

The State of the U.S. Power Markets

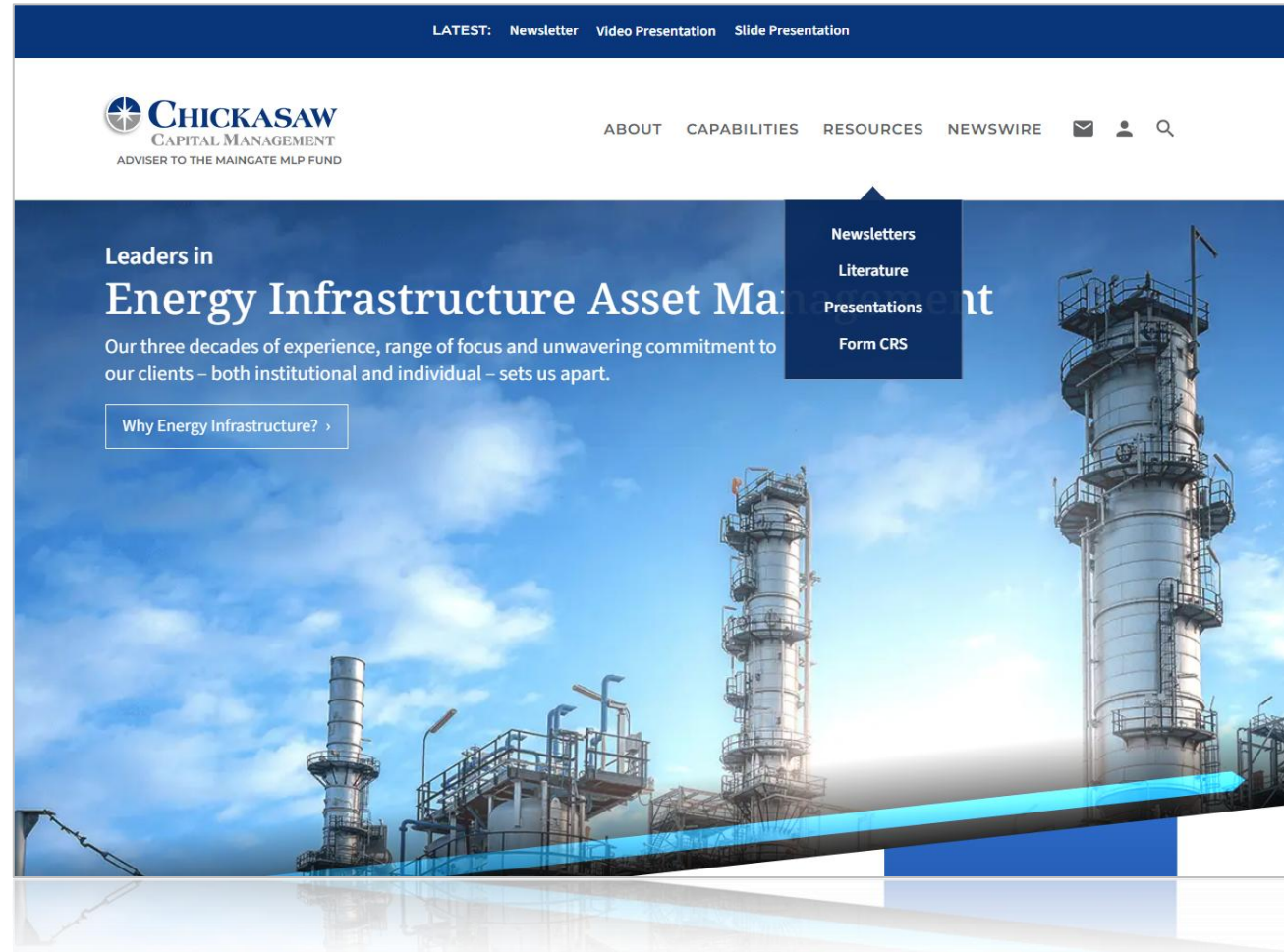
EPISODE 3

Load Growth Driver: Powering AI

OCTOBER 2025



www.chickasawcap.com/presentations/

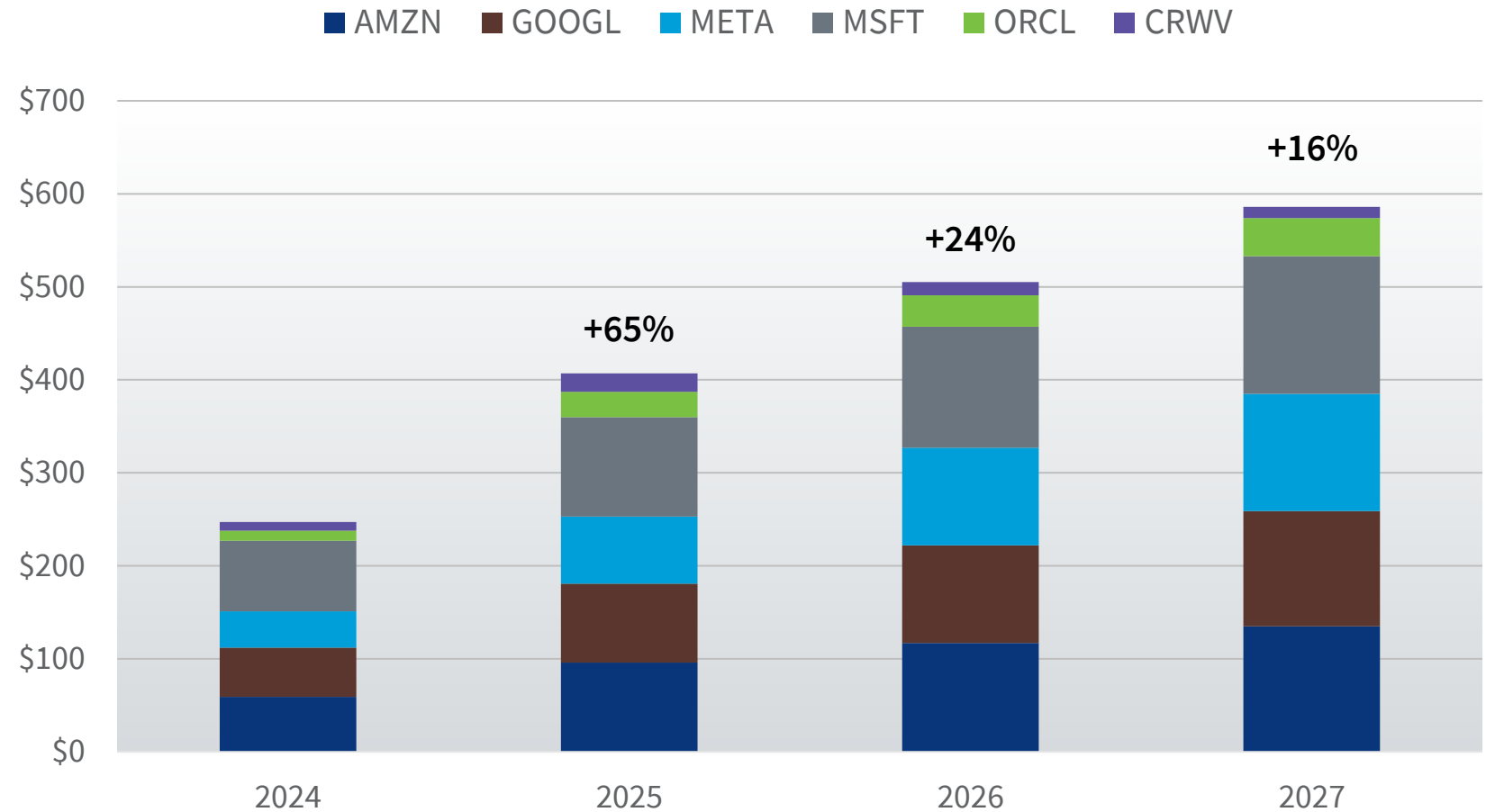


Hyperscalers Capex (\$bn)

The ramp up in capex from the hyperscalers has been nothing short of prolific, with 2026 capex expected to come in at half a trillion dollars after breaking \$100bn in annual spend for the first time in 2020.

