FOCUSED ON THE FUTURE
STATE REGULATORS LEADING THE WAY

2024 NARUC Annual Meeting and Education Conference
November 10-13, 2024 · Anaheim, California

Resource Retirements In An Era of Increasing Electricity Demand

Subcommittee on Clean Coal & Carbon Management

Want to join the Q&A for this session?
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Moderator: Hon. Angie Hatton, Kentucky

Panelists:
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Brent Bilsland, President, CEO & Chairman, Hallador Energy Company (HNRG)
Bill Zuretti, Director, Regulatory Affairs & Counsel, Electric Power Supply Association
Tricia DeBleeckere, Executive Director, Organization of MISO States, Inc.

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EPA Rules and Measures to Help Avoid a Reliability Crisis

There are six EPA rules that will force the premature retirement of coal-fired power plants: Carbon Rule, Ozone Transport Rule, MATS, ELG, CCR, and Regional Haze.

Four of these rules (Carbon, Ozone Transport, ELG, and MATS) are being challenged in the courts. We are optimistic the Trump administration will revise them. This process could take 1 to 2 years, possibly longer. We are hopeful the Trump administration will make changes to the other two rules that are being implemented (CCR and Regional Haze) to avoid coal retirements and reliability problems.

Besides revising EPA rules, there are other measures that can help avoid capacity shortages and reliability problems:

1. **Dispatchable generating capacity should not retire until replacement capacity is in operation.**
2. **The replacement capacity should have at least the same accredited capacity and reliability attributes as the retiring capacity.**
3. **Any transmission that is needed because of the replacement capacity should be built, not simply planned or under construction.**
4. **Grid operators should identify and value all attributes that are necessary to maintain grid reliability.**

HALLADOR ENERGY COMPANY

POWER WHEN YOU NEED IT

Disclaimer

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This presentation contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Statements that are not strictly historical statements constitute forward-looking statements and may often, but not always, be identified by the use of such words such as "expects," "believes," "intends," "anticipates," "plans," "estimates," "guidance," "target," "potential," "possible," or "probable" or statements that certain actions, events or results "may," "will," "should," or "could" be taken, occur or be achieved. Forward-looking statements are based on current expectations and assumptions and analyses made by Hallador Energy Company ("Hallador", the "Company", "we" or "us") and its management in light of experience and perception of historical trends, current conditions and expected future developments, as well as other factors appropriate under the circumstances that involve various risks and uncertainties that could cause actual results to differ materially from those reflected in the statements. These risks include, but are not limited to, those set forth in Hallador's annual report on Form 10-K for the year ended December 31, 2023 and other Securities and Exchange Commission ("SEC") filings. Hallador undertakes no obligation to revise or update publicly any forward-looking statements except as required by law.

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This presentation includes references to Adjusted EBITDA, which is a financial measure that is not prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). Adjusted EBITDA is defined as operating cash flows less effects of certain subsidiary and equity method investment activity, plus bank interest, less effects of working capital period changes, plus other amortization. Adjusted EBITDA should not be considered an alternative to net income, income from operations, cash flows from operating activities or any other measure of financial performance presented in accordance with GAAP. Our method of computing Adjusted EBITDA may not be the same method used to compute similar measures reported by other companies. Management believes the non-GAAP financial measure, Adjusted EBITDA, is an important measure in analyzing our liquidity and is a key component of certain material covenants contained within our Credit Agreement, specifically a maximum leverage ratio and a debt service coverage ratio. Noncompliance with the leverage ratio or debt service coverage ratio covenants could result in our lenders requiring the Company to immediately repay all amounts borrowed. If we cannot satisfy these financial covenants, we would be prohibited under our Credit Agreement from engaging in certain activities, such as incurring additional indebtedness, making certain payments, and acquiring and disposing of assets. Consequently, Adjusted EBITDA is critical to the assessment of our liquidity. The required amount of Adjusted EBITDA is a variable based on our debt outstanding and/or required debt payments at the time of the quarterly calculation based on a rolling prior 12-month period. Reconciliation of the non-GAAP financial measure, Adjusted EBITDA, to cash provided by operating activities, the most comparable GAAP measure, can be found in Hallador's filings with the SEC, including our earnings release for the year ended December 31, 2023 included with the Form 8-K filed by Hallador with the SEC on March 14, 2024.

