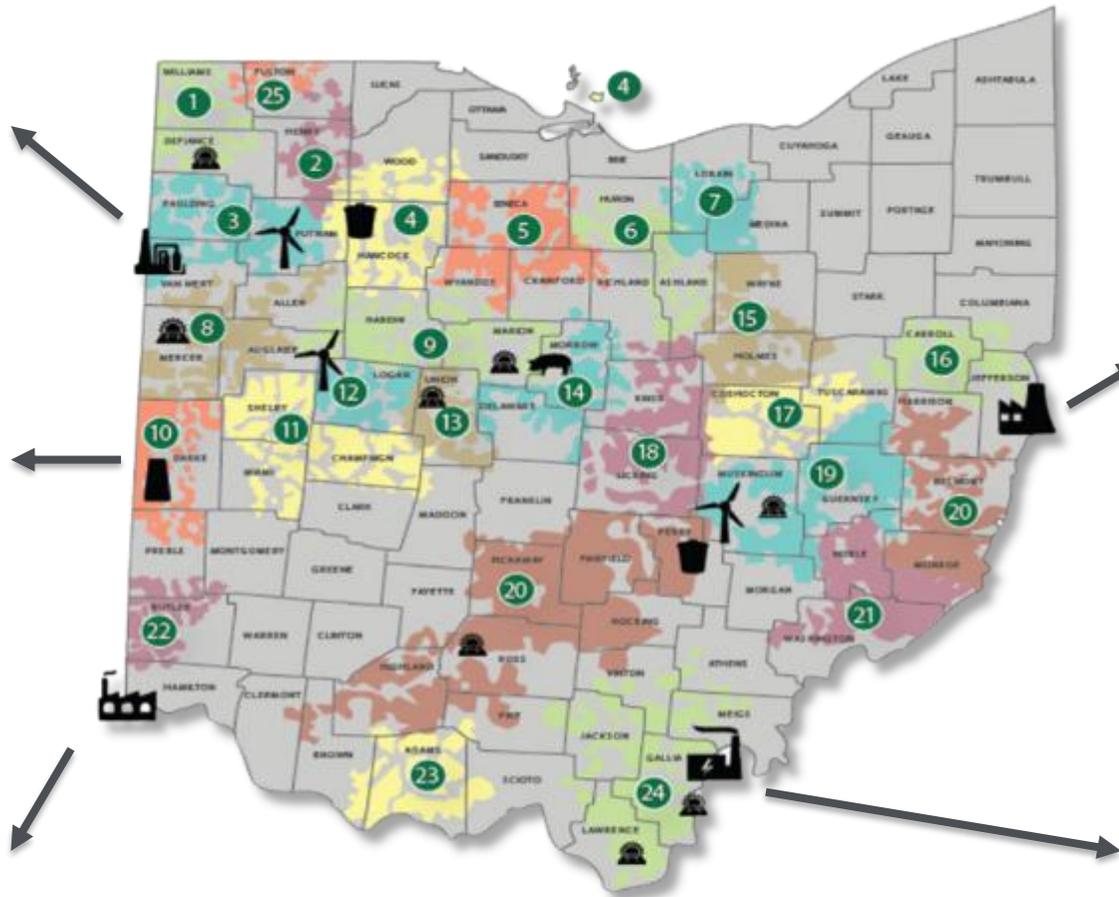
NYPA - Hydro



Cardinal Plant (C)