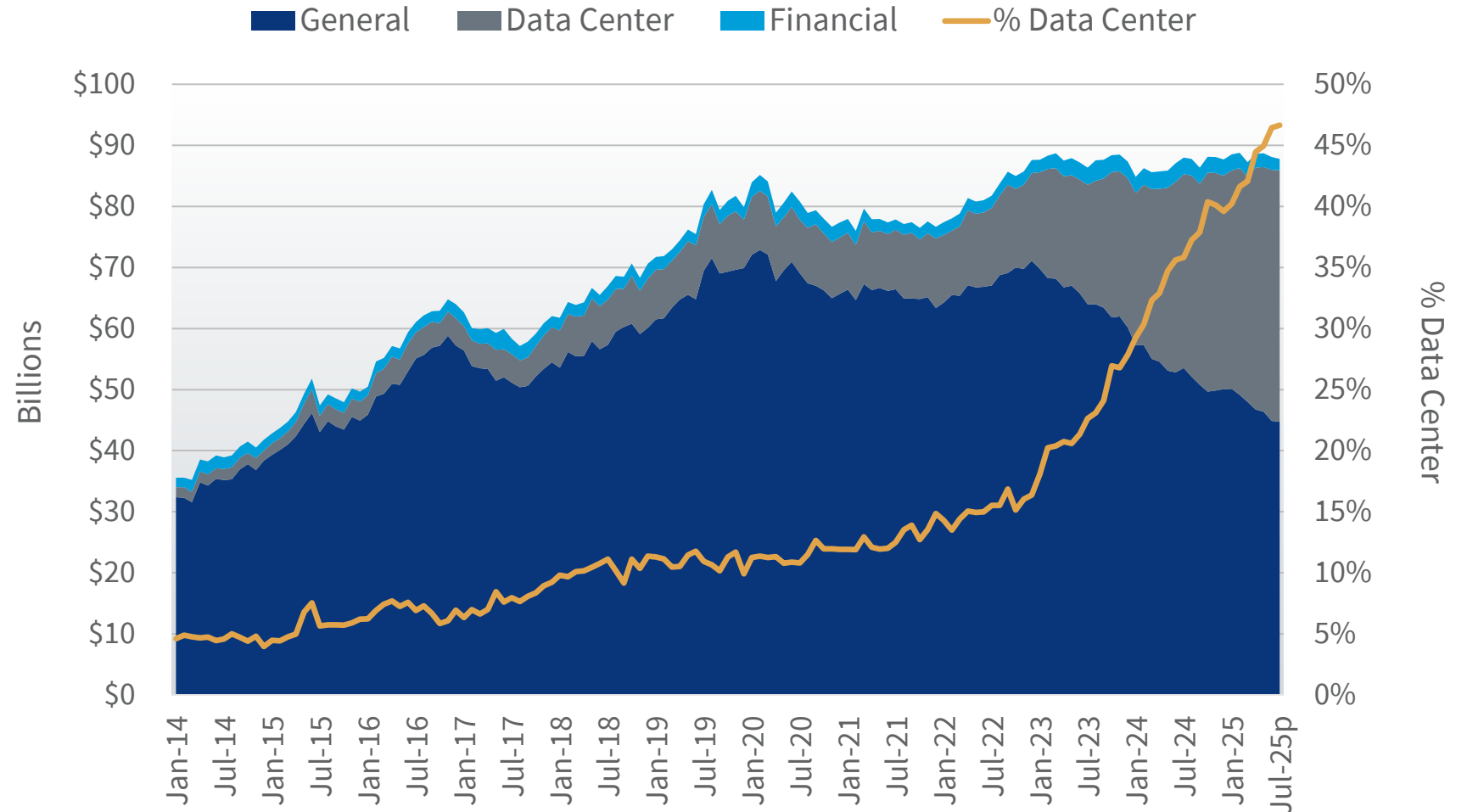
AI infrastructure spending currently contributes more to the economy's overall growth rate than all of consumer spending.

Source: Morgan Stanley, "Top Debates, Catalysts & Picks into '26," September 16, 2025; Wall Street Journal, "Silicon Valley's New Strategy: Move Slow and Build Things," August 1, 2025



Private US Office Construction Spend (Seasonally Adjusted Run-Rate)

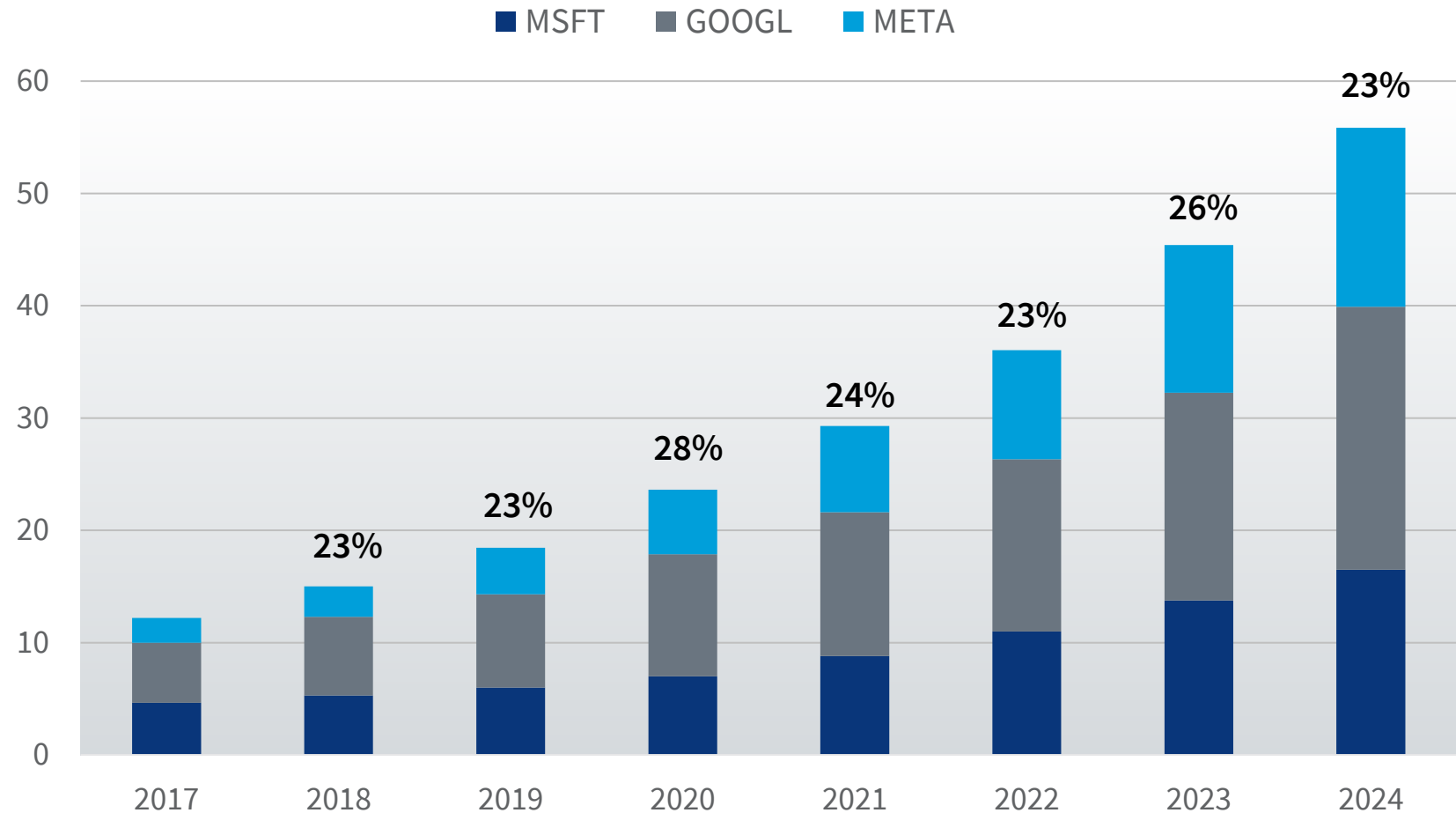
In the past three years, construction on data centers has grown from 15% of total private U.S. office construction spend to 47% as of July 2025, representing a \$41bn annualized investment.



Source: US Census Bureau, "Construction Spending: Historical Value Put in Place," September 2, 2025

Electricity Use (Twh) of Select US Hyperscalers

Hyperscale electricity use has grown >20% annually over the past 8 years, tracking the growth in dollars invested.



Source: Barclays, "Powering AI: Meta's Energy Disclosure Signals No Slowing Down," September 17, 2025

The amount of power a data center will consume is primarily dependent on the wattage per GPU die, the number of dies in a chip, the number of chips within a rack, and the number of racks within the data center.