Hallador Energy (HNRG – Nasdaq)

Hallador is advancing its products up the value chain to drive even greater margin expansion

Hallador Power Company (HPC)

- In 2022, we acquired our One-Gigawatt Merom power generator
  - Enabling Hallador to convert fuel into higher value wholesale electricity
- Followed by the 2024 signing of a MOU
  - Provides a pathway for Hallador to power the end-user

Sunrise Coal, LLC

- Sunrise is the primary supplier of fuel to our Merom power generator
- Our goal is to sell between 3.5 and 4.5 million tons of fuel annually

Hallador has a rich 70-year history in large part due to its Investment Grade Customers

Duke Energy
santee cooper
HOOSIERENERGY
CenterPoint Energy
aes Indiana
TVA Tennessee Valley Authority
NIPSCO
LG&E KU
Georgia Power
KYMEA
Wabash Valley Power Alliance
Alabama Power

Hallador has a $1.5 billion forward contracted sales book

Resource Retirements in an Era of Increasing Electricity Demand

Bill Zuretti
Director, Regulatory Affairs & Counsel
THE ELECTRIC POWER SUPPLY ASSOCIATION

November 10, 2024

EPSA

WHO WE ARE

EPSA is the national trade association representing America's competitive power suppliers. EPSA members provide about 165,000 MW of reliable and competitively priced electricity from environmentally responsible facilities using a diverse mix of fuels and technologies including natural gas, wind, solar, hydropower, geothermal, storage, biomass, nuclear, and coal.

Growing Demand, Continued Retirements

2,700
data centers in 2022

used 4% of U.S. total electricity, or 17 GW. That figure jumped to 21 GW in 2023.

By 2030, energy demand from data centers is projected to be **50 GW**

A previous estimate anticipated demand to potentially reach **35 GW by the same year.**