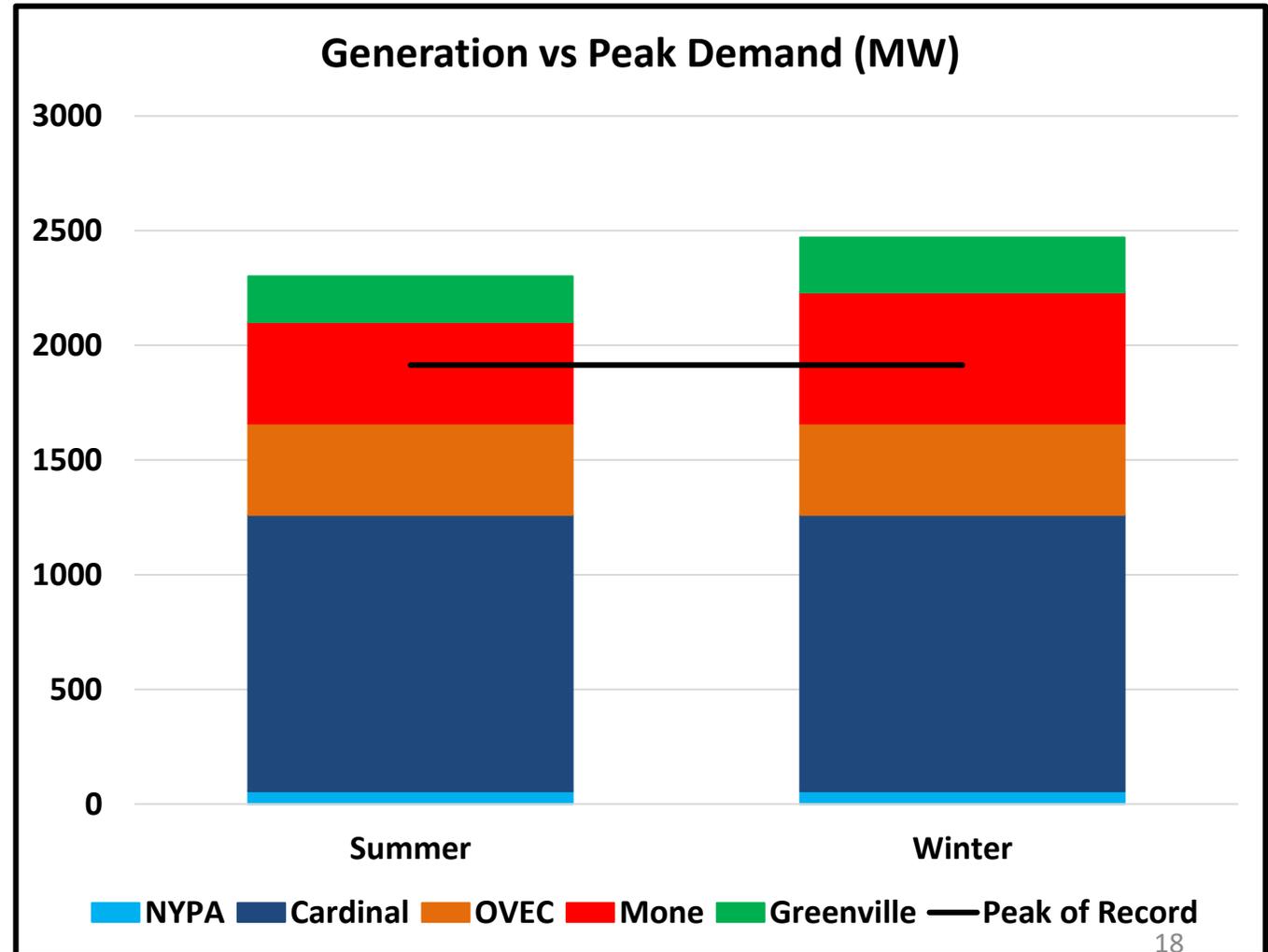


OVEC - Kyger Creek Plant (C)