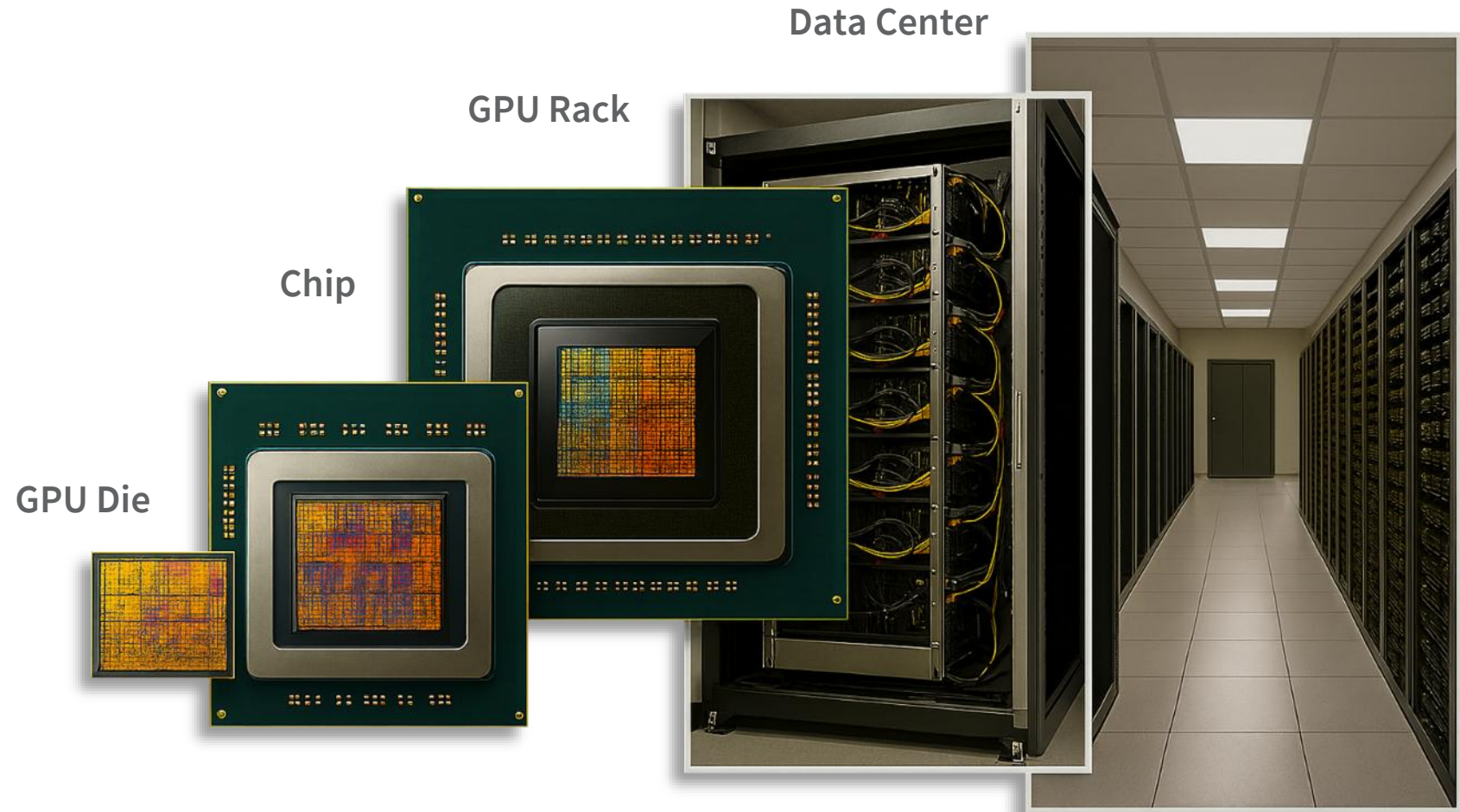


Image generated with Microsoft Co-Pilot

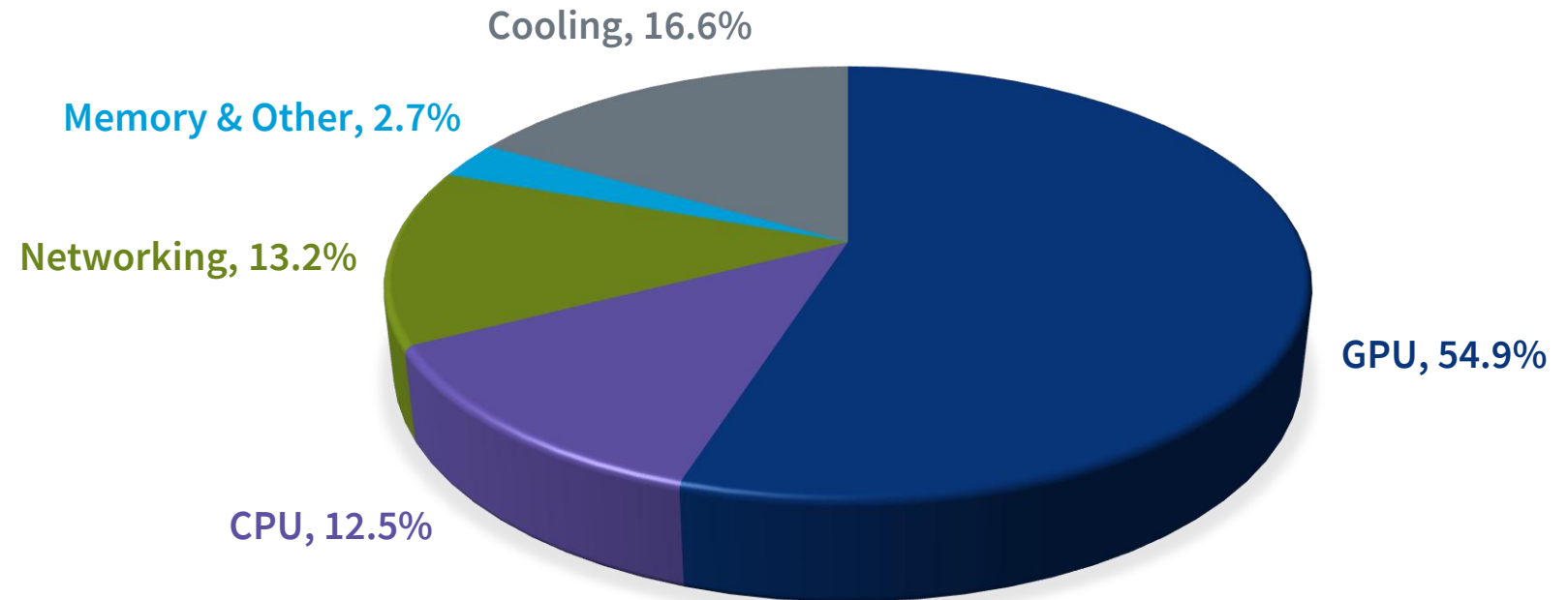
In addition to GPU/CPU power draw, data centers also require power for networking and cooling systems.

Networking integrates the servers with cables, routers, switches, etc. Power for networking increases with computing power.

Cooling systems are required to keep the servers from overheating.

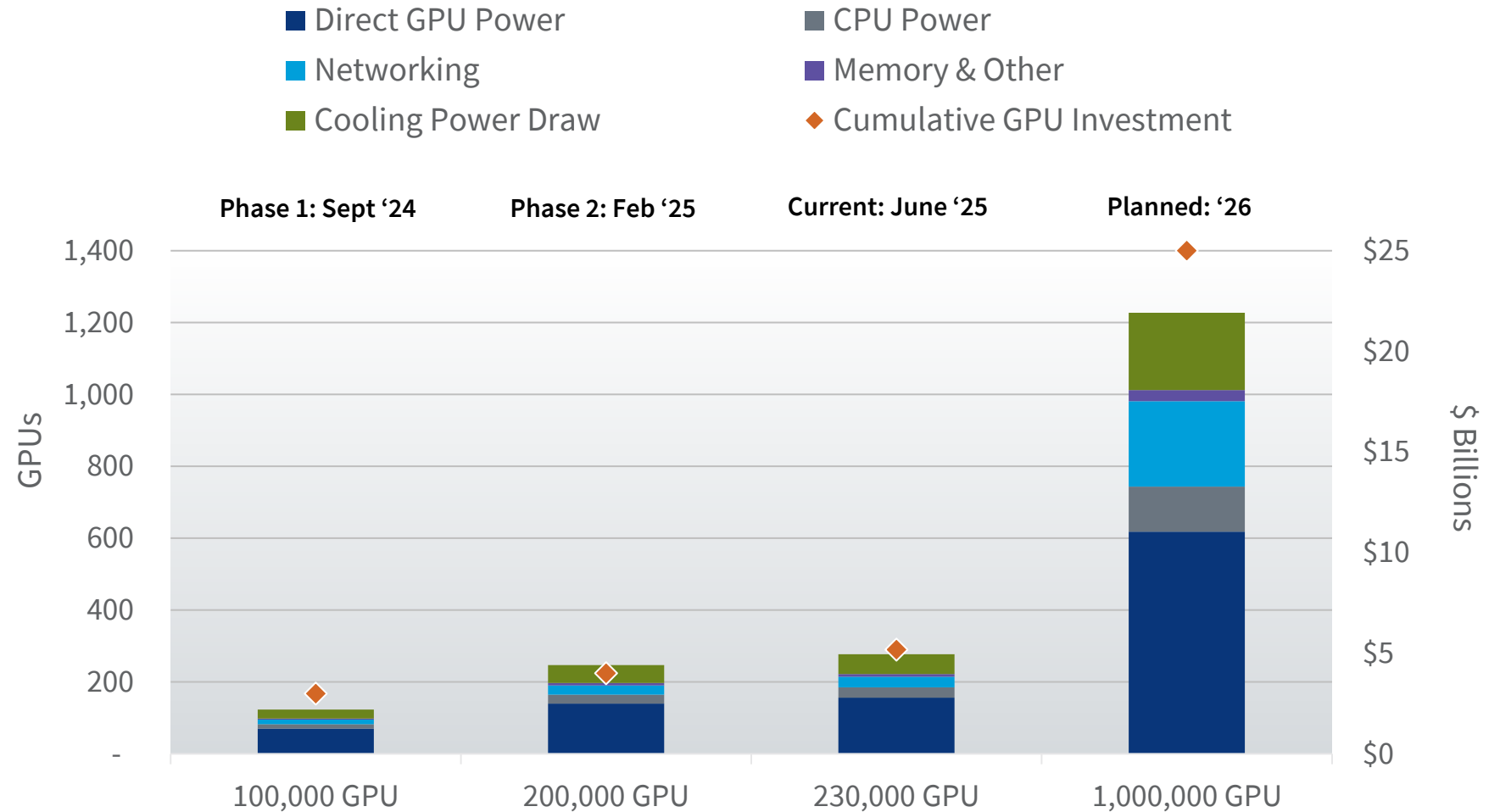
Source: Wells Fargo Securities, "AI Power Surge – From Dollar to Watts – Using Capex to Forecast Power Growth," April 22, 2025