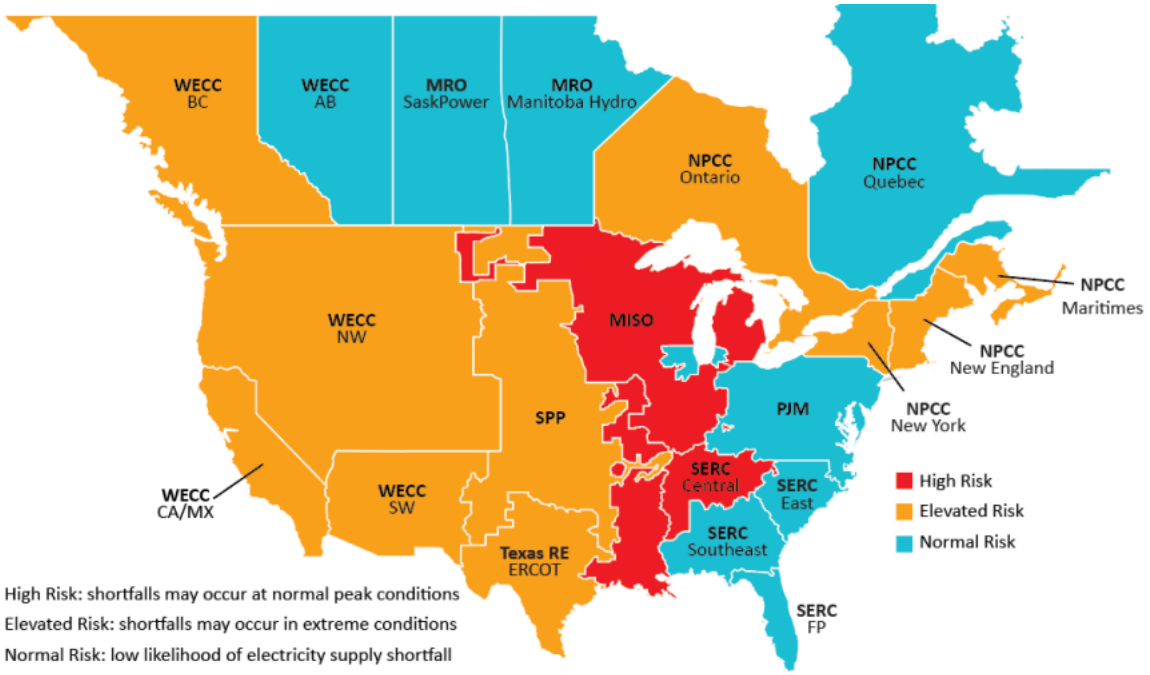


Figure 1: Risk Area Summary 2024–2028[8]

Generation Trends

As fossil generation is retired, resource growth is becoming more challenging. More than 83 GW of generator retirements are planned through 2033, and more are expected. Generation plans need to consider growing energy needs and grid stability.

EPSA

EPA Rules May Strain Reliability

- EPSA members are leading the way on CCS development without burdening customers.
- Barriers to broad deployment:
  - Pipeline infrastructure
  - Class VI well permitting
- A 2023 analysis by Ernest Moniz and EFI estimates that the U.S. would need +/- 50,000 miles of CO2 pipeline to successfully meet the EPA NOPR Requirement.

TENASKA

Tenaska's Longleaf CCS Hub to Support Carbon Reduction in South Alabama

CALPINE

Calpine's Baytown CCS Project Selected by the DOE to Advance Carbon Capture and Storage Infrastructure

Shell's Cansolv* CO_2 technology chosen for one of the world's largest carbon capture projects at a gas-fired cogeneration power station

SC&T supports Calpine's FEED of a post-combustion CO_2 capture facility based on Shell's Cansolv CO_2 technology for their Natural Gas Combined Cycle power plant.

EPSA

Competitive wholesale power markets remain the best vehicle to ensure a reliable energy expansion

Investments

THE WALL STREET JOURNAL.

Wall Street Giants to Make $50 Billion Bet on AI and Power Projects

KKR and Energy Capital Partners are targeting near-term power-generation projects to support AI development

By *Katherine Blunt* Follow

Oct. 30, 2024 6:45 am ET

THE WALL STREET JOURNAL.

LS Power Raises $2.7 Billion for Energy-Infrastructure Bets

The power-focused developer and investment firm sees the 'best investment environment' ever

By *Luis Garcia*

Aug. 27, 2024 6:30 am ET | WSJ PRO

S&P Global

Calpine signals plans to ramp up generation development in PJM

Helpful Enhancements

Change system planning parameters

Retain existing dispatchable resources

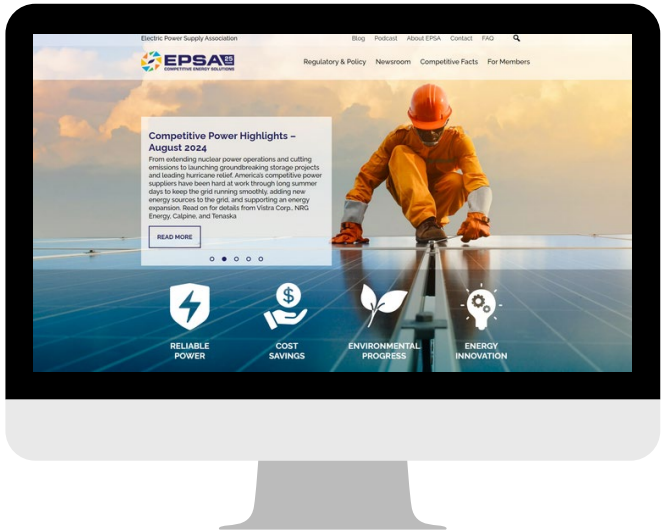
Wholesale market improvements and enhanced coordination between the electric and natural gas industries

