ENERGY

When the Bill Comes Due

Why Powering AI Needs a New Public–Private Model

The AI-driven energy boom is no longer speculative.

With over $200 billion in projected infrastructure investments by 2030,[1] data center load growth is reshaping the U.S. electric grid at unprecedented speed. U.S. data center developers have proposed over 130 GW of new load — up from 50 GW just a year ago — placing extraordinary pressure on infrastructure planning, permitting, and procurement timelines.[2] But as hyperscalers secure direct access to carbon-free power and utilities scramble to fund new infrastructure, a fundamental question emerges: Who pays, and who decides?

Those who master the new cost allocation and governance landscape will capture disproportionate value. Those who don't will fund it — and fall behind. The energy transition must deliver not only new power, but a new way of making decisions: faster, fairer, and fit for a public–private future.

The Infrastructure Inflection Point

On June 9, 2025, Amazon announced a $20 billion plan to build AI-powered data center campuses in Pennsylvania,[3] among the largest energy infrastructure commitments by a private company in U.S. history. Central to one of the planned campuses is a front-of-the-meter PPA with Talen's Susquehanna nuclear plant. This arrangement replaces an earlier behind-the-meter proposal and enables AWS to access dedicated clean power while remaining within PJM and state regulatory processes, sidestepping federal barriers without sacrificing strategic control. This announcement followed a cascade of related developments: AEP Ohio's 36 percent residential rate hike,[4] PJM's capacity market clearing at an 833 percent premium,[5] and Dominion's proposal for new 14-year data center tariffs.[6]

While project deals get announced, no replicable model or template has yet emerged for powering AI-era data centers at scale.

> **The traditional model where utilities build, regulators approve, and customers pay is crumbling due to the pressures of hyperscale demand, bilateral deal-making, and the urgent need for clean energy.**

These developments signal more than market volatility; they represent a fundamental system realignment. The legacy model where utilities build, regulators approve, and customers pay is breaking down under the pressure of hyperscale demand, bilateral deal-making, and clean energy urgency. This transformation extends far beyond traditional cost allocation debates to encompass who controls critical infrastructure decisions and how public benefits are defined and delivered.

While project announcements continue to emerge, it is worth noting that no clear, replicable model or template has yet emerged for powering AI-era data centers at scale. The ecosystem remains fragmented and highly adaptive, a sign of both innovation and institutional lag.

The Governance Gap: One Load, Many Decision-Makers

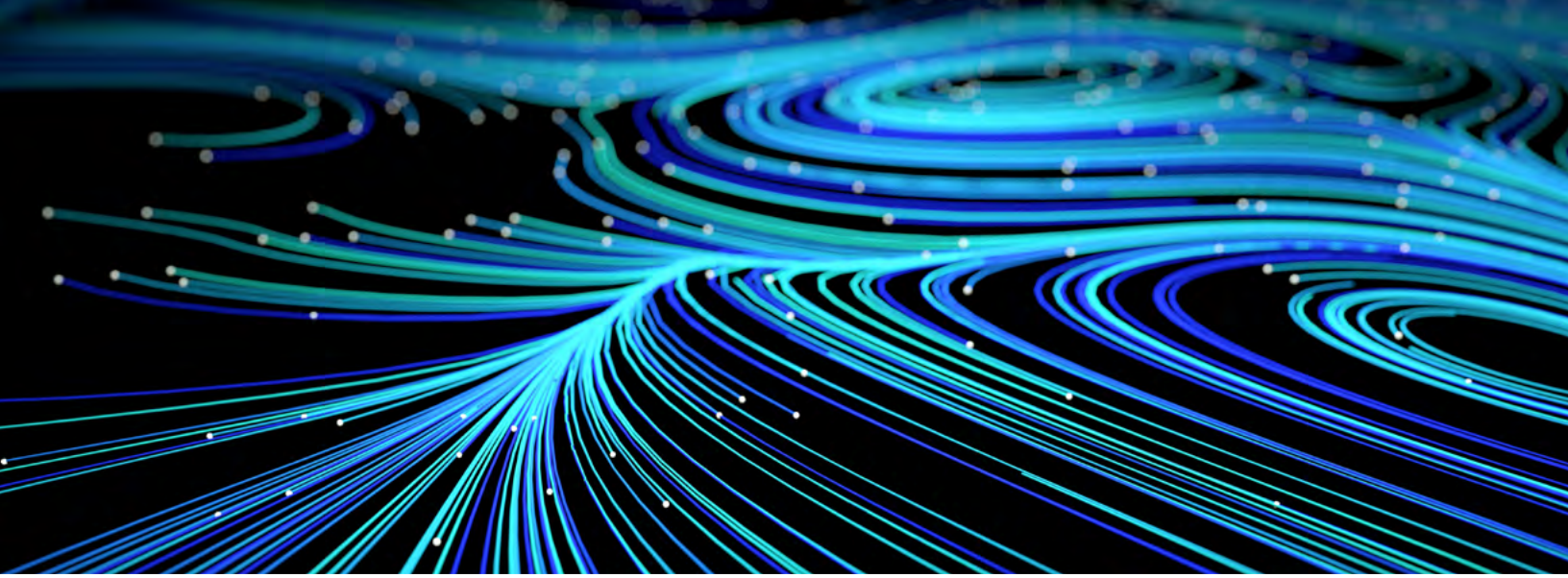
Hyperscalers are no longer just large customers. They are co-builders of America's future grid, bringing unprecedented capital and technical sophistication to infrastructure development. Yet the regulatory frameworks governing cost allocation, infrastructure investment, and planning authority still treat them as ratepayers rather than strategic infrastructure partners.