Power Draw Breakdown of a Data Center Using Blackwell B200 Chips



xAI's Memphis Data Center: Colossus

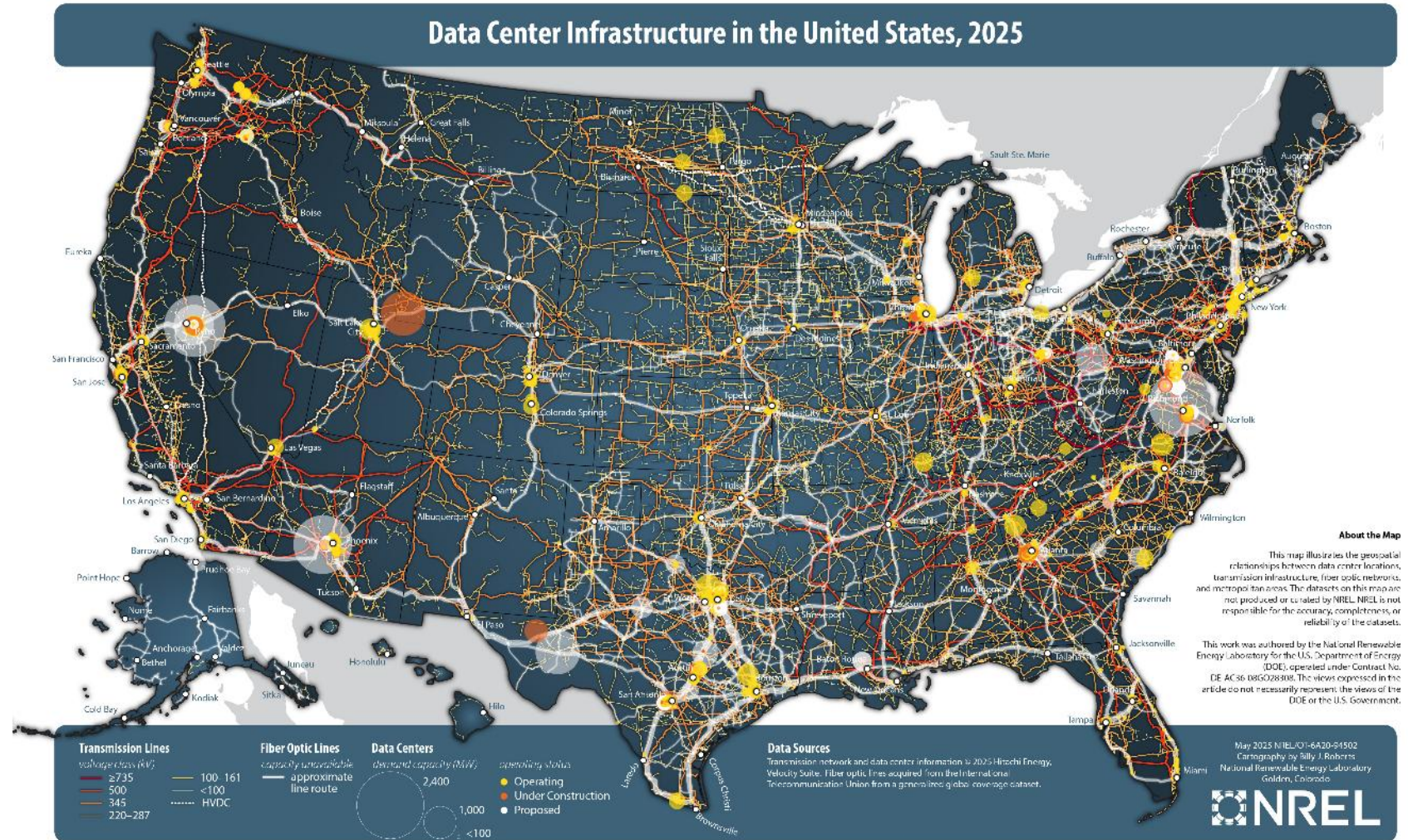
xAI plans to make Colossus the world's first 1 million GPU supercomputer by 2026, which will require more than \$20bn in chips and will require 1.2GW of power. This will equate to 40% of Memphis' current 3GW of demand.



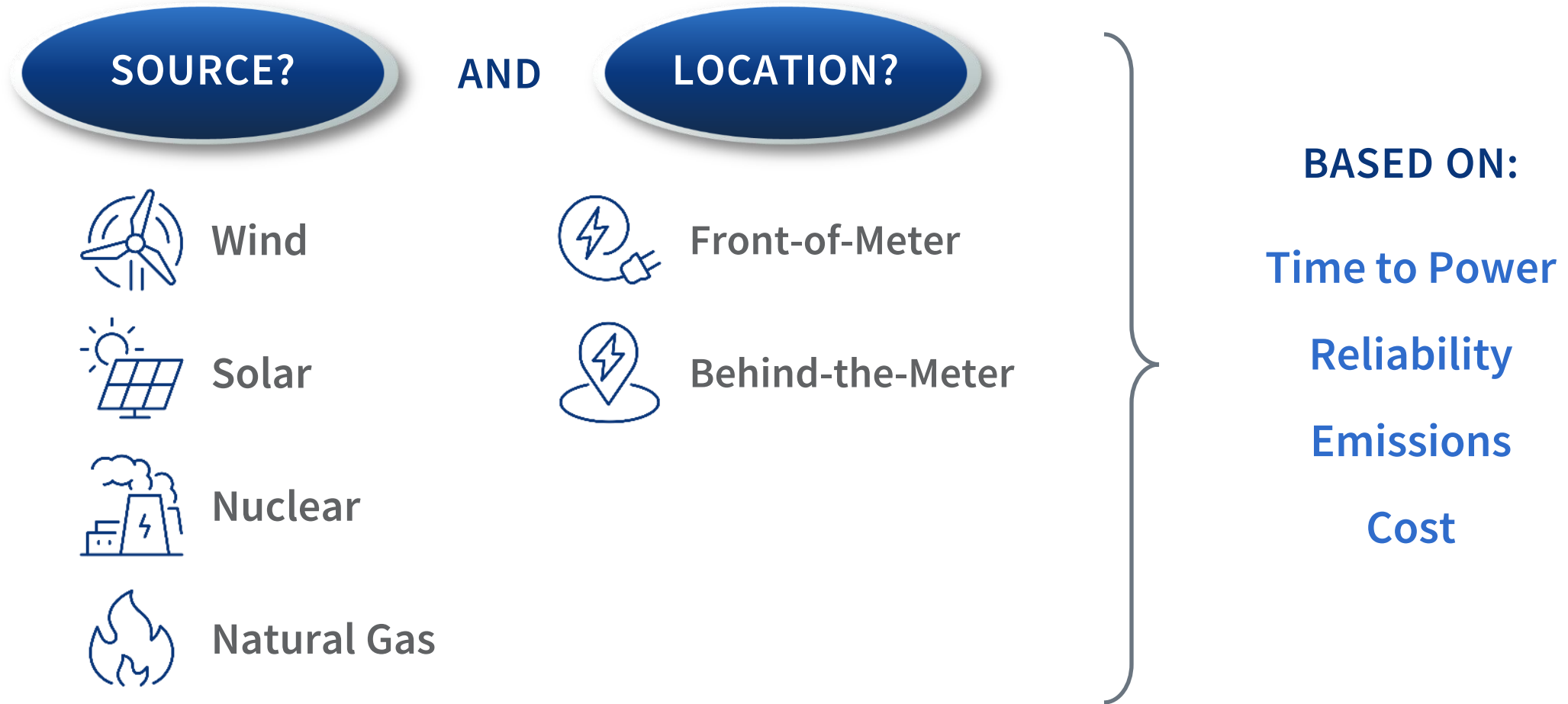
Source: Wells Fargo Securities, "AI Power Surge – From Dollar to Watts – Using Capex to Forecast Power Growth," April 22, 2025; CCM Estimates

Data Centers: Planned & Under Construction





More than 350 data centers are being planned or are under construction across North America.