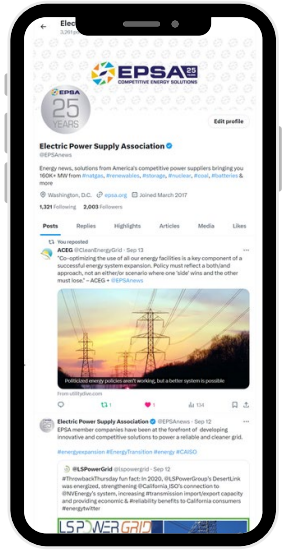
Greater certainty and efficiency in the federal permitting process

EPSA

THANK YOU

To learn more about EPSA, visit our website at epsa.org. Follow us on X @EPSANews, on LinkedIn, subscribe to our monthly newsletter, and listen to our podcast, Energy Solutions. Don't miss our special podcast series deep diving into issues surrounding load growth, Energy Rush.





The Electric Power Supply Association (EPSA)

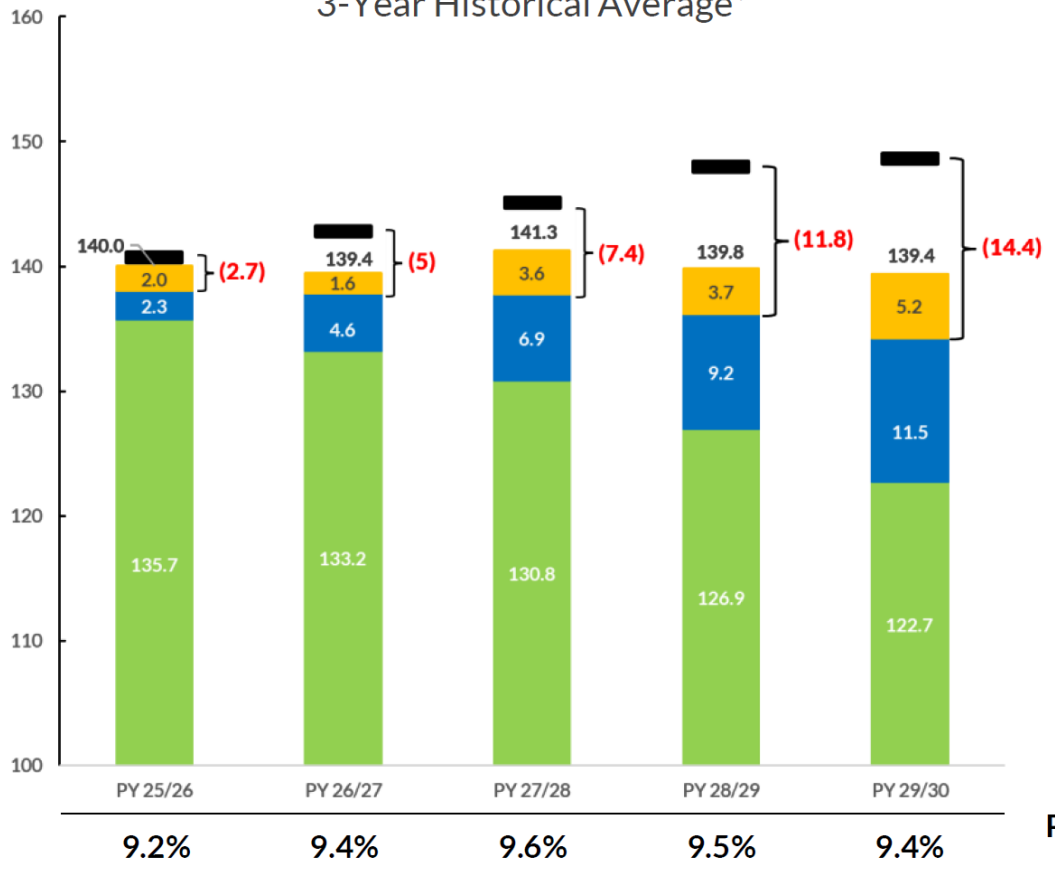
EPSA

Resource Adequacy Depends on Near Term Actions

2.3GW New Resources Built Annually

Resource Adequacy Projection – Summer (GW)