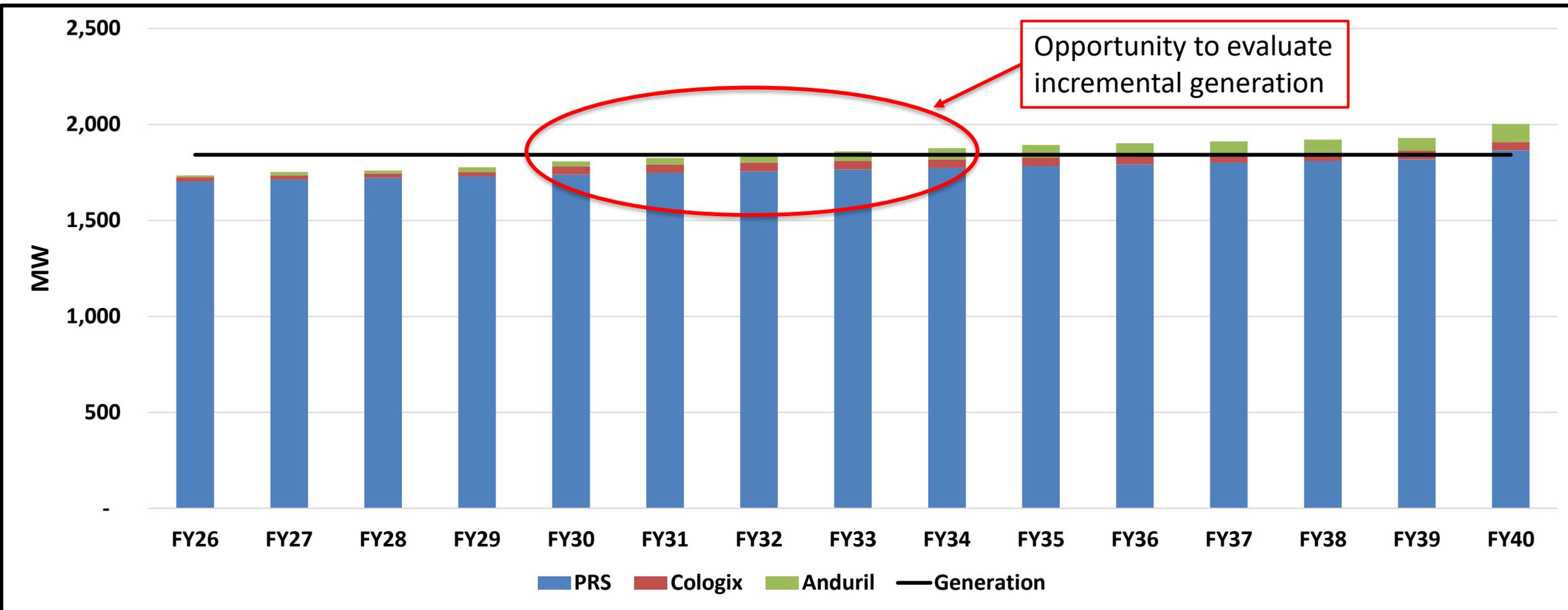
Buckeye's Generation Philosophy

- Buckeye will own and operate competitively priced generation to meet its member's load requirements and provide stable, affordable rates



FUTURE OUTLOOK

PJM Capacity vs PJM Load Obligation



Assumes 2-unit operation at Cardinal beyond 2028

Future Resource Options

- There are several different types of generators, each with their own strengths and weaknesses
- Future resource structures:
 - Build / buy new generation
 - Upgrades / expansion at existing power plants
 - Purchase all or a share of existing generator
 - PPA with third-party

Generation Options

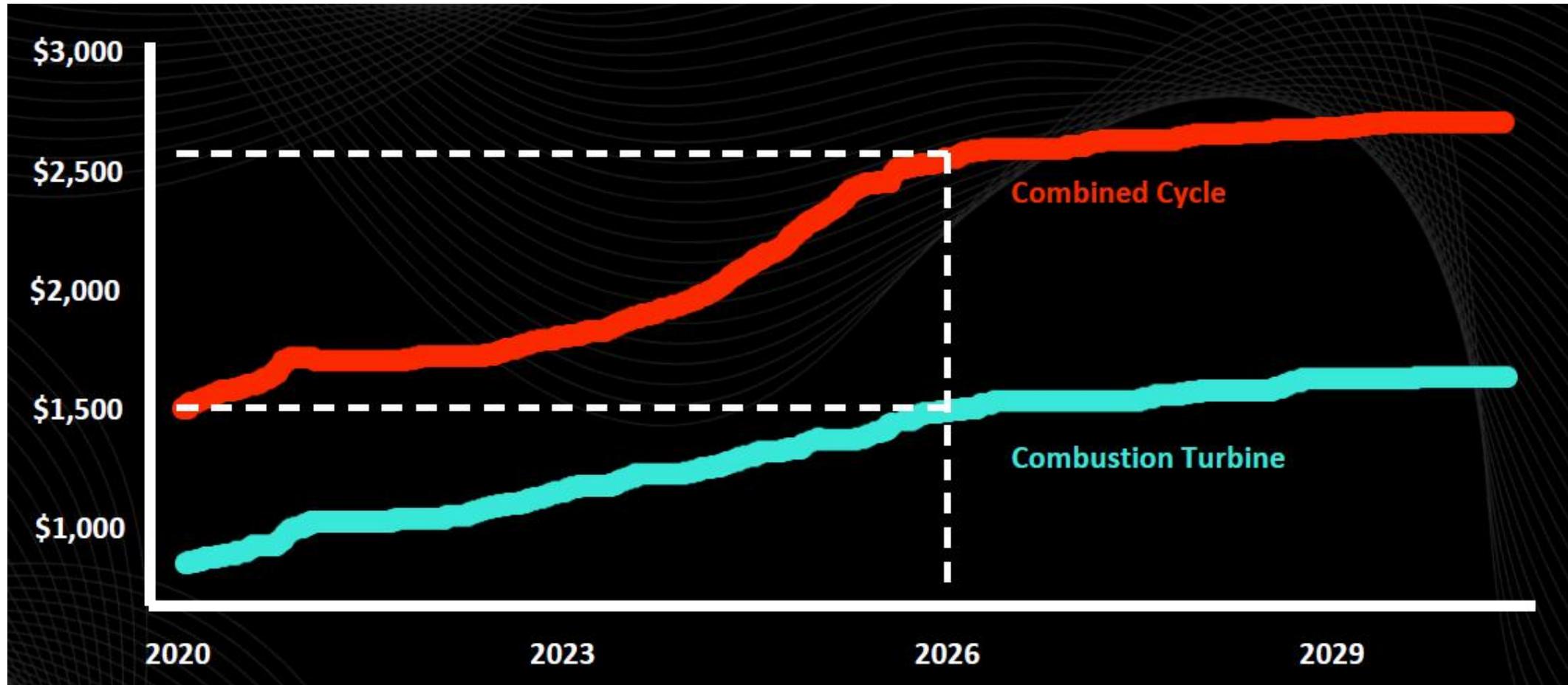
- Coal
- Nuclear
- Combined Cycle
- Combustion Turbine
- Wind
- Solar
- Batteries