Source (text): TC Energy, "Corporate Profile," August 2025; (graphic) National Renewable Energy Laboratory, "Data Center Infrastructure in the United States, 2025," 2025.



Time to Power by Generation Type

	Energy Source	Typical Timeline	Development Risk	Notes
	Solar	1-2 years	Low	Often completed ahead of schedule
	Wind	2-3 years	Moderate to High	Currently seeing a rise in project cancellation and delays
	Natural Gas	2-5 years	Moderate	Timeline can vary by location and tech type
	Nuclear	10 – 15+ years	Very High	Historic cost overruns average ~103% and 2-year delays

Source: Institute for Global Sustainability, “Investment Risk for Energy Infrastructure Construction Is Highest for Nuclear Power Plants, Lowest for Solar,” May 2025; Institute for Energy Research, “Construction Costs for Gas-fired Power Remains Well Below Those for Solar and Wind,” November 4, 2024, CCM

Front-of-Meter (FTM)

- Connect directly into the local grid where available capacity exists
- Time to power dependent on the supply chain bottlenecks referenced in the prior slide + the length of the queue to receive a grid interconnect from the utility.
- Connection times across the country are increasing. Our research indicates current wait times are 8-10 years in parts of the West, 7-8 years in the PJM Interconnection, and approaching 6 years in the Electric Energy Council of Texas, or ERCOT.

Behind-the-Meter (BTM)

- Generation tied directly to end user
- Time to power dependent only on the supply chain bottlenecks referenced in the prior slide

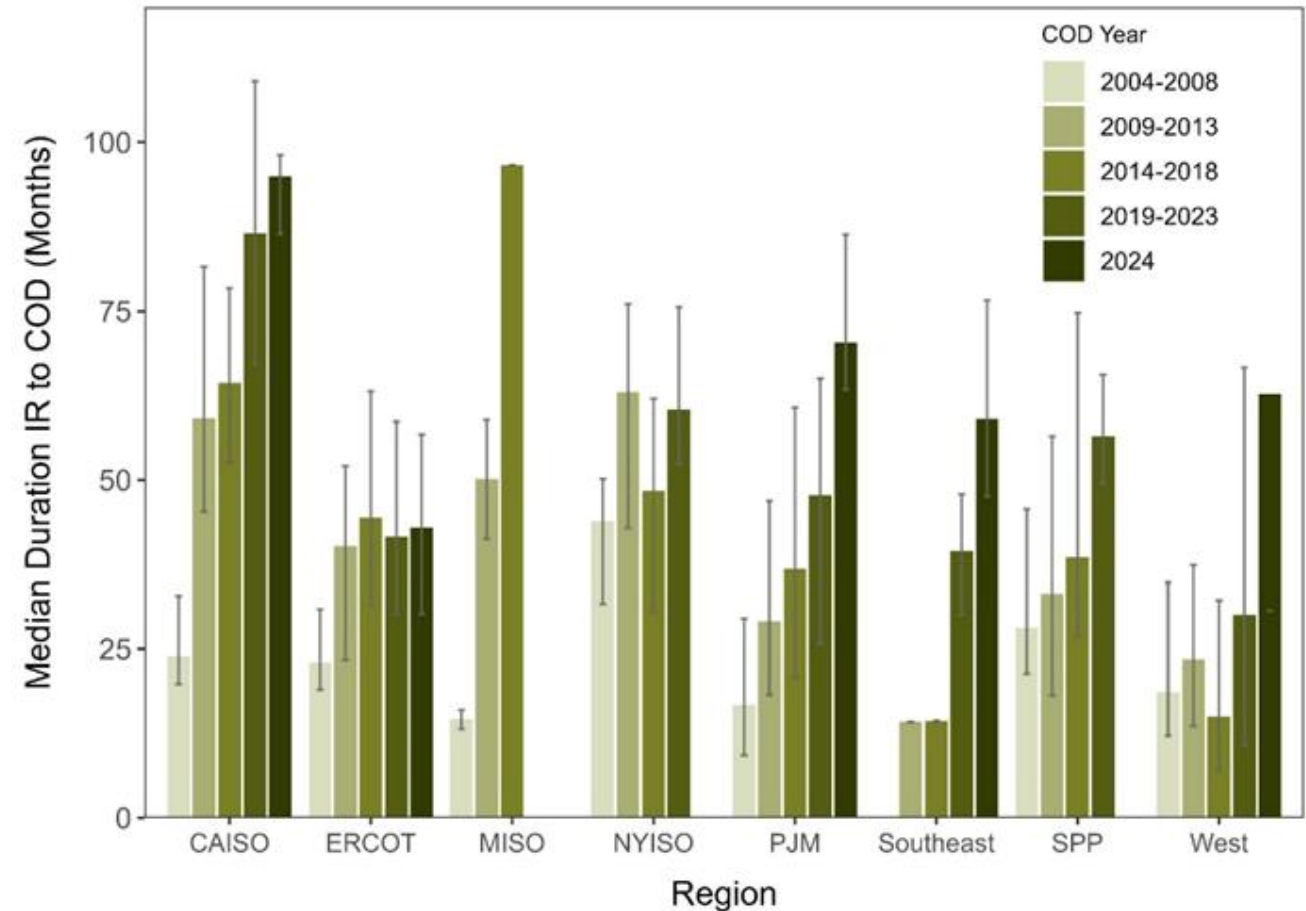
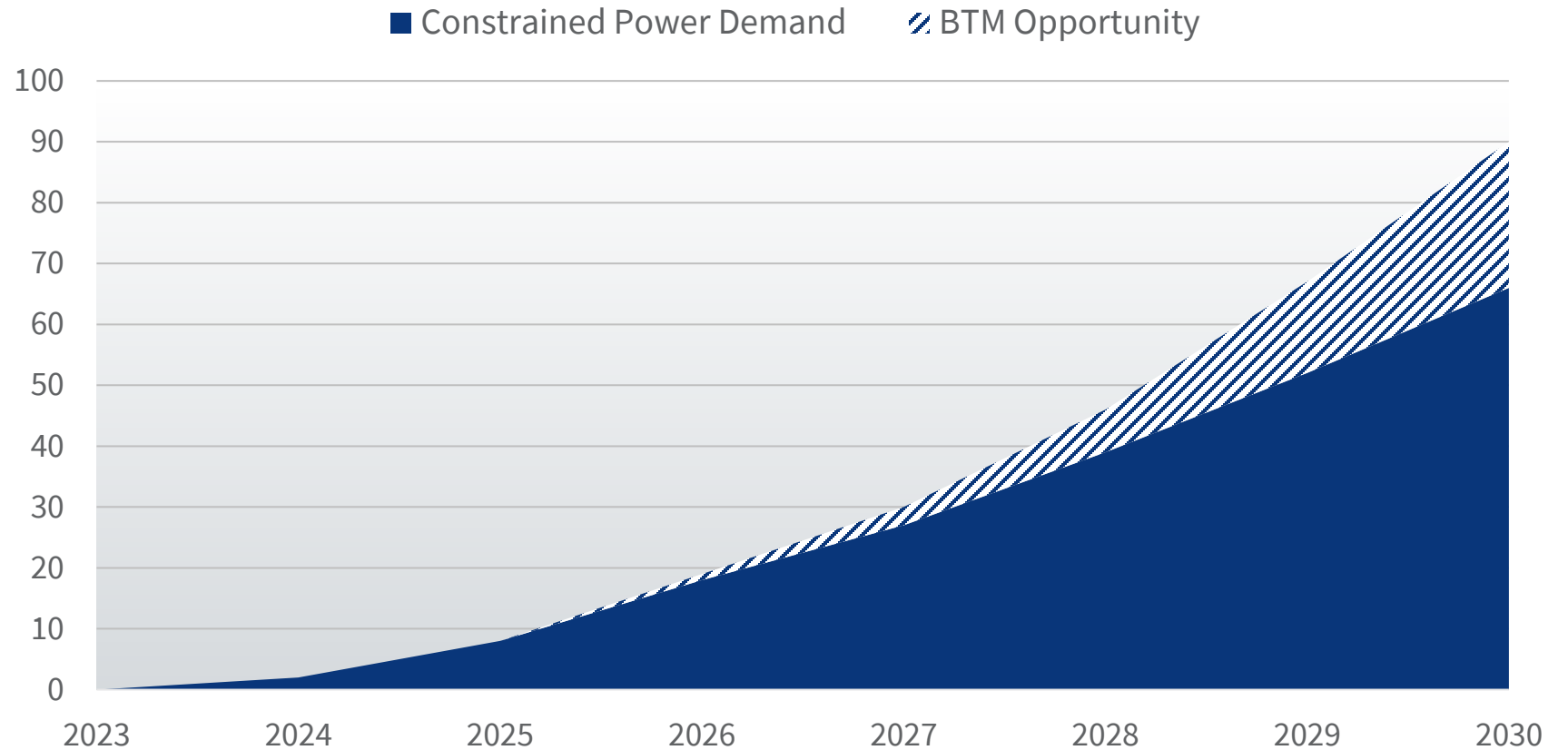


Chart Source: Lawrence Berkley National Laboratory "Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection," August 2025

Based on the limited availability of large-scale turbines and backlog of interconnection requests, there could be a 25 GW opportunity for behind the meter power through 2030.