3-Year Historical Average*

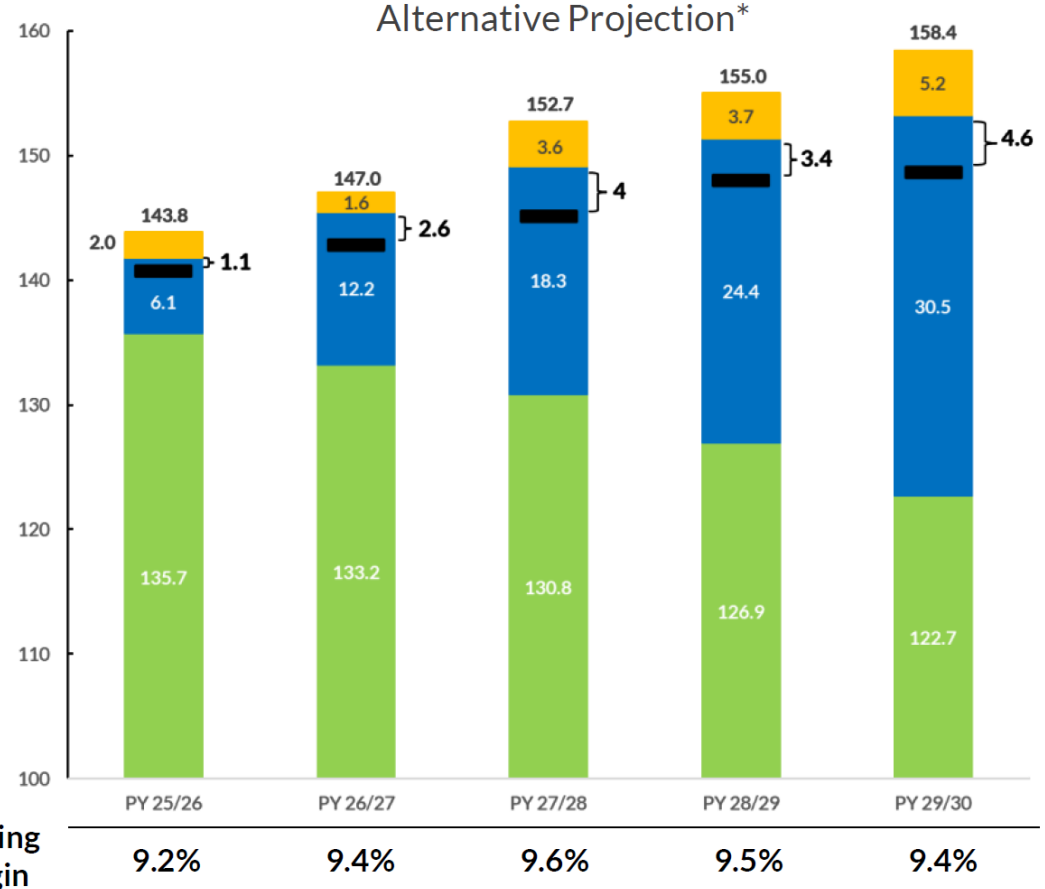


PRM% - Planning Reserve Margin: 9.2% | 9.4% | 9.6% | 9.5% | 9.4%

6.1GW New Resources Built Annually

Resource Adequacy Projection – Summer (GW)