Always a tradeoff...

- Tension between rates and desire for 100% reliability
- New coal likely needs significant advances in Carbon Capture and Sequestration (CCS)
- Nuclear has long-lead times and uncertain regulations

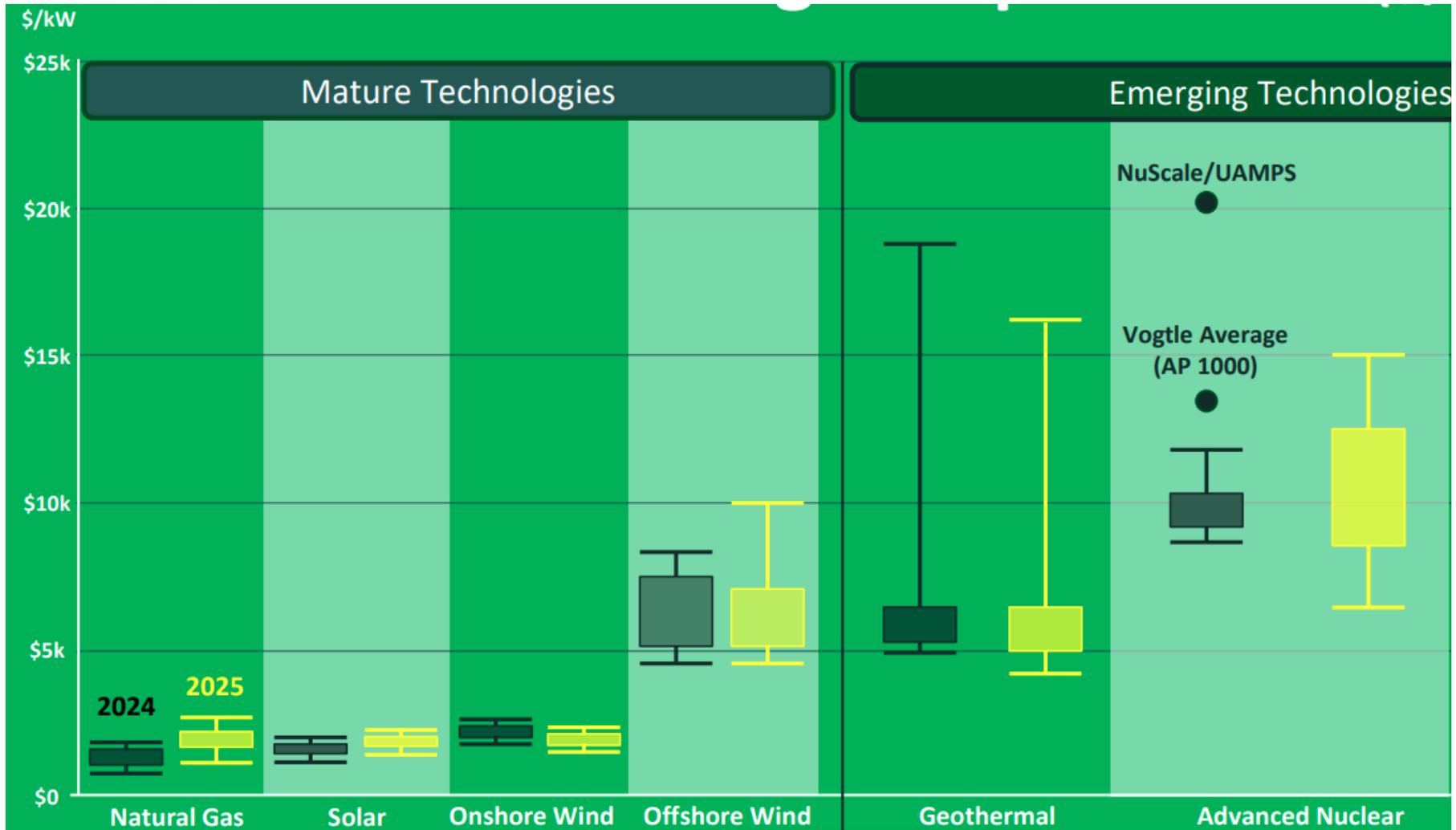
- Only two real options at this time: Gas & Gas
- Combined Cycle (CC): if you need capacity and baseload energy
- Combustion Turbine (CT): if you need capacity but only energy over peak times

