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ISSUE BRIEF

UNDERSTANDING DATA CENTERS:
AN OVERVIEW FOR COMMERCIAL REAL ESTATE

Data center development is evolving rapidly, driving grid infrastructure needs and affecting economic and policy considerations for commercial real estate. BOMA International's issue brief provides a snapshot of this landscape, outlining data center fundamentals and drivers while highlighting trends, policy developments, and BOMA's positions.

For BOMA International, data centers represent a dichotomy of competing interests: some members own and operate data centers, while others face higher utility costs driven by growing data center energy demand. This paper explores a globally significant issue affecting the commercial real estate industry—one that will ultimately play a decisive role in the race for AI dominance.

WHAT ARE DATA CENTERS?

Data centers are specialized commercial facilities that house large networks of computer servers and related infrastructure used to store, process, and distribute digital information. They support everything from cloud computing and artificial intelligence to streaming services, financial transactions, and enterprise business operations.

> The data center conversation is complex, multi-faceted, and continually evolving, raising a range of thought-provoking questions. This issue brief is not intended to fully explore or resolve those deeper issues. Instead, BOMA includes sidebars to encourage readers to consider commercial real estate (CRE) industry perspectives on the matter.

A typical data center contains high-performance servers, data storage systems, networking equipment, backup power supplies, and advanced cooling systems to keep operational reliability 24/7. Companies such as Amazon Web Services, Microsoft, and Google operate large-scale data centers around the world to power cloud platforms and digital services. While the current build-out is dominated by hyperscale facilities, there are thousands of smaller facilities operated by hospitals, federal agencies, banks, and universities to support their own operations.

Data centers rely on substantial amounts of electricity, water, connectivity, and physical security to sustain continuous uptime. These requirements make cooling strategy a critical driver of overall power efficiency. Although water-based cooling systems are often more energy-efficient than air-based alternatives, they can place considerable pressure on local and regional water resources.

In regions where water availability is a concern, significant data center water use can heighten competing interests between operators and local communities reliant on shared resources. As a result, reliable access to water is a primary siting issue. To help navigate these challenges, property managers use Water Usage

Effectiveness (WUE) to measure and balance a facility's water footprint against its operational needs.

WHY ARE WE SEEING THIS TREND?

The rapid expansion of data centers is being driven by:

- Artificial intelligence, which demands vast computing power and storage capacity. Training and operating advanced AI systems and Large Language Models (LLMs) requires specialized infrastructure.
- The exponential growth of human-generated data. Internet traffic is increasing 20% annually, as society is exploring streaming services, ecommerce, and cloud-based applications[1].
- The wide adoption of cloud computing. Businesses are increasingly shifting from on-site Information Technology (IT) systems to cloud platforms operated, for example, by Amazon Web Services (AWS), Microsoft Azure, and Google Cloud. These cloud platforms are being operated out of data centers, rather than inside of office buildings.
- Data localization and resiliency measures. Some governmental entities require data to be stored in a specific location to ensure security and redundancy – to prevent downtime or loss of data. In other words, having more data centers provides more means of backup.
- Latency, the delay between a user request and a system's response, is a key factor, since financial trading, video streaming, and real-time AI inference require facilities physically close to users.

Additional Issues to Research

How data centers operate differently from traditional CRE:

- Load profiles
- Water intensity
- Generator and fuel storage implications
- Noise, heat, and resiliency considerations

HOW MANY DATA CENTERS ARE THERE?

Data Center Map states there are 11,378 data centers across 178 countries[2]. In the United States alone, there are 4,258 data centers of various sizes and types[3].

INTERNATIONAL IMPLICATIONS

Regulation of AI data centers varies sharply across countries. Western Europe is the most restrictive: Ireland has frozen new grid connections in greater Dublin until at least 2028, the Netherlands has barred new hyperscale builds since 2022, and Germany now mandates strict efficiency thresholds and 100 percent renewable supply for new facilities by 2027. The EU's Energy Efficiency Directive and AI Act add reporting obligations on energy, water, and compute use. Singapore and China occupy a middle ground, allocating capacity only to operators meeting strict efficiency benchmarks.

Around the globe, Malaysia, the UAE, and Saudi Arabia are aggressively courting hyperscale investment with special economic zones, sovereign capital, and minimal regulatory friction. The Nordic countries remain attractive for their hydropower and natural cooling, and the United Kingdom designated data centers as Critical National Infrastructure in 2024 with dedicated AI Growth Zones. For BOMA International members with European, Asian, and Middle Eastern portfolios, this fragmentation is moving where AI infrastructure gets built and where utility cost pressures will land.

FEDERAL IMPLICATIONS

There is no single comprehensive federal framework governing the placement of data centers in the United States, but recent developments signal a potential expansion of the federal role. Historically, federal agencies played an indirect role in environmental, energy, and grid reliability oversight, reflected in FERC's role in wholesale power markets and interstate transmission. State and local governments currently have a much more active role exercising primary authority over zoning, land use, building permits, and utility service.