Alternative Projection*



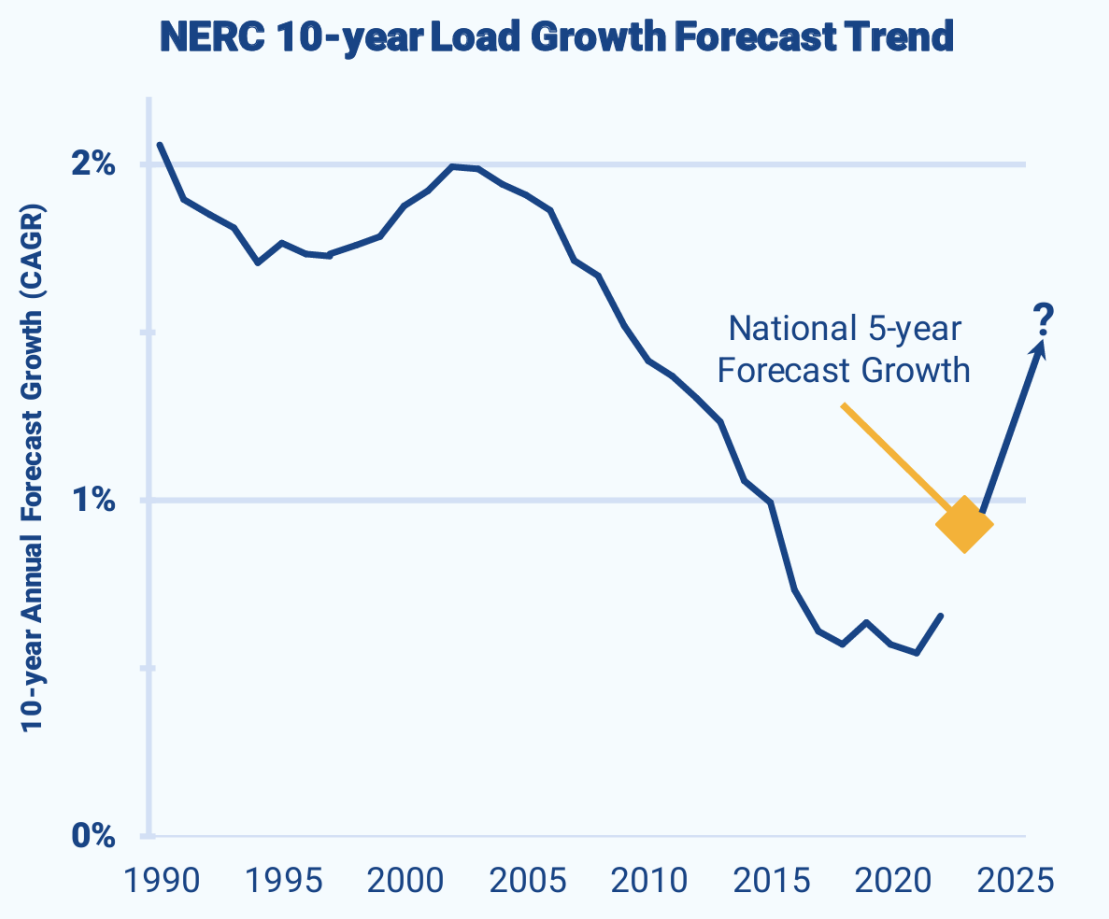
PRM% - Planning Reserve Margin: 9.2% | 9.4% | 9.6% | 9.5% | 9.4%

- Projected PRMR with LSE forecast
- Potentially Unavailable Resources
- Potential New Capacity
- Committed Capacity

- Bracketed values indicate difference between Committed + Projected New Capacity and Projected PRMR with LSE forecast
- Capacity accreditation values and PRM projections based on current practices
- Regional Directional Transfer (RDT) limit of 1900 MW is reflected in this chart

OMS MISO Survey - 2024 Results

Industry Wide Projections of Load Growth



NERC Data, Grid Strategies, National Load Growth Report (2023)

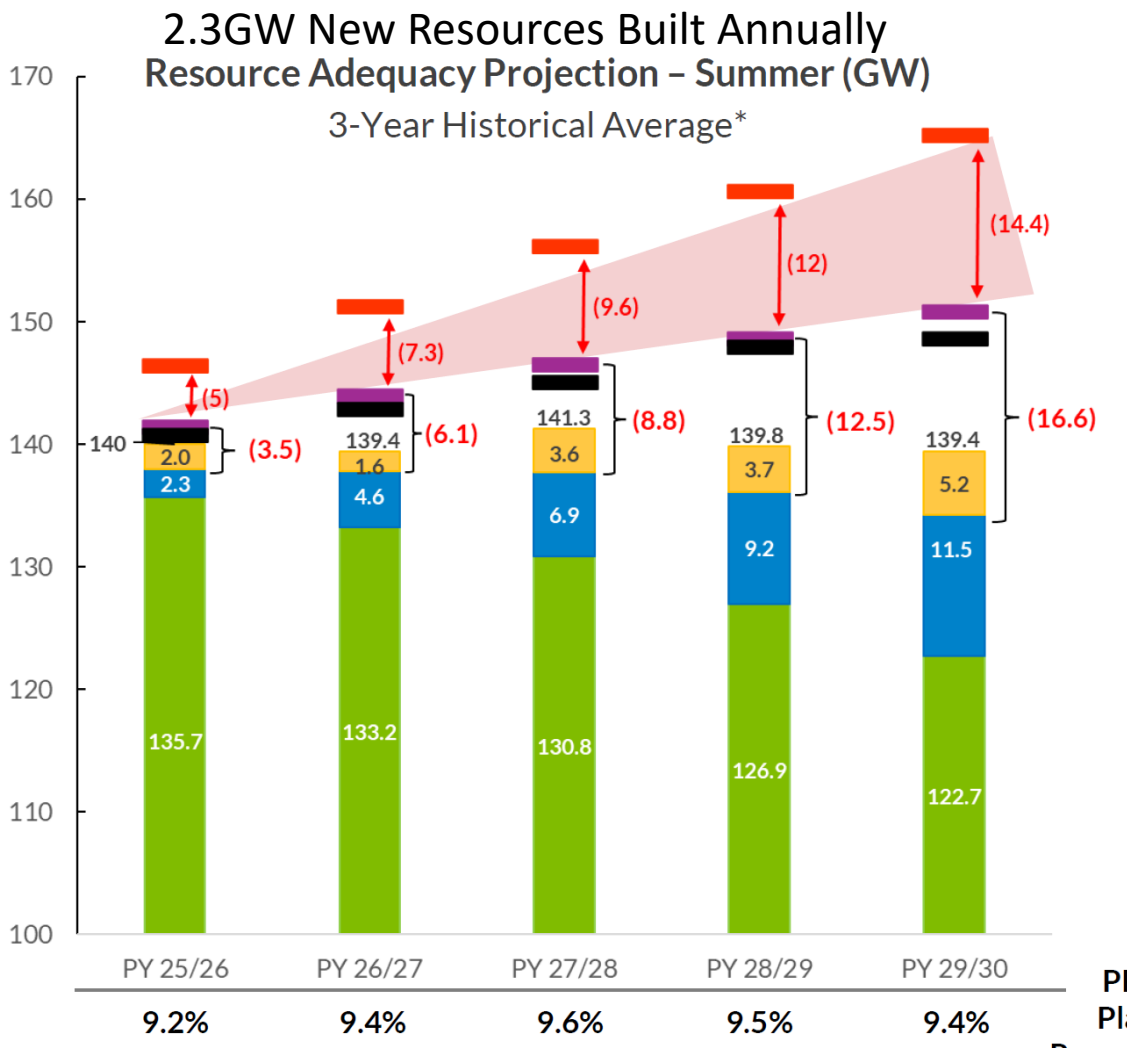
Selected Recent Utility and ISO/RTO Load Forecast Projections