New Build CC/CT Capital Costs (\$/kW)



Source: Wood Mackenzie

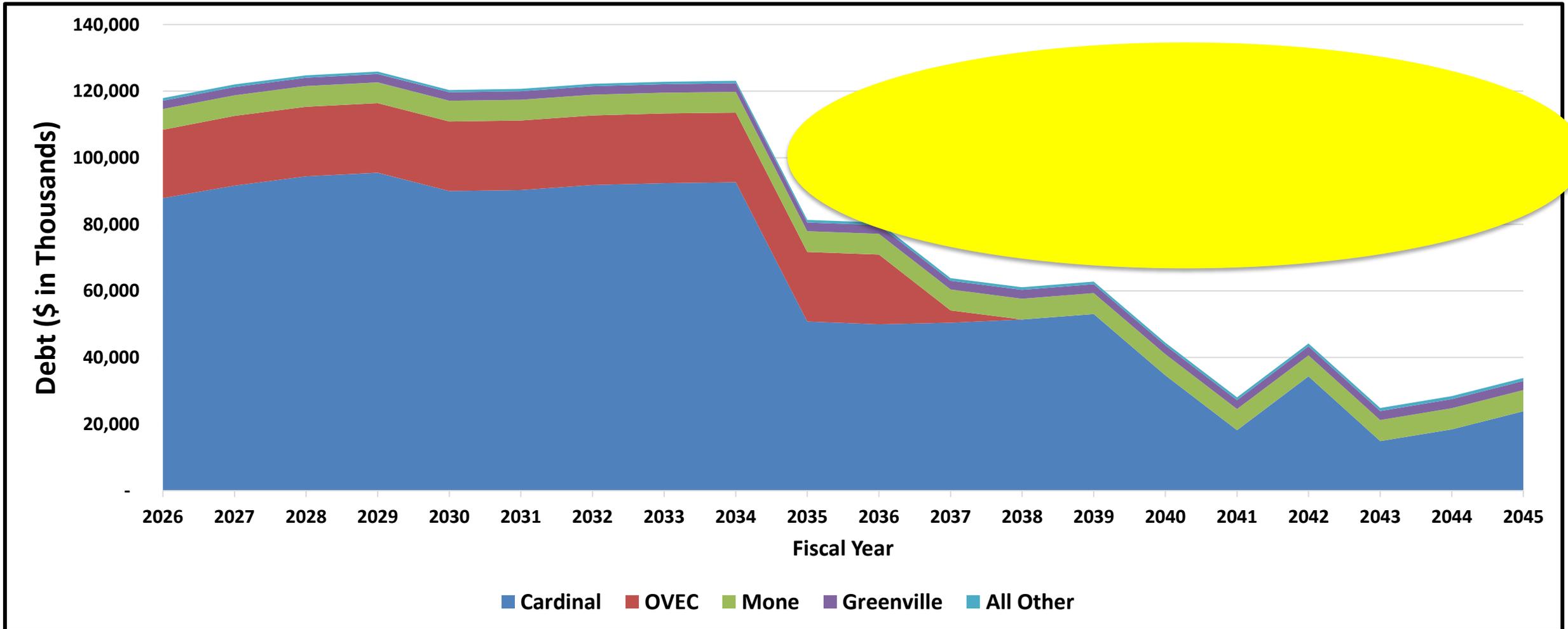
Generation Overnight Capital Costs (\$/kW)



Additional / New Generation Considerations

- How does the new resource fit with projected load forecasts and current generation mix?
- Do we need additional energy, capacity, or both?
- How long does it take to build a new resource and when do we need to get started?
- How does the location fit within the portfolio?
- What are the expected impacts from environmental regulations?
- What are the potential impacts on rates and equity?

Possible Timing for Next Major Resource



Buckeye's Resource Planning Wrap-up

- This will be an on-going process
- Regularly evaluating generation options and load forecasting
- Plan to maintain existing generation assets indefinitely for stable, affordable, and reliable power
- Always reviewing new market rule changes, market fundamentals, environmental law changes, and new technologies
- Have great Board and Committee engagement that review possible scenarios on a regular basis

QUESTIONS?