But in April 2026, FERC indicated a willingness to press into areas historically regulated by states—particularly large load grid interconnections. The FERC Commission is preparing a proposal focused on standardizing energy access for large loads, a move that could effectively establish a more consistent national approach to how data centers connect to the grid and reshape existing federal-state energy arrangements and regional power markets.

While FERC's proposals could expand federal influence over energy access and cost allocation, state and local governments will continue to be the principal regulators affecting data centers as commercial real estate assets, directly shaping how such facilities are planned, approved, and integrated into local communities.

The grid was strained before the rise of data centers, and rapid growth is now accelerating pressure on systems reaching the end of its useful lifespan. This heightens the need for investment in transmission, generation, and resilience while finding an acceptable allocation of costs for its replacement and expansion between ratepayers and data centers.

These investments depend on streamlined, predictable permitting that supports both infrastructure upgrades and responsible use of on-site or dedicated energy resources to ease grid stress and improve long-term reliability.

In Congress, both parties broadly agree on the need for grid reliability, economic competitiveness, and infrastructure resilience. They diverge, however, on the appropriate regulatory approach—particularly the balance between federal oversight and state and local authority.

Recent congressional activity reflects a more incremental step toward federal engagement. During consideration of the House FY2027 Energy and Water appropriations bill, lawmakers adopted a bipartisan amendment directing the Department of Energy to evaluate energy and water efficiency technologies for data centers and to identify their impacts on grid reliability, ratepayers, and

infrastructure. It is unclear how the Senate will react. While limited in scope, the provision signals growing bipartisan interest in the issue and responds to increasing public and political attention to the costs associated with data center growth.

A more extreme legislative example is a bill introduced by Democrat Senator Bernie Sanders (VT) and Democrat Representative Alexandria Ocasio-Cortez (NY)[4]. Introduced in March of 2026, their bill proposes a temporary national moratorium on new AI data-center development. While the bill faces significant legislative hurdles, it highlights an intensifying national, and sometimes partisan, debate over power and water demands of hyperscale AI infrastructure and the potential for federal action to protect ratepayers.

Other proposals are more prescriptive. Senator Adam Schiff (D-CA) has introduced legislation requiring data centers to finance their own infrastructure and secure dedicated power. A bipartisan bill from Senators Josh Hawley (R-MO) and Richard Blumenthal (D-CT) would require new facilities to rely on independent energy sources. Some lawmakers have also proposed state-level moratoriums and broader federal limits, reflecting growing concern over the energy and water demands of data centers. As the debate continues, expect more attention from politicians.

THE RATEPAYER PROTECTION PLEDGE

In March 2026, President Donald Trump announced and promoted the “Ratepayer Protection Pledge” to address concerns that AI data centers could increase electricity costs for ratepayers. Senior executives from Google, Microsoft, Meta, Oracle, xAI, OpenAI, and Amazon signed the pledge at a White House event, agreeing to “build, bring, or buy new power to support their data centers in order to prevent higher electricity costs for consumers,” while also using new power plants to supply electricity to the grid when possible. To support these projects, the President indicated the federal government would use all available authorities to accelerate new power generation. Each company also agreed to “negotiate separate rate structures with utilities, invest in local communities for workforce development, and utilize their infrastructure to provide backup power to local grids when needed.” While technically non-binding, companies that break the pledge risk significant political fallout.

Additional Issues to Research

Cost Allocation: Who pays for transmission upgrades and new power generation?

Is the Excel Energy agreement with Google a model for future data centers?

Is the data center getting its power from behind the meter (directly from a source) or in front of the meter (from the grid like regular users)?

How do negotiated data center rates affect the cost allocation assigned to various users?

Are ratepayers protected from cost shifts?

STATE & LOCAL IMPLICATIONS

BOMA International advocates for a strategy that prioritizes grid reliability and rate stability, ensuring that the immense power demands of high-performance servers do not drive up costs for traditional office stock. To achieve this, BOMA International emphasizes the need for local accountability, responsible siting that respects resource availability, and the use of voluntary efficiency tools.

In 2026, the legislative landscape reflects a growing divide between expansionist and reform-minded locations, triggering a "flight to the interior" toward the Midwest and Mountain West. Pro-growth states like Indiana (HB 1333)[6] and South Carolina (SB 867)[7] are currently streamlining permitting and designating data centers as "permitted uses" to bypass local bottlenecks. Conversely, states like Georgia (SB 410)[8] and Virginia (HB 961[9] and HB 507[10]) are introducing restrictive measures, including the repeal of tax exemptions and the

implementation of strict Tier 4 emission standards for backup generators. This regulatory shift is mirrored at the municipal level, where Tier 1 markets are increasingly moving away from "by-right" development toward special exceptions and mandatory infrastructure cost-shifting, as seen in Arizona's HB 2756[11].