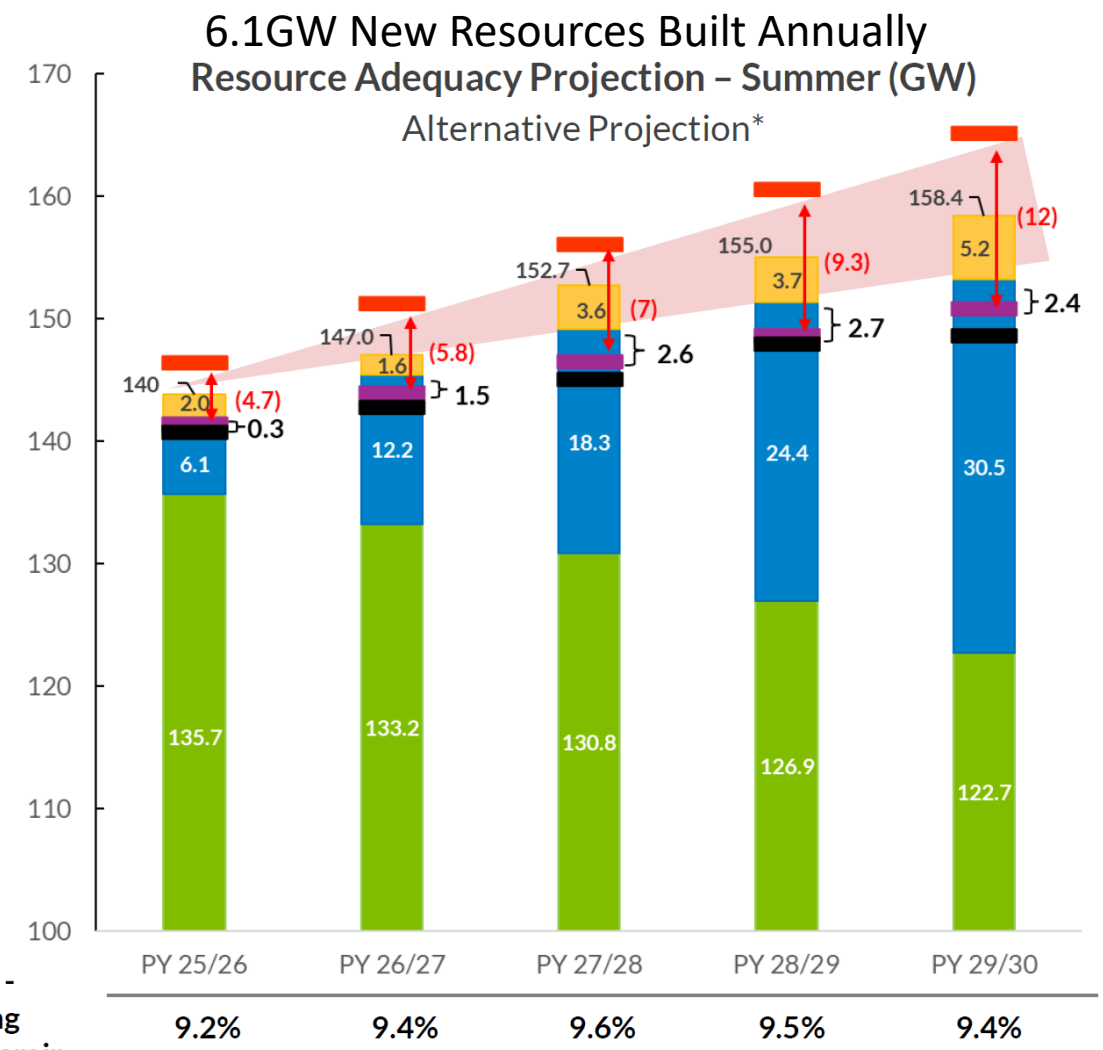
Company	Current Peak	Future Peak	% Increase	Forecast Source
ERCOT	85 GW	152 GW (2028)	79%	Apr 2024 Legislation
Dominion	22 GW	33.5 GW (2030)	53%	PJM 2024 Load Forecast
Georgia Power	15 GW	21.6 GW (2030)	44%	2023 IRP Revision
APS	8 GW	9.8 GW (2030)	23%	2023 IRP
Duke	31.7 GW	36 GW (2030)	14%	2023 IRP

EPRI Utility Experiences and Trends Regarding Data Centers: 2024 Survey

Read the full report

New Load Growth Needs Corresponding Generation or Demand Side Solutions





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