Unconstrained AI Power Demand (GW)



Source: Wells Fargo Securities, "AI Power Surge: Capex & ASIC Adoption Push Our Power Demand Forecast Higher," September 22, 2025

Wind and Solar offer non-dispatchable or intermittent power with capacity factors ranging from 25-35%. Batteries currently offer only several hours of storage.

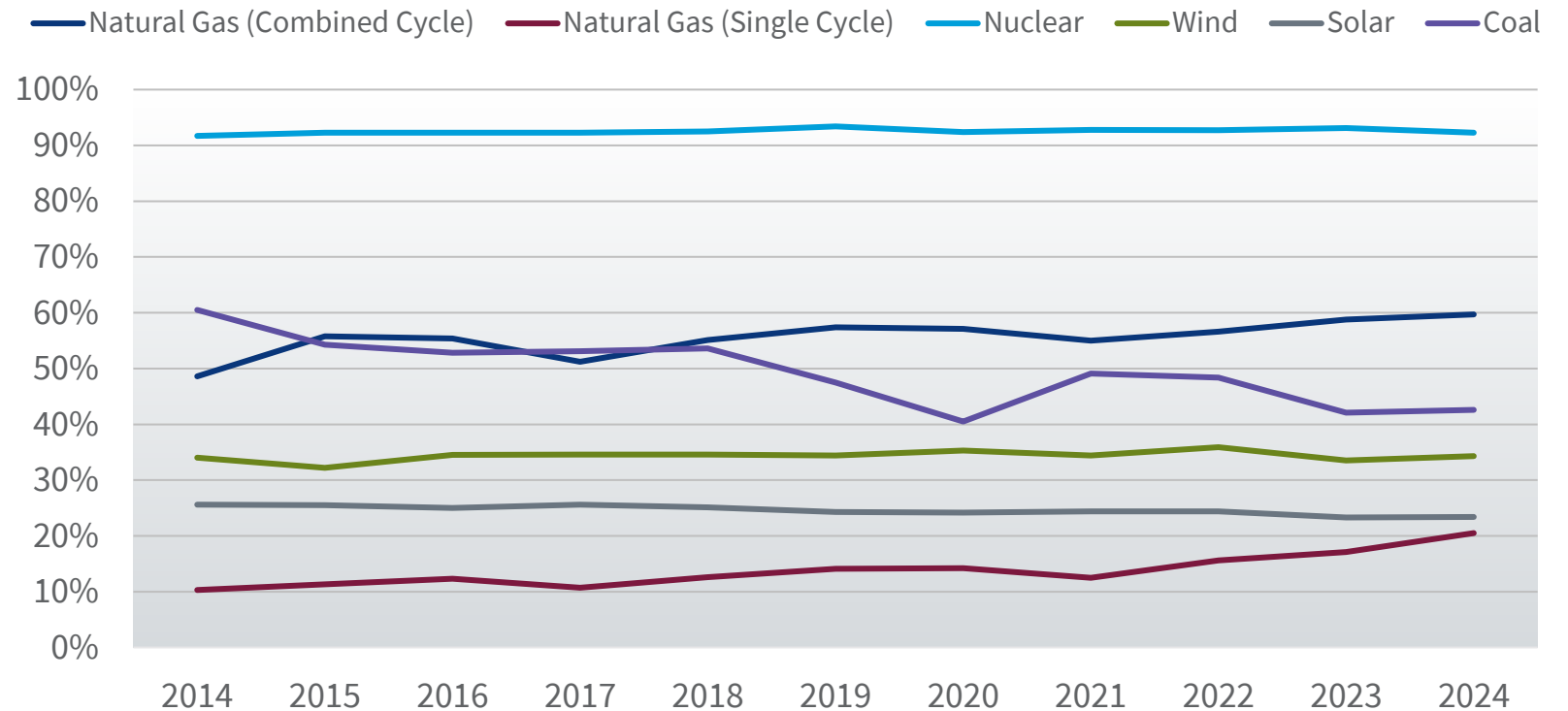
Nuclear offers baseload dispatchable power with +90% capacity factors

Natural gas offers baseload dispatchable power with 40-60% capacity factors depending on turbine type.

Source: EIA: Electric Power Monthly

Data centers require “5 9’s” reliability or 99.999% operational uptime

Average Annual Capacity Factor by Source





Front-of-Meter

PRO

- The grid has built-in redundancy

CON

- The grid has become less stable over time due to new intermittent sources and retiring baseload capacity



Behind-the-Meter

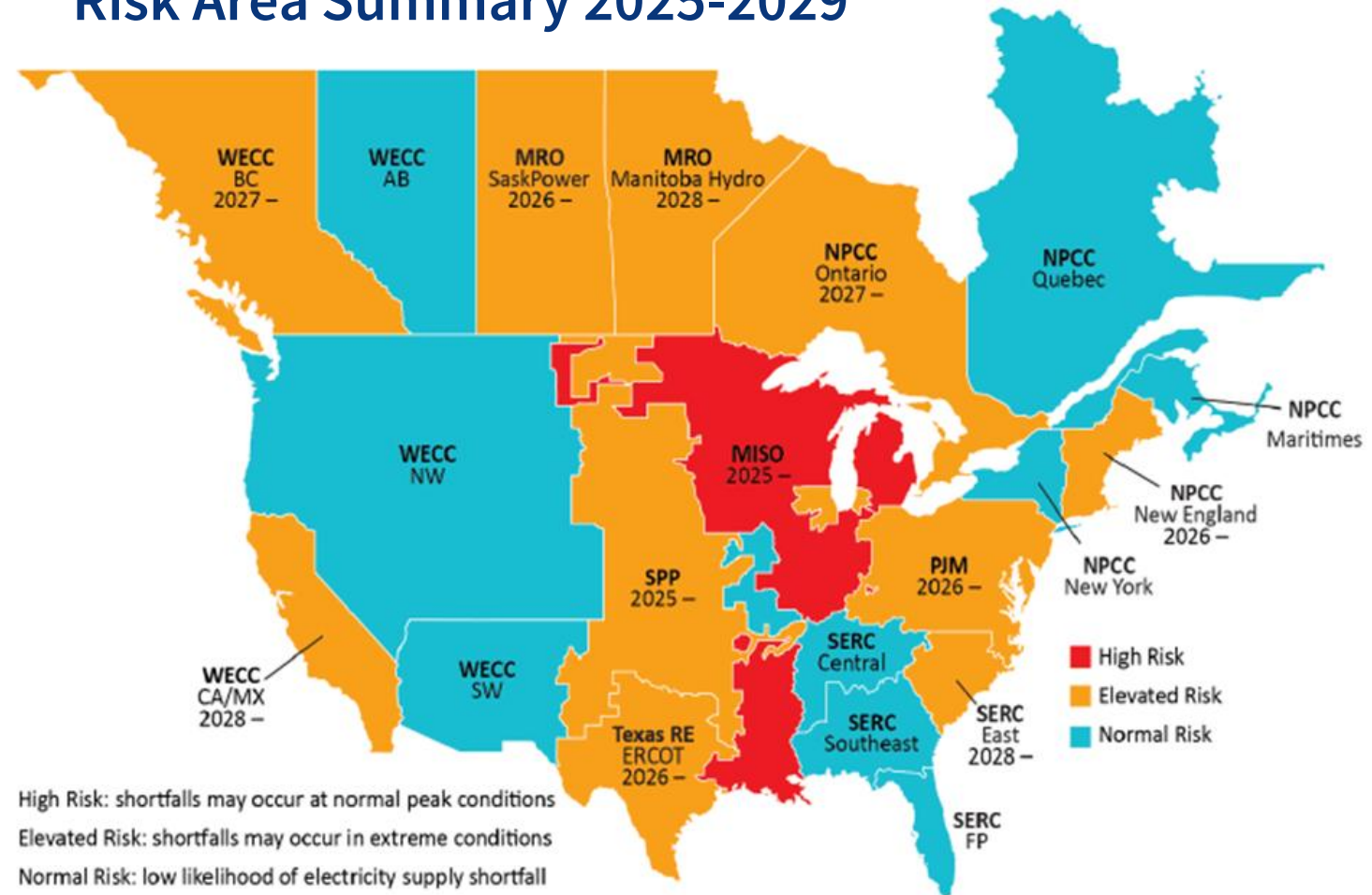
PRO

CON

Much of the U.S. and even Canada are at an elevated or high risk of experiencing supply short falls during normal and or extreme weather conditions over the next 5 years.