This misalignment creates cascading risks across the energy system. Grid upgrades and new generation costs are often spread across ratepayers through traditional rate recovery mechanisms, fueling public opposition and regulatory uncertainty.

Behind-the-meter strategies and co-location deals create bypass risks that erode grid coordination and fragment clean energy planning. Most critically, when private contracts dictate public infrastructure development, political and community resistance grows, creating delays that undermine the speed and scale needed for successful AI infrastructure deployment.

The result is a system where critical decisions are increasingly made through confidential bilateral negotiations rather than transparent public processes. This approach may appear faster in the near term, but it consistently generates the regulatory challenges, community opposition, and infrastructure fragmentation that ultimately slow deployment and increase costs. State regulators are increasingly recognizing that traditional Integrated Resource Planning processes — designed for predictable, incremental load growth over decades — are fundamentally inadequate for AI-era infrastructure deployment. These planning cycles, which can take three to five years to complete, cannot keep pace with hyperscaler development timelines measured in months. The result is a growing disconnect between regulatory planning processes and market realities that forces private actors to design around existing frameworks rather than work within them.

> **Hyperscalers are the co-builders of America's future grid; how they reach decisions on powering AI shapes the future of grid modernization.**



Cost Allocation Models: The New Competitive Landscape

Utilities and regulators across the country are piloting dramatically different approaches to address AI-era cost pressures. Each model creates distinct competitive dynamics and risk profiles for market participants.

Model	Example	Residential Impact	Hyperscaler Impact	Decision Process
Socialized Recovery	AEP Ohio	36% rate increase	Standard tariff rates	Traditional regulatory review
Custom Tariffs	Dominion Virginia	Moderate protection	Long-term commitments	Confidential negotiations
Growth Riders	Multiple pilots	Minimal direct impact	Direct cost responsibility	Public tariff proceedings
Behind-the-Meter	(Legacy model)	Indirect capacity impacts	Wholesale rates	Private bilateral agreements
Hybrid FTM PPA	Amazon-Talen (PA)	TBD – indirect impacts	Avoids FERC, negotiated rate	PJM and state-regulated PPA

Market leaders understand that model selection creates structural advantages that extend beyond immediate cost considerations. Companies that engage proactively in transparent processes with integrated public benefit cases consistently move faster through regulatory approval and face less organized opposition. Conversely, those pursuing opaque deal structures may achieve attractive near-term pricing but risk encountering regulatory reversals, litigation delays, and community resistance that increase long-term costs and deployment timelines.

The emergence of "hybrid" models, like Amazon's front-of-the-meter PPA that retains transmission access and avoids FERC scrutiny, demonstrates how sophisticated actors are already adapting to governance friction. Yet these models remain idiosyncratic rather than standardized.

> **Companies that incorporate transparency and public benefits into their cost allocation models tend to gain regulatory approval more quickly and encounter less opposition**

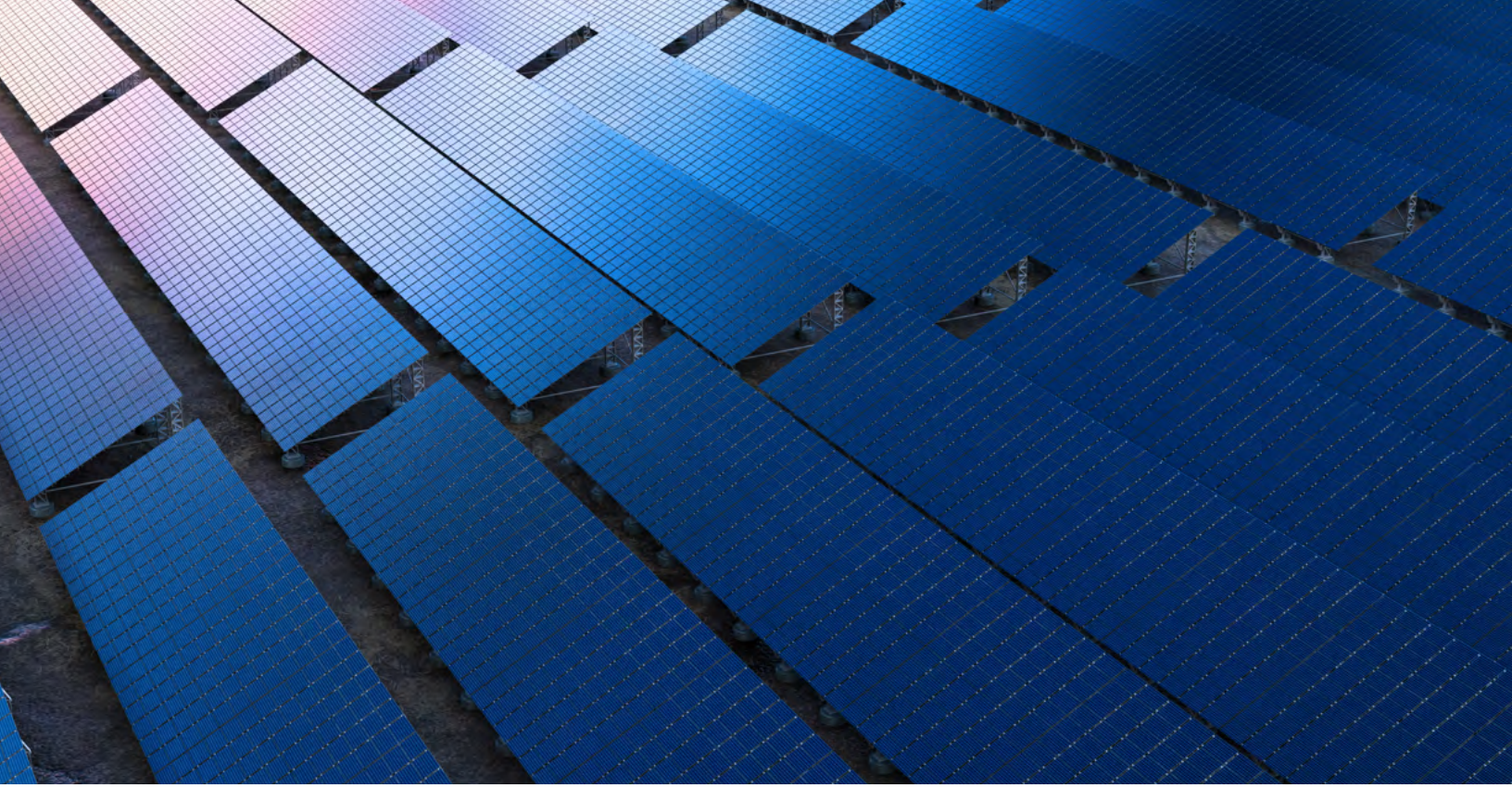
Clean Energy Stakes: Strategic Opportunity in the Transition

Hyperscaler energy demand is projected to reach 9–12 percent of U.S. electricity consumption by 2030,[7] making corporate procurement decisions a primary driver of national decarbonization progress. How this massive demand increment is met will either accelerate or derail state and federal climate commitments, creating both risks and strategic opportunities for market participants.

The emerging nuclear renaissance reflects hyperscaler assessment that nuclear power provides the only proven pathway to 24/7 carbon-free electricity at the gigawatt scale required for major AI operations. Microsoft's Three Mile Island restart and Amazon's Susquehanna arrangements demonstrate this strategic shift toward dedicated clean energy procurement. However, nuclear supply chain constraints and workforce limitations create significant scarcity value, making early positioning in viable nuclear opportunities a critical competitive advantage — while also signaling that nuclear is unlikely to be a "silver bullet" for meeting AI's power demands.

Where clean firm power options are unavailable or uneconomic, AI infrastructure increasingly defaults to natural gas generation. Pennsylvania's Homer City redevelopment — 4.5 GW of new gas capacity specifically designed for data centers — exemplifies this trend. Current cost allocation models that socialize gas infrastructure costs while allowing hyperscalers to capture nuclear power exclusively through private arrangements risk subsidizing fossil fuel expansion while undermining state climate goals.

The infrastructure investments required for AI-scale electricity demand are simultaneously driving unprecedented grid modernization that creates value far beyond direct power supply arrangements. Transmission upgrades, storage deployment, and grid flexibility improvements enable broader renewable energy integration and benefit all grid users. Companies that structure their infrastructure investments to capture value from both direct supply arrangements and the broader market development they enable can generate returns that extend well beyond traditional power purchase economics.



Institutional Pressure and Risk From Bilateral Workarounds

While front-of-the-meter arrangements like Amazon-Talen offer short-term deployment speed and regulatory clarity, they also put immense pressure on existing grid institutions to adapt. If left unaddressed, these pressures introduce several systemwide risks:

- **Capacity Market Distortion:** Large bilateral loads reduce procurement volumes for traditional capacity markets, raising costs for remaining participants.
- **Cost Shifting:** Transmission upgrades tied to hyperscaler projects may still be socialized unless rules are updated, creating de facto subsidies.
- **Governance Erosion:** Planning decisions shift from open stakeholder processes to private negotiation, reducing transparency and trust.
- **Regulatory Fragmentation:** Differing state and federal responses to similar structures create uncertainty for capital investment.
- **Grid Fragmentation Risk:** Ad hoc approaches undermine long-term integrated planning, increasing the risk of reliability gaps and stranded infrastructure.

Financial Impact Analysis: Quantifying the Stakes

A single 1 GW hyperscaler campus — now a common project scale — can require $3–6.5 billion in total system infrastructure investment,[8] including $1–2 billion in transmission and distribution upgrades,[9] $2–4 billion in new firm generation capacity,[10] and $200–500 million in interconnection studies and equipment.[11]

Current cost allocation approaches create dramatically different financial outcomes for all stakeholders. Under socialized recovery models like Ohio's, residential customers face monthly increases while hyperscalers pay commercial/industrial rates through standard tariff structures. Custom tariff approaches like Virginia's require hyperscalers to make substantial long-term commitments but reduce residential rate impacts by roughly 40 percent compared to socialized recovery models. Behind-the-meter arrangements provide hyperscalers access to wholesale rates but shift capacity market and grid stability costs to remaining utility customers.

Amazon's hybrid front-of-the-meter PPA illustrates a new path: securing wholesale access without triggering FERC jurisdiction, maintaining PJM participation, and sidestepping regulatory headwinds. Yet even this model is context-specific and not easily replicable across states or ISOs.

Regulatory Crossroads: Shaping the AI Grid's Future

Multiple federal regulatory proceedings converging in late 2025 will establish the framework governing AI infrastructure development for the next decade, creating extraordinary positioning opportunities for companies that engage proactively rather than reactively with evolving requirements.

FERC's comprehensive review of co-location arrangements represents the most significant regulatory development affecting hyperscaler infrastructure strategies. The Commission's February 20, 2025, show cause order containing 38 specific questions about co-location demonstrates federal recognition that existing frameworks require substantial evolution to address AI-era infrastructure demands.[12] Companies that contribute meaningfully to this regulatory development process will help shape the rules under which they must operate, creating sustainable competitive advantages over firms that merely respond to final requirements.

The Department of Energy's federal land leasing initiatives offer parallel opportunities for large-scale infrastructure development with streamlined regulatory processes. Federal site selections for gigawatt-scale AI infrastructure will establish important precedents for public–private partnership structures, environmental review processes, and community benefit requirements. DOE's June 30, 2025, deadline for initial site selections makes early engagement critical for securing access to premium development opportunities.

Capacity market reforms across PJM, MISO, and other regional operators are simultaneously adapting wholesale electricity markets to address AI-driven demand growth and price volatility. These market structure changes will fundamentally alter the economics of large-scale electricity procurement, creating advantages for companies that understand how emerging market mechanisms affect their investment strategies.

The Amazon-Talen example demonstrates that governance innovation is already underway — but led by private actors designing around existing rules. Federal and state frameworks must now catch up to shape scalable, equitable models that preserve public benefit.

Regulatory Bypass Strategies Are Self-Defeating

Every behind-the-meter deal that avoids regulatory oversight increases the difficulty of traditional utility planning, and the need for regulatory responses to compensate. This makes the next deal harder and more expensive. Companies pursuing "fast" bilateral arrangements are actually slowing down the systemwide solutions they need for long-term success.

Regulatory decisions made in 2025 and 2026 at DOE, FERC, and the States create a window of opportunity to create competitive advantage.

Strategic Pathways: Accelerating Infrastructure Through Alignment

Industry leaders have begun to respond to the structural and procedural constraints slowing the deployment of AI-scale data centers. Two recent collaborations signal a growing awareness among utilities and hyperscalers that siloed approaches are no longer viable:

- **The Edison Electric Institute (EEI)** and the **Data Center Coalition** have partnered to advocate for faster, more transparent siting, permitting, and interconnection. In their March 2025 submission to the White House Office of Science and Technology Policy, they stressed that delays in these processes now pose a material threat to national competitiveness and AI infrastructure deployment.
- The **Electric Power Research Institute (EPRI)** launched **DCFlex** in late 2024 to explore how data centers can act not only as power consumers but as flexible grid assets. With involvement from PJM, ERCOT, NYPA, and leading hyperscalers, the initiative is piloting five to 10 “flexibility hubs” to test demand-side curtailment, backup integration, and local energy storage coupling.

These initiatives tackle critical technical and procedural barriers, but they also highlight the limits of purely operational solutions. Given that regional, state, and local institutions profoundly influence the pace and shape of energy infrastructure development, new approaches must account for their roles and interests. Several states are also moving to define how data centers interact with their energy and permitting frameworks. Minnesota’s 2025 data center legislation combines custom clean energy tariffs, environmental safeguards, and long-term tax incentives, illustrating how public–private policy hybrids are already emerging.

What’s needed for true system transformation is replicable, benefit-driven deal structuring.

Three integrated approaches offer pathways to convert regulatory complexity into competitive advantage by aligning private objectives with public expectations:

Accelerated Planning Through Advanced Analytics offers a pathway to collapse traditional planning timelines while improving scenario accuracy. Emerging platforms like Alphabet's Tapestry are already demonstrating the potential to accelerate grid planning from weeks to days while enabling utilities to model thousands of infrastructure scenarios simultaneously — 30 times more scenario capacity using AI-enhanced planning tools. This technological acceleration creates opportunities for state-led planning processes that can outpace federal frameworks while maintaining analytical rigor.[13]

Clean Energy-Aligned Cost Allocation creates sustainable frameworks by linking infrastructure cost responsibility to environmental outcomes. Carbon-weighted contribution requirements ensure that fossil fuel-dependent loads pay higher infrastructure costs than facilities powered by clean energy. Grid decarbonization riders funded jointly by all large loads can accelerate transmission infrastructure supporting renewable energy integration. Preferential rate structures tied to participation in transparent public planning processes reward companies that contribute to coordinated infrastructure development while penalizing those that pursue fragmented bypass strategies.

Coordinated Infrastructure Planning harnesses the scale advantages of AI infrastructure investment to benefit broader clean energy deployment. Regional clean firm hubs that pool public and private investment in advanced technologies like small modular reactors and enhanced geothermal can deliver clean power more efficiently than individual bilateral arrangements. Joint renewable energy procurement programs enable utilities and hyperscalers to coordinate development rather than compete for limited clean resources. Community benefit agreements that link infrastructure siting to local economic development can build political constituencies that accelerate rather than oppose deployment.

Federal–State Governance Alignment ensures that emerging federal frameworks support rather than undermine state climate commitments and democratic planning processes. Public benefit standards for co-location arrangements can require demonstration of systemwide value as a condition for regulatory approval. FERC cost allocation principles that prevent behind-the-meter arrangements from undermining state renewable energy goals while ensuring transparent decision-making can preserve both market efficiency and public accountability. DOE lease requirements that tie federal land access to regional clean energy development can leverage federal assets to accelerate coordinated infrastructure deployment.

What a Scalable Public–Private Model Could Look Like

If America is to meet AI-era electricity needs without fracturing the grid or stalling the clean energy transition, it must move beyond one-off bilateral deals and crisis-driven cost recovery. What's needed is a new class of infrastructure partnership, one that aligns public oversight, private capital, and shared system value.

A scalable public–private model would likely include:

Collaborative Planning Frameworks

Public agencies and large energy users coordinating on siting, timing, and infrastructure prioritization, with clear principles for transparency, community benefit, and regional grid alignment.

Performance-Based Cost Sharing

Structures that link investment responsibility to measurable system contributions — like resiliency, availability, and reliability — without triggering politically sensitive emissions metrics.

Standardized Commercial Agreements

Precedent-driven commercial models (not "tariffs") that allow utilities and energy-intensive buyers to strike durable, regulator-ready agreements, accelerating timelines without bypassing oversight.

Alvarez & Marsal is actively exploring these concepts with stakeholders who recognize that the next phase of infrastructure growth requires not just funding but new forms of shared governance. We believe the firms that help design this future will be the ones best positioned to lead it.

How Alvarez & Marsal Creates Competitive Advantage

Alvarez & Marsal helps clients navigate transformation through an integrated approach that recognizes a fundamental truth: Successful AI infrastructure development requires governance innovation, not just financial engineering. Our methodology combines regulatory expertise, infrastructure finance experience, and stakeholder coordination to create sustainable models for public–private collaboration.

Our Three-Pillar Approach

Regulatory Strategy and Positioning

We position clients ahead of regulatory developments rather than reactive to them. Our approach includes scenario modeling for different regulatory outcomes, strategic engagement in rulemaking processes, and development of contractual frameworks that adapt to evolving requirements while protecting core investment returns.

Integrated Financial Structuring

Our infrastructure finance capabilities extend beyond traditional project finance to include sophisticated risk allocation mechanisms and value capture approaches that benefit from broader infrastructure development, not just direct power supply arrangements. We help clients design capital structures that balance long-term certainty with near-term flexibility across multiple regulatory scenarios.

Stakeholder Alignment and Acceleration

We develop engagement strategies that build constituencies rather than manage opposition. This includes proactive community benefit demonstration, coordinated federal–state–local approval processes, and cross-sector partnership development that aligns infrastructure investments with broader economic development goals.

From Strategy to Execution

Our integrated approach translates into specific capabilities that address the full project lifecycle:

Development and Execution

Project planning, staging, and execution with precision, driving down interconnection, land lease, and procurement risk while managing complex multi-party timelines built for hyperscale deployment.

Commercial Optimization

From renegotiating out-of-the-money PPAs to structuring revenue-backed tariffs, we help clients strengthen financial positions across power procurement, hedging, cost recovery, and contractual leverage.

Partnership Facilitation

We identify, structure, and accelerate partnerships across utilities, developers, and capital providers, breaking down silos between power generation, transmission, and data infrastructure to align execution realities with shared incentives.

Regulatory Navigation

We help clients anticipate and shape regulatory outcomes — from FERC proceedings to state-level tariff proposals — using scenario-driven modeling and regulatory engagement to ensure cost allocations are durable and defensible.

Public–Private Enablement

We structure joint development frameworks that align with federal and state infrastructure priorities through DOE land access, utility co-investment, and tax-advantaged finance structures.

The energy infrastructure transformation is already underway. Those who shape the governance, not just the hardware, will capture the value. A&M brings the strategy, structure, and execution support needed to build fast — and build right.

Conclusion: Resetting the Table for Success

The energy infrastructure needed to support America's AI transformation is coming fast. But speed without governance will fracture the grid, erode public trust, and ultimately slow the deployment that companies need to succeed.

Hyperscalers, utilities, and investors must recognize that this represents not just a new load class, but a new era of public–private interdependence. The regulatory frameworks, cost allocation mechanisms, and governance processes developed over the next six months will determine who captures value from this transformation and who funds it.

Those who bring integrated, benefit-driven proposals to the table will unlock faster timelines, lower regulatory risk, and deeper stakeholder support. Those who rely on bilateral deal-making and regulatory bypass will risk facing rising costs, mounting opposition, and, ultimately, stranded strategies as governance frameworks evolve.

The bill for America's AI-powered future is coming due. Success requires deciding not just how to pay for the infrastructure, but how to govern it in ways that serve both private innovation and public purposes. The table must be reset, and the companies that help reset it will capture disproportionate value from the transformation that follows.

The Real Infrastructure Crisis Is Institutional, Not Physical

America can build 200 GW of new generation capacity by 2030 — the engineering is straightforward. What we can't build fast enough are the governance mechanisms to decide where it goes and who pays for it.

Sources

1 "AI investment forecast to approach $200 billion globally by 2025," Goldman Sachs | Research, August 1, 2023, https://www.goldmansachs.com/insights/articles/ai-investment-forecast-to-approach-200-billion-globally-by-2025

2 Chris Seiple and Ben Hurtz-Shargel, "US Power Struggle: How Data Centre Demand is Challenging the Electricity Market Model," Wood Mackenzie, June 2025, https://www.woodmac.com/horizons/us-data-centre-power-demand-challenges-electricity-market-model/

3 "Gov Announces Amazon to Invest $20B in PA, Largest Capital Investment in History," Commonwealth of Pennsylvania, June 9, 2025, https://www.pa.gov/governor/newsroom/2025-press-releases/gov-announces-amazon-to-invest--20b-in-pa--largest-capital-inves.html

4 "AEP Ohio Electricity Rates Set to Rise in June 2025," Electricity Rates, June 2, 2025, https://electricityrates.com/resources/aep-ohio-electricity-rate-increase-2025/

5 "PJM Capacity Rates Up 833%," Veolia Energy Markets, August 14, 2024, https://blog.veolianorthamerica.com/energy-markets/pjm-capacity-up-833

6 "Dominion sees no slow down in Northern Virginia data center demand," Data Center Dynamics, May 1, 2025, https://www.datacenterdynamics.com/en/news/dominion-reports-high-data-center-demand-in-northern-virginia-proposes-new-electricty-rates-for-large-load-customers/

7 U.S. Department of Energy, "DOE Releases New Report Evaluating Increase in Electricity Demand from Data Centers," December 20, 2024, https://www.energy.gov/articles/doe-releases-new-report-evaluating-increase-electricity-demand-data-centers

8 A&M analysis; Nicole Kolbe, "$200 billion to build a data center? Soaring AI demands mean costs could skyrocket within a few years," IT Pro, May 2, 2025, https://www.itpro.com/infrastructure/data-centres/usd200-billion-to-build-a-data-center-soaring-ai-demands-mean-costs-could-skyrocket-within-a-few-years

9 Based on utility infrastructure investment patterns and transmission costs from various utility filings and industry reports.

10 A&M analysis; Martine Powers, "Microsoft deal would reopen Three Mile Island nuclear plant to power AI," Washington Post, September 20, 2024, https://www.washingtonpost.com/business/2024/09/20/microsoft-three-mile-island-nuclear-constellation/

11 A&M analysis leveraging "SPP Data Show Rising Network Upgrade Costs, Especially for Withdrawn Projects," Berkely Lab | Energy Markets & Policy, April 27, 2023, https://emp.lbl.gov/news/spp-data-show-rising-network-upgrade

12 Paul F. Forshay et al., "FERC Takes Action on Co-Located Load in PJM," Holland & Knight, February 26, 2025, https://www.hklaw.com/en/insights/publications/2025/02/ferc-takes-action-on-colocated-load-in-pjm

13 Ruth Porat, "Our investment in AI-powered solutions for the electric grid," Google | The Keyword, April 10, 2025, https://blog.google/inside-google/infrastructure/electric-grid-ai/

CONTACTS

Gary Leatherman
Managing Director
gleatherman@alvarezandmarsal.com

Gary Rahl
Managing Director
grahl@alvarezandmarsal.com

Follow A&M on:

ABOUT ALVAREZ & MARSAL

Founded in 1983, Alvarez & Marsal is a leading global professional services firm. Renowned for its leadership, action and results, Alvarez & Marsal provides advisory, business performance improvement and turnaround management services, delivering practical solutions to address clients' unique challenges. With a world-wide network of experienced operators, world-class consultants, former regulators and industry authorities, Alvarez & Marsal helps corporates, boards, private equity firms, law firms and government agencies drive transformation, mitigate risk and unlock value at every stage of growth.

To learn more, visit: **AlvarezandMarsal.com**

ALVAREZ & MARSAL
LEADERSHIP. ACTION. RESULTS.℠