Additional Issues to Research

Permitting and siting: What issues are driving local governments to reconsider zoning for data centers? Are Right to Build regulations jeopardized by data centers?

Water Use and Cooling Constraints: How will data center impact areas with constrained resources?

Best Use: How do data centers change the price of land compared to traditional warehouses or office properties?

Tax Incentives: Are states and localities pulling back tax incentives?

Most notably, Maine has become the first state in the nation to ban large data centers in the state until November 2027[12] though the Maine legislature did not override the governor's veto of the bill. The legislation reflects growing constituent concern over energy grid strain, water consumption, and the displacement of traditional commercial land uses—concerns that have been gaining traction in several other state legislatures. While Maine's ban remains an outlier for now, it signals that the political appetite for more aggressive restrictions on data center development is expanding beyond individual municipal zoning decisions to the state level. Recently, states have been moving away from offering broad economic incentives to attract data centers. Instead, they are adopting a more conditional approach that balances economic development with concerns about energy use, water, and ratepayer impacts—often requiring data centers to cover infrastructure costs and meet sustainability standards. Pennsylvania reflects this trend.

In June of 2026, Governor Josh Shapiro advanced a proposal that attracts data center investment but ties incentives to energy affordability, environmental performance, and community benefits, emphasizing that data centers should not raise electricity costs for residents.

At the local level, non-disclosure agreements permeate the discussions, making it difficult to identify which proposed projects will be built, fueling speculative land acquisition near substations and fiber routes, duplicate utility interconnection requests, and inflated infrastructure costs that ultimately raise both ratepayer and community concerns.

As data centers are projected to exceed 12,000 facilities globally by 2035, the rapidly shifting AI data center landscape presents a unique challenge for state and local policymakers. They must now navigate the demands of high-density digital infrastructure while protecting the stability of the traditional commercial real estate ecosystem.

BOMA International is closely monitoring whether other states and localities, particularly those with constrained grid capacity or strong environmental constituencies, move to adopt similar measures.

BUILDING CODE IMPLICATIONS

The International Building Code® (IBC), the International Fire Code® (IFC) and the broader family of International Codes® (I-Codes®) crafted by the International Code Council (ICC) provide the foundation for safe and resilient building construction, means of egress, fire protection, structural integrity and life safety.

An important distinction is that data centers currently are not assigned to a specific occupancy classification. This means that these facilities must be classified based on use, hazards, and risk. Most commonly, data centers are labeled as Group B (Business), Group F-1 (Moderate-Hazard Factory Industrial) and Group S-1 (Moderate-Hazard Storage). For more information, consider this resource provided in the Building Safety Journal[13].

Data centers are expected to dominate much of the discussions by model code and standard organizations over the next few years. BOMA International will remain a leader in space, consulting and updating members on new developments every step of the way.

Additional Issues to Research

Insurance Risk and Resiliency: How are insurers and municipalities beginning to evaluate data center concentration risk?

Do less desirable locations have increased risk profile?

Does today's insurance demand from data centers reflect a permanent shift in the economy or a temporary boom that could reverse?

BOMA INTERNATIONAL'S POSITION

BOMA International supports the development of data centers as a strategically important segment of the commercial real estate market, while calling for policies that balance grid development, energy reliability and availability, and community needs.

- **Evaluate & Invest.** BOMA urges federal, state, and local governments to evaluate and identify the upgrades needed to meet the needs of all users and invest accordingly.
- **Engage.** BOMA encourages development companies to meaningfully engage communities and work towards community engagement and responsible siting that account for local resource availability, zoning, and energy impacts.
- **Ensure Reliability.** BOMA calls on policymakers to protect grid reliability and accessibility for all commercial real estate buildings, including existing and planned data centers.

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[1] What's Fueling the Data Center Boom? 5 Key Industry Insights | BOMA International
[2] How Many Data Centers Are There and Where Are They Being Built?
[3] Trump signs agreement with Big Tech to cover data center electricity costs
[4] https://apnews.com/article/data-centers-ai-electricity-sanders-aoc-65651bd28c3d911d18eeb46cd54f4c75
[5] IN HB1333 | 2026 | Regular Session | LegiScan
[6] 2025-2026 Bill 867: Data Center Development - South Carolina Legislature Online
[7] Georgia General Assembly - SB 410
[8] HB961 - 2026 Regular Session | LIS
[9] https://lis.virginia.gov/bill-details/20261/HB507
[10] https://legiscan.com/AZ/text/HB2756/id/3370925/Arizona-2026-HB2756-Engrossed.html
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[13] Data Centers, the I-Codes and a New Data Center Guideline - ICC