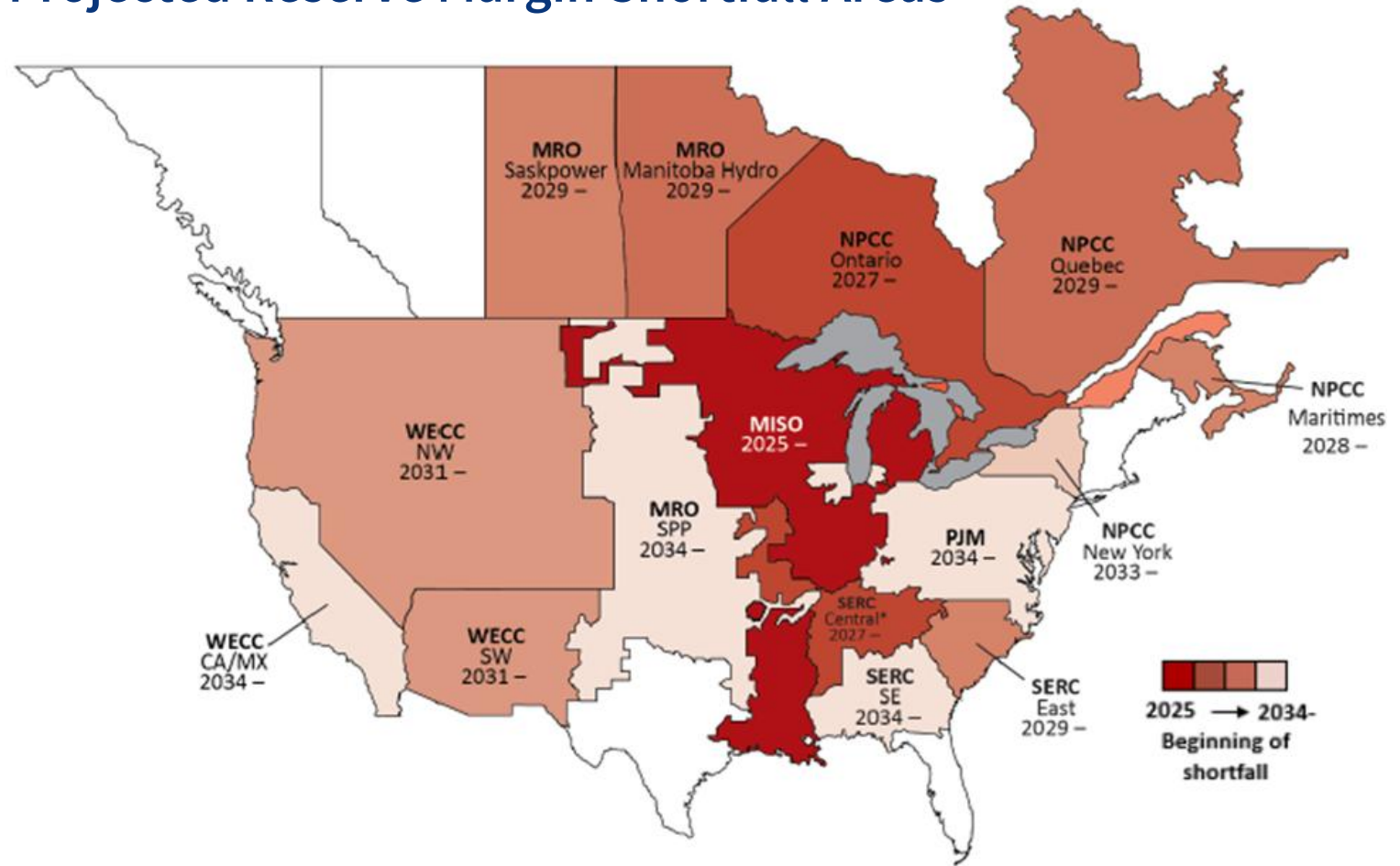
Source: North American Electric Reliability Corporation, "2024 Long-term Reliability Assessment," December 2024

Risk Area Summary 2025-2029



Reserve margins, a measure of excess generating capacity, are expected to reach critical levels for much of the continent if aging baseload coal and gas plants continue to retire as planned.

Projected Reserve Margin Shortfall Areas



Source: North American Electric Reliability Corporation, "2024 Long-term Reliability Assessment," December 2024



Front-of-Meter

PRO

- The grid has built-in redundancy

CON

- The grid has become less stable over time
- Utilities are requiring data centers to curtail load during high stress events
- “Bring Your Own Power” to the grid
- On-site back up still required (turbines, batteries, fuel cells)



Behind-the-Meter

PRO

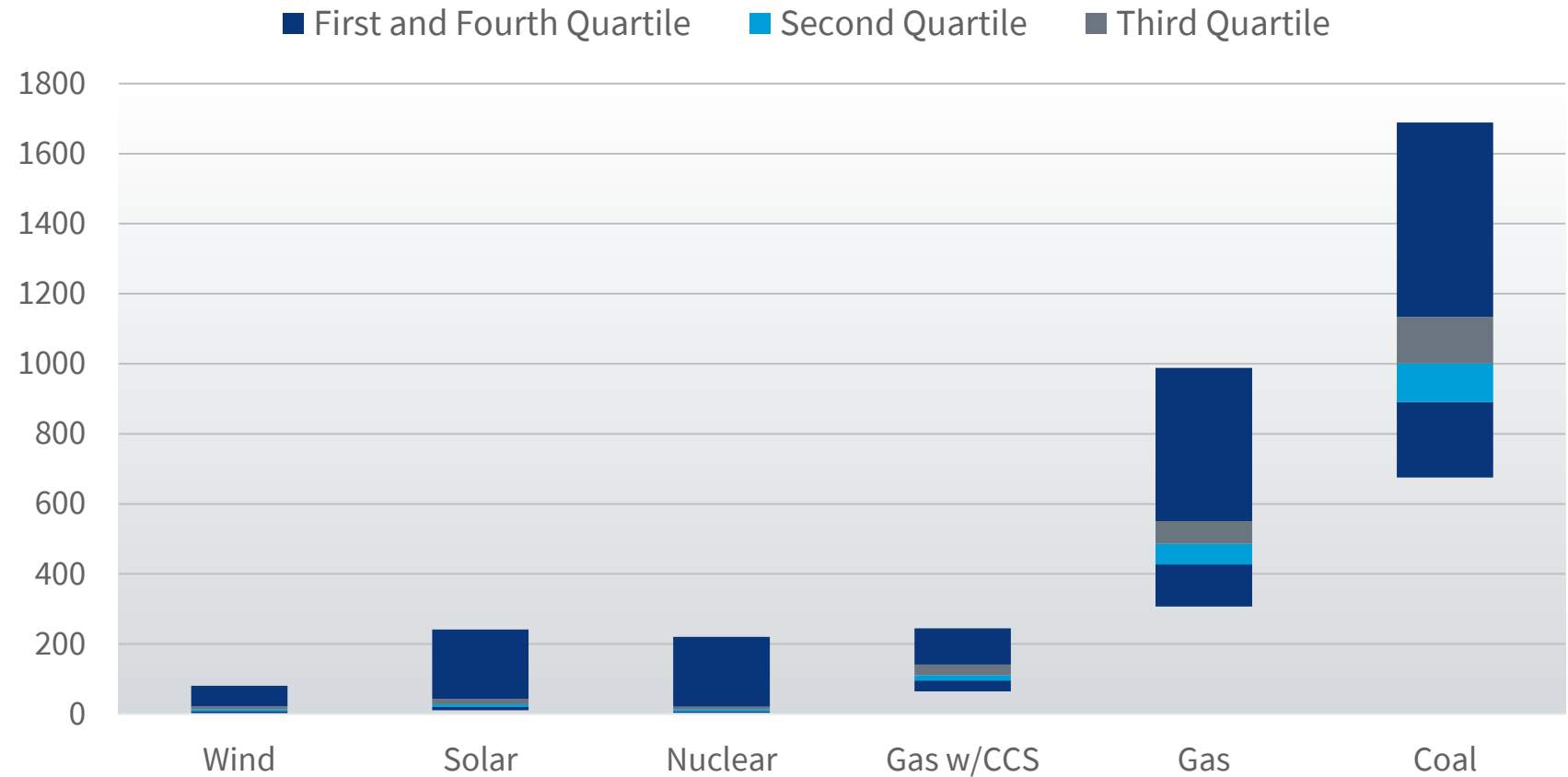
- In control of your own power
- Potential to use the grid as a backup

CON

- Need to build excess capacity to achieve “5 9s” (99.999%) reliability. Aero-derivative turbines offer a more cost-effective solution.

Natural gas power generation, when combined with carbon capture, compares favorably to wind, solar, and nuclear generation.

Life Cycle Emissions Factors for Electricity Generation Technologies (gCO₂e/kWh)



Source: National Renewable Energy Laboratory, "Life Cycle Emissions Factors for Electricity Generation Technologies," January 21, 2025



Front-of-Meter

PRO

- Easier to build wind and solar in front of the meter
- Average grid mix is 41% renewable generation, which creates a lower emissions profile than behind the meter fossil fuel powered generation

CON

- Average grid mix uses 59% fossil fuel generation
- Will need to use carbon credits or Virtual Power Purchase Agreements (VPPA) to offset grid emissions which can compound grid instability over time



Behind-the-Meter

PRO

- In control over power generation emissions
- Can limit emissions with carbon capture or SMR technology
- Gas and SMR power have smaller footprints

CON

- Average grid mix could have a lower emissions profile than 100% gas powered generation unless using carbon capture
- SMR is a nascent technology, and could see public pushback

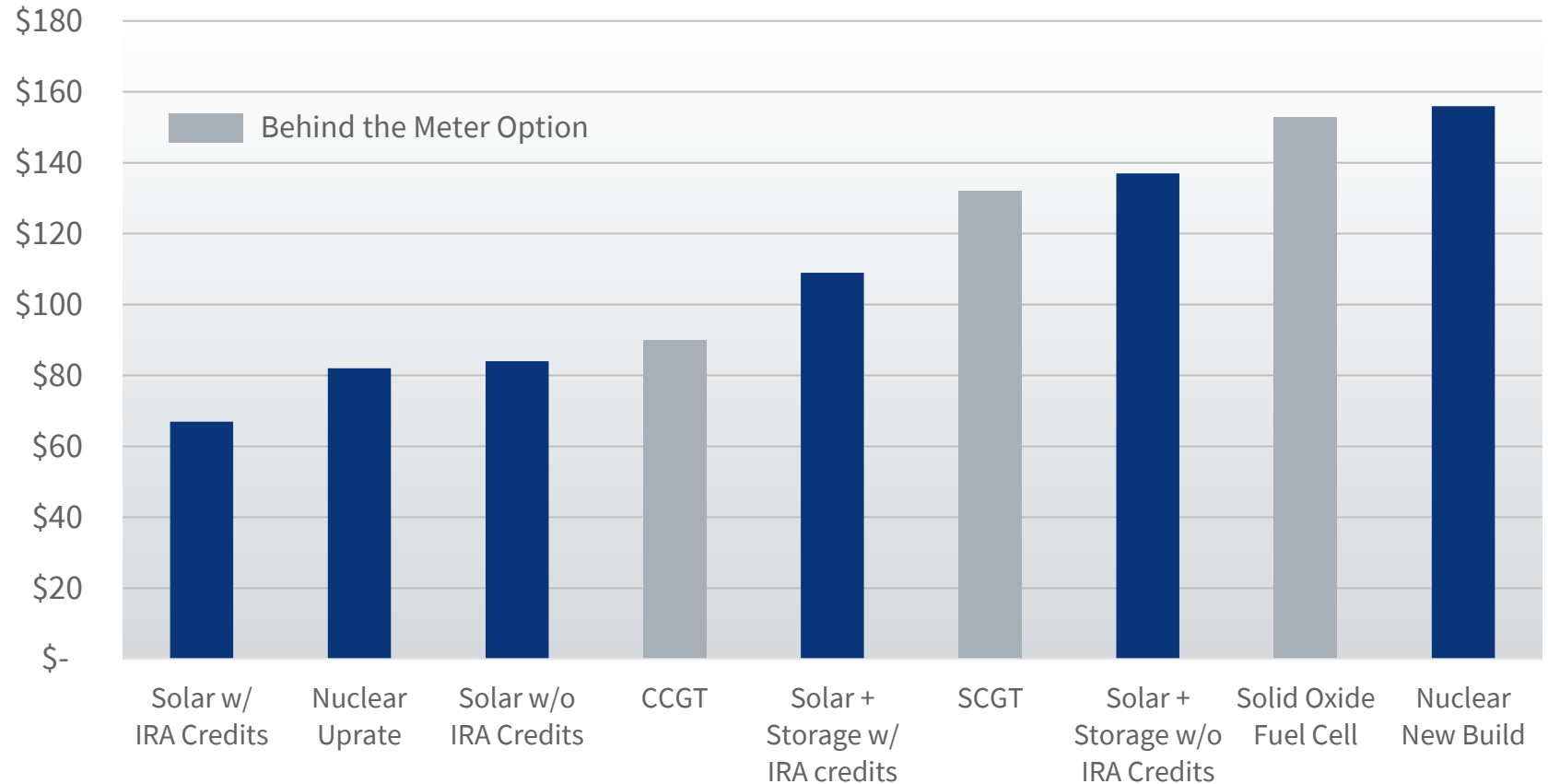
New combined cycle gas turbines (CCGT), and single cycle gas turbines (SCGT) compare favorably to nuclear and solar when incorporating storage costs.

Power costs are only 10-20% of a data centers total cost.

Speed to market can more than offset the cost of building your own power.

Sources: Wells Fargo Securities, "AI Power Surge: Capex & ASIC Adoption Push Our Power Demand Forecast Higher," September 22, 2025, Morgan Stanley, "Powering AI: Assessing the Landscape," September 10, 2025; CCM

Comparative LCOE Estimates By Source (\$/MWh)





Front-of-Meter

PRO

- Many Utilities are regulated which caps their return on investment to protect customer rates

CON

- Some Utilities are unregulated and can charge prevailing market prices
- New rate structures required to ensure non-data center customers aren't subsidizing the data center load



Behind-the-Meter

PRO

- Lower infrastructure and feedstock costs can result in power prices at parity or better than the grid
- Avoid grid transmission fees

CON

- Infrastructure providers could require a higher return on investment than a regulated utility in exchange for speed-to-market and reliability

Data Center Power Solution Scorecard

	Energy Source	Time to Power	Reliability	Emissions	Cost
	Wind	⚖️	⚡	+	⚖️
	Solar	+	⚡	+	+
	Natural Gas	+	+	⚖️	+
	Coal	N/A*	+	⚡	+
	Nuclear	⚡	+	+	⚡

*There are no new or proposed coal plants in the United States.

Disclosures

This video presentation was recorded in October 2025 and may not be copied, distributed, published or reproduced in any form in whole or in part. This video presentation was prepared for discussion and illustrative purposes only and should not be construed as investment advice or an offer, solicitation or recommendation to buy or sell any security, product or service. Current and future holdings are subject to numerous risks, and past performance does not guarantee future results. Investments in securities will not always be profitable, and investors may lose money, including principal. Chickasaw Capital Management gives no guarantees with respect to the success of its investment management services and has not authorized any person to represent or guarantee any particular investment results.

Securities identified do not represent all of the securities purchased, sold or recommended to advisory clients.

Any views or opinions expressed by the speakers are subject to change any time without notice based upon market or other conditions. Chickasaw Capital Management disclaims any responsibility to update such views. These views should not be relied on as investment advice and, because investment decisions are based on numerous factors, may not be relied on as an indication of trading intent on behalf of any Chickasaw Capital Management product. Chickasaw Capital Management cannot be held responsible for any direct or indirect loss incurred by applying any of the information presented.

Chickasaw Capital Management does not provide legal, tax or accounting advice. Any statement contained in this communication concerning U.S. tax matters is not intended to be used, and cannot be used, for the purpose of avoiding penalties imposed on the relevant taxpayer. Clients of Chickasaw Capital Management should obtain their own independent tax advice based on their particular circumstances.

Further information can be found at www.chickasawcap.com. Copyright by Chickasaw Capital Management 2025. All rights reserved.

Additional Information

Chickasaw Capital Management, LLC gives no guarantees with respect to the success of its investment management services and has not authorized any person to represent or guarantee any particular investment results. Any historical data provided herein are solely for the purpose of illustrating past performance and not as a representation or prediction that such performance could or will be achieved in the future. Securities are subject to numerous risks, including market, currency, economic, political and business risks. Investments in securities will not always be profitable, and investors may lose money, including principal. Past performance is no guarantee of future results. This is not an offer or solicitation with respect to the purchase or sale of any security.

Chickasaw Capital Management, LLC does not provide legal, tax or accounting advice. Any statement contained in this communication concerning U.S. tax matters is not intended or written to be used, and cannot be used, for the purpose of avoiding penalties imposed on the relevant taxpayer. Clients of Chickasaw Capital Management, LLC should obtain their own independent tax advice based on their particular circumstances. Opinions expressed are current opinions as of the date appearing in this material only. No part of this material may be copied, photocopied or duplicated in any form, by any means, or redistributed without the prior written consent of Chickasaw Capital Management, LLC.

Certain information herein may be obtained from sources which we consider reliable, but we have not independently verified such information. We do not represent that such information is accurate or complete, and it should not be relied upon as such.

CCS is carbon capture and sequestration.

CPU is central processing unit.

Growth Capital Expenditures or Growth CapEx or GCX refers to the aggregate of all capital expenditures undertaken to further growth prospects and/or expand operations and excludes any maintenance and regulatory capital expenditures.

GPU is graphics processing unit.

GW is gigawatt.

IRA is the Inflation Reduction Act of 2022.

Kwh is kilowatt hours.

LCOE is levelized cost of energy, which is a standardized metric used to determine the total cost of generating a unit of electricity over the entire lifetime of a power plant or energy project.

TWh is terawatt hours.

This material is provided for informational and educational purposes only and should not be construed as investment advice or an offer or solicitation to buy or sell any security, product or service.

PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS