Avoiding the AI Race-to-the-Bottom: How States and Communities Can Create Sustainable Data Centers

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Abstract

In recent years, the rapid growth of Large Language Models (LLMs), often referred to as artificial intelligence, has elicited significant expansion in data center development. This has occurred against the backdrop of at least 41 states currently offering tax incentives, many of which predated the boom and public backlash. The current incentive model relies heavily on tax exemptions, stemming from competitive pressures that have led states to forgo millions in annual revenue, and poses risks that increased infrastructure costs will be borne by electricity and water ratepayers and the broader communities they serve. In the electricity sector alone, U.S. electricity demand is projected to grow nearly 16% between 2024 and 2029, with data centers accounting for up to 12% of total consumption by 2028 (up from roughly 4% today). This explosive growth is impacting the grid, contributing to higher capacity prices, and has been blamed by some for rising household energy costs.

This paper will examine the fiscal, environmental, and community impacts of the rapid growth in data center development by surveying the growing legislative response by states and proposing a framework for performance-based incentives organized around five pillars: energy efficiency, water stewardship requirements, carbon emissions and embodied carbon accountability, enforcement mechanisms, and bonus incentives for exceptional performance. It further argues that durable reform of the existing state incentives, which increasingly seem mismatched with public sentiment, will require interstate coordination to prevent states from undercutting one another, and recommends that organizations, including ACEEE, NCEL, and NASEO, among others, develop model legislation with common technical standards.

The central argument of the paper is that states can attract responsible data center development while protecting community and environmental interests.

I. Introduction

Artificial intelligence is driving an exceptional surge in data center construction, bringing jobs and investment, but also dramatically increasing electricity demand, water consumption, and embodied carbon. Without clear, performance-based standards attached to public incentives, competition among states and localities risks a "race to the bottom" where public subsidies fund facilities that strain grids, stress water supplies, and entrench long-term emissions.

At least 41 states currently offer tax incentives for data centers, predominantly sales and property tax exemptions. Nearly all 50 states offer tax incentives for a wide range of business investment and development projects, with the goal of attracting capital and spurring job creation to stimulate growth in targeted sectors. These incentives amount to hundreds of millions of dollars in foregone revenue for each state annually. State legislatures have, until recently, focused on balancing the economy: they must attract business while sacrificing long-term revenue generation that many states desperately need. Along with the growth in data center development, which has translated into significant increases in lost revenue, the impacts on energy, water, and local community compatibility have added another dimension to this equation. How to resolve this has become an increasingly controversial topic in 2025 and early 2026, with more than 500 data center bills introduced across all 50 states, signaling that the current incentive-only model is becoming politically and economically unstable and unsustainable.

At the same time, U.S. electricity demand is forecast to grow by 15.8% between 2024 and 2029[1], an annual pace of 3%, the highest rate since the 1980s. Data centers are a larger driver of that growth and are expected to consume between 6.7% and 12% of total U.S. electricity by 2028, up from 4% in 2023[2].

This paper will explore how states can redirect this growth by linking incentives to measurable building performance standards, thereby aligning digital infrastructure investment with climate, energy efficiency, and community resilience goals. Information on data centers in this paper generally focuses on U.S. data centers.

II. The Race to the Bottom: Current Landscape

A. The Scale and Pace of Data Center Expansion

AI-driven demand, from cloud computing to large language models (LLMs), has been a consistent talking point since 2022, when OpenAI's ChatGPT launched and opened the floodgates for AI and LLMs. The new possibilities enabled by LLMs quickly became a business obsession, and LLMs and AI were adopted across an ever-expanding set of business operations. However, as this new technology grew, so did the need for the infrastructure that powers it.

Modern data centers are large warehouse-like buildings that can cover one million square feet, or about the size of fifteen football fields, and can house thousands of servers needed for the computing requirements of LLMs. A typical AI-focused hyperscale data center consumes as

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[1] Wilson, J. D., Zimmerman, Z., & Gramlich, R. (2024, December). *Strategic industries surging: Driving US power demand*. Grid Strategies LLC. https://gridstrategiesllc.com/wp-content/uploads/National-Load-Growth-Report-2024.pdf

[2] Shehabi, A., Smith, S. J., Hubbard, A., Newkirk, A., Lei, N., Siddik, M. A. B., Holecek, B., Koomey, J., Masanet, E., & Sartor, D. (2024). *2024 United States data center energy usage report* (LBNL-2001637). Lawrence Berkeley National Laboratory. https://eta-publications.lbl.gov/sites/default/files/2024-12/lbnl-2024-united-states-data-center-energy-usage-report_1.pdf

much energy as 100,000 homes annually, with some of the largest hyperscale data centers under construction expected to consume 20 times as much, according to the International Energy Agency[3]. Some of this energy is needed to run building functions, but the majority of energy is required to power the computer servers and the massive cooling systems that keep them from overheating. For context, a hyperscale data center can contain as many as 5,000 servers. Some data centers can consume millions of gallons of water each day, potentially impacting water infrastructure and the water supplies relied upon by surrounding communities.

Historically, the largest number of data centers have been concentrated in northern Virginia, which hosts 45-50% of all data centers in the U.S[4]. This market dominance is due to several factors, including access to high-speed fiber-optic internet connections, state tax and policy incentives, proximity to Washington, D.C., and a reliable power grid. However, as the AI boom has spread across the country, many data center developers have started looking at new locations, primarily in states with low operational costs, which include electricity rates and availability, land acquisition, labor, and tax incentives, that make data centers more economically viable[5].

B. The Economics of the Incentive Race

Over half of all states offer tax incentives to attract data centers; however, the industry's rapid growth post-2020, combined with the open-ended nature of these incentives (i.e., a lack of a tax impact cap), has led to concerning consequences for state finances. According to a report released in April 2025 by Good Jobs First, *Cloudy with a Loss of Spending Control: How Data Centers Are Endangering State Budgets,* over 23 months, Texas had to revise its FY2025 cost projections from $130 million to $1 billion[6]! In fact, Texas is not alone in its record revenue loss; both Virginia and Illinois have incurred revenue losses exceeding 1,000% between 2023 and 2024. Some states report losing 52-70 cents in tax revenue for every dollar spent on sales tax exemptions[6].

With so much tax revenue being waived to attract data centers, what are states getting out of this deal? Job creation and economic growth are usually touted as the primary benefits of data centers moving to their state. While the construction of data centers can create many jobs, especially for very large hyperscale data centers, these jobs are temporary. Relatively few jobs are permanent. An analysis by Business Insider found that even some of the largest hyperscale

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[3] International Energy Agency. (2025, April 10). *Energy and AI*. IEA. https://www.iea.org/reports/energy-and-ai

[4] Joint Legislative Audit and Review Commission, *Data Centers in Virginia* (2024), https://jlarc.virginia.gov/landing-2024-data-centers-in-virginia.asp.

[5] CBRE Research & CBRE Data Center Solutions. (2025, September). *North America data center trends H1 2025*. CBRE. https://www.cbre.com/insights/reports/north-america-data-center-trends-h1-2025

[6] Good Jobs First. (2025, April). Cloudy with a loss of spending control: How data centers are endangering state budgets. Good Jobs First. https://goodjobsfirst.org/cloudy-with-a-loss-of-spending-control-how-data-centers-are-endangering-state-budgets/

data centers employ fewer than 150 permanent workers, with some as few as 25.[7] As the tax breaks given to data center developers can amount to more than $100 million per year in lost revenue in some states, this raises questions about whether those tax breaks far exceed the tax revenue generated by the permanent jobs they create[8]. According to a January 2026 Food & Water Watch analysis of the Virginia Economic Development Partnership, data centers in Virginia generate just one permanent job for every $13 million invested, nearly 100 times the $137,000 it costs to create a comparable job outside the data center sector[9].

While many states are forgoing millions in tax revenue to incentivize data centers to locate within their borders, many have not conducted a thorough, long-term cost-benefit analysis of the future implications of these policies.

C. Community and Environmental Costs Being Externalized

1. The Ratepayer Burden: Who is paying for the Grid?

In juxtaposition with the incentives attracting data center development to many states, these developments arrive in communities with significant resource needs (land, water, and electricity). Historically, a considerable portion of the costs associated with necessary utility and infrastructure upgrades has been passed on to local communities. These costs tend to be placed on communities least equipped to absorb them.

The most immediate externalized cost is the need for upgraded or additional electrical infrastructure, a cost that ratepayers would traditionally bear. Conventionally, any new infrastructure costs to service new data centers, such as transmission lines, substations, or generation capacity, are often spread across the service areas' consumer base, whether or not those consumers would benefit from the new load. However, several states and even utilities are now explicitly considering these cost allocation issues. Virginia's SB466, introduced in 2026 and set aside for 2027, would prohibit the allocation or recovery of costs associated with electrical distribution infrastructure that primarily serves data centers from any other customer, ensuring that residential, commercial, and other non-data-center customers are not subsidizing those costs[10]. Similarly, in California, PG&E, with support from the California Public Utilities Commission, adopted a rule in 2025 that requires large-load customers, including data centers, to

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[7] Hannah Beckler et al., "Big Tech Promised Jobs. Cities Gave Millions. Where Are the Workers?," *Business Insider*, June 20, 2025, https://www.businessinsider.com/data-centers-tax-subsidies-jobs-ohio-2025-5.

[8] Tarczynska, K., & LeRoy, G. (2025, April). *Cloudy with a loss of spending control: How data centers are endangering state budgets*. Good Jobs First. https://goodjobsfirst.org/cloudy-with-a-loss-of-spending-control-how-data-centers-are-endangering-state-budgets/

[9] Food & Water Watch. (2026, January). *Artificial jobs: The illusion of big tech's data center employment boom*. Food & Water Watch. https://www.foodandwaterwatch.org/wp-content/uploads/2026/01/RB_2601_DataCenterJobs.pdf

[10] Virginia General Assembly. (2026). *SB466: Electric utilities; cost recovery, costs substantially related to serving data center customers* (2026 Regular Session). Legislative Information System. https://lis.virginia.gov/bill-details/20261/SB466

pay the upfront cost of any necessary transmission or distribution infrastructure upgrades, ensuring these costs are not shifted to other utility customers[11].

Despite these reforms, the legacy regulatory framework in many jurisdictions continues to shift costs to ratepayers. A single large facility can create a power demand comparable to that of a small city. The Union of Concerned Scientists conducted an analysis of utility planning filings across seven states where PJM Interconnection, a regional transmission organization, serves the mid-Atlantic and parts of the Midwestern United States. The analysis identified 130 projects that connected data centers to high-voltage transmission systems and found that over 95% of those projects passed all connection costs directly to ratepayers. Each data center connection to a transmission system costs between $25 million and $100 million. In 2024 alone, across the seven states within PJM territory, the total cost of data center connections to the grid was $4.3 billion.[12]

When we zoom out to grid-level pricing, we can see the scale of data centers' impact on electricity prices. To better understand data centers' impact on electricity prices, we must first look at capacity auctions. These auctions are set up by regional grid operators, such as PJM, to ensure there is enough electricity to meet future demand. Power suppliers submit private bids on how much electricity they can provide and at what price. Once enough supply has been committed to meet regional needs, a single price is set for all suppliers.

Capacity auctions run by PJM saw the price per megawatt-day increase from $28.92 in 2024/2025 to $269.92 in 2025/2026[13]. The ninefold price increase reflects a tighter balance between supply and demand, as data center demand forecasts rose while energy generation remained relatively flat. This led to PJM's auction, which clears at the price needed to procure enough capacity to meet reliability targets, setting the price much higher. In fact, this trend is continuing, with 2026/2027 auction prices rising to $329.17 per megawatt-day, the maximum allowable under a price cap negotiated by PJM and Pennsylvania Governor Josh Shapiro to protect ratepayers from higher prices[14].

The increase in per-megawatt-day prices has had significant downstream effects on household energy bills, with the average electricity price in the United States reaching approximately 19 cents per kilowatt-hour by the end of 2025, up roughly 46% from 2019, when

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[11] https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-streamlines-electric-grid-connections-for-high-energy-users-like-data-centers-and-ev-chargers

[12] Jacobs, M. (2025, September). *Connection costs loophole costs customers over $4 billion to connect data centers to the grid in PJM states*. Union of Concerned Scientists. https://www.ucs.org/sites/default/files/2025-09/PJM%20Data%20Center%20Issue%20Brief%20-%20Sep%202025.pdf

[13] Ethan Howland, "PJM Capacity Prices Hit Record Highs, Sending Build Signal to Generators," *Utility Dive*, July 31, 2024, https://www.utilitydive.com/news/pjm-interconnection-capacity-auction-vistra-constellation/722872/.

[14] PJM Interconnection. (2025, July 22). *PJM auction procures 134,311 MW of generation resources; supply responds to price signal* [Press release]. https://insidelines.pjm.com/pjm-auction-procures-134311-mw-of-generation-resources-supply-responds-to-price-signal/

prices averaged 13 cents per kilowatt-hour[15]. Utilities across the United States requested more than $29 billion in rate increases in the first half of 2025, double the amount requested in 2024[16]. In 2025, residential electricity rates rose by 11.5%, outpacing general inflation[17].

However, there has been, and will be, ongoing debate over the degree to which data centers have been responsible for raising electricity bills, versus aging infrastructure, fuel costs, and other factors. Industry players like Amazon and trade groups like Edison Electric Institute have commissioned their own studies arguing that data centers tend to pay more than the minimum cost of serving them, and that states with higher data center demand growth have not necessarily seen higher price increases[18][19]. The truth is likely regional and context-dependent.

In the mid-Atlantic states served by PJM, Monitoring Analytics, an independent market monitor for PJM, found that data center demand accounted for 63% of the near-tenfold increase in capacity prices in the 2025/2026 auction, resulting in $9.3 billion in additional costs borne by ratepayers[20]. Outside of PJM, the evidence is more mixed: a 2026 Energy and Environmental Economics analysis found that states with the largest data center load growth, such as Texas and Virginia, actually saw smaller rate increases than states like California and New York, where load growth has been declining[21].

What is clear, however, is that while some states are pioneering new cost allocation models that protect ratepayers, the current regulatory framework in many states requires that the public, not the companies whose demand is justifying the investment, bear the financial risk of grid investments built to serve an energy demand that may be underused or unnecessary. This is the kind of externality that incentive reforms should address.

2. Water Stresses

[15] U.S. Energy Information Administration. (2020, December 15). *Average monthly electricity bill for U.S. residential customers declined in 2019*. https://www.eia.gov/todayinenergy/detail.php?id=46276

[16] PowerLines. (2025, July). *Utility bills are rising: Q2 2025 update*. PowerLines. https://powerlines.org/wp-content/uploads/2025/07/0709_PowerLines_Rising-Utility-Bills-Q2-Update-2.pdf

[17] U.S. Energy Information Administration. (2026, February). *Data center power demands are contributing to higher energy bills* [as cited in EESI]. Environmental and Energy Study Institute. https://www.eesi.org/articles/view/data-center-power-demands-are-contributing-to-higher-energy-bills

[18] Energy and Environmental Economics. (2025, December). *Do Amazon data centers raise electricity bills?* Commissioned by Amazon. https://www.aboutamazon.com/news/sustainability/data-centers-electricity-bills-grid-power-amazon

[19] Nichols, H. (2026, February 11). White House eyes data center agreements amid energy price spikes. *E&E News by Politico*. https://www.eenews.net/articles/white-house-eyes-data-center-agreements-amid-energy-price-spikes/

[20] Carvell, J. (2025, July 30). *Projected data center growth spurs PJM capacity prices by factor of 10*. Institute for Energy Economics and Financial Analysis. https://ieefa.org/resources/projected-data-center-growth-spurs-pjm-capacity-prices-factor-10

[21] Energy and Environmental Economics. (2026). *Are data centers driving up electricity rates? A quantitative examination of the evidence*. E3. https://www.ethree.com/electricity-rate-drivers-data-center-role-2026/

While electricity consumption and the stress that new data centers place on the energy grid are among the most visible and tangible impacts for ratepayers, the large amount of water typically needed to cool these facilities is a close second concern for communities. Modern server racks at the core of these data centers generate an enormous amount of heat, and the current industry standard for cooling servers relies on evaporative cooling towers that use large volumes of water, of which approximately 80% is evaporated, and 20% is discharged[22].

A study by Lawrence Berkeley National Laboratory estimated that the United States' data centers used 17 billion gallons of water for cooling in 2023, with annual consumption projected to increase, reaching an estimated 34 billion gallons by 2028. Just one medium-sized data center can consume up to 110 million gallons of water per year, roughly equivalent to the annual use of 1,000 households. Large data centers can require more than 5 million gallons of water per day, making them among the highest water consumers in their regions.[23]

Data centers typically depend on the same municipal water supply that also serves homes, schools, hospitals, and farms. This is because treated municipal water is chemically consistent and meets the microbial purity standards for cooling equipment. Alternative water sources, such as reclaimed wastewater, have complexities due to mineral buildup and biological fouling. Given the amount of water data centers use, it is surprising that fewer than a third report their water use, and even fewer are subject to legal requirements to do so[24].

Significant impacts of water withdrawal have been documented in some communities where these data centers are located. A few examples include:

- Newton County, Georgia: Meta's data center was permitted to withdraw over 500,000 gallons of water per day, and nearby residents reported drops in water pressure and localized supply issues [25].
- The Dalles, Oregon: Google's data center consumed 355 million gallons of water in 2021, 29% of the city's water consumption that year [26].

[22] Environmental Law Institute. (2026, January). *Data centers and water fact sheet*. ELI. https://www.eli.org/sites/default/files/files-pdf/Data%20Centers%20and%20Water%20Fact%20Sheet%20ELI%20January%202026%20(1).pdf
[23] Lawrence Berkeley National Laboratory. (2024). United States data center energy use: 2023 report and 2028 projections. U.S. Department of Energy. https://www.lbl.gov

[24] Paige Feild, "Data Center Water Use Shrouded in Uncertainty," Texas Scorecard, October 13, 2025, https://texasscorecard.com/state/data-center-water-use-shrouded-in-uncertainty/.
[25] Eli Tan, "Their Water Taps Ran Dry When Meta Built Next Door," *The Spokesman-Review*, July 19, 2025, https://www.spokesman.com/stories/2025/jul/19/their-water-taps-ran-dry-when-meta-built-next-door/.
[26] WaterWatch of Oregon, "Google's Water Use Is Soaring in The Dalles, Records Show, With Two More Data Centers to Come," December 17, 2022, https://waterwatch.org/googles-water-use-is-soaring-in-the-dalles-records-show-with-two-more-data-centers-to-come-2/

- Council Bluffs, Iowa: Google's data center consumed 1 billion gallons of water in 2024, enough to supply every resident in Iowa with water for five years[27].

Alternative cooling methods are being used, with more technologies in development, to reduce the amount of freshwater needed to cool these large facilities. Closed-loop cooling systems can reduce freshwater consumption by up to 70% in some cases, and other methods, such as immersion cooling and air-side economizers, offer additional reductions. While adoption of these alternatives is limited in current data centers, some observers project new data centers will increasingly use Direct to Chip cooling, which does not consume/minimizes water use[28]. The industry's dominant practice, as documented by Lawrence Berkeley National Laboratory, remains water-intensive evaporative cooling, and water-saving alternatives remain exceptions rather than the rule across the U.S. data center fleet.

As computing equipment drives changes in data center design, the industry is increasingly shifting toward liquid cooling technologies that reduce direct water use relative to traditional evaporative systems, independent of policy[29]. If, however, states begin to include non-potable water access, water-use effectiveness targets, and drought contingency planning as conditions for incentive eligibility, states can help shape and accelerate the shift in how industry approaches cooling and enable potential coordination between states and data centers on water use and impacts.

III. Policy Shifts

The political and policy landscape around data centers has shifted dramatically in recent years. The period from 2024 through early 2026 represents a transition from competitive state subsidy expansion to growing interest in accountability and reform at all levels of government and across both parties.

A. Legislative Momentum

The legislative response to the rapid growth of data centers in the U.S. between 2021 and the beginning of 2026 has changed and accelerated in the past 18 months[30]. In the first six weeks of 2026 alone, more than 300 bills were introduced across more than 30 states in 2025, but now are reconsidering or even repealing tax incentives, and are moving to shield ratepayers from cost

[27] Peyton McCauley and Melissa Scanlan, "Data centers consume massive amounts of water — companies rarely tell the public exactly how much," *The Conversation*, August 19, 2025, https://theconversation.com/data-centers-consume-massive-amounts-of-water-companies-rarely-tell-the-public-exactly-how-much-262901

[28] Environmental and Energy Study Institute. (n.d.). *Data centers and water consumption*. EESI. https://www.eesi.org/articles/view/data-centers-and-water-consumption

[29] McKinsey & Company. 2025. "Keeping Cool in the Data Age." September 24, 2025. https://www.mckinsey.com/capabilities/operations/our-insights/operations-blog/keeping-cool-in-the-data-age

[30] Morgan Scarboro, *Here's What You Need to Know About Data Center Policy Trends*, MultiState, November 4, 2025, https://www.multistate.us/insider/2025/11/4/heres-what-you-need-to-know-about-data-center-policy-trends

hikes, with legislators in states like New York, South Dakota, and Oklahoma proposing pauses on data center development through moratoriums[31].

With this shift, we see that the character of the bills has changed: 2021-2024 bills were dominated by incentive expansions, including sales tax exemptions, property tax abatements, and accelerated permitting. In 2025 and 2026, the characterization of data center legislation shifted toward imposing conditions on incentives, requiring disclosures, establishing ratepayer protections, imposing labor and employment requirements, or challenging whether existing subsidies should continue.

For example, legislators in New York, South Dakota, and Oklahoma introduced proposals in 2026 pausing new data center construction while grid and environmental impacts would be studied[32]. Even states that have courted data centers with generous incentives, including Virginia, Georgia, and Oklahoma, saw proposals to reduce or eliminate those credits in 2026.

Minnesota enacted the most significant reform to date by removing the sales tax exemption on electricity for data centers in June 2025, as electricity is the highest operating cost for most data centers. The state separately imposed a new annual fee on data centers tied to their forecasted peak electricity demand and expanded its sales tax exemption for data centers.[33] Florida has both extended and narrowed capacity, effectively excluding smaller facilities from the program[3435].

These legislative developments reflect a broader political pattern in which data center growth has become a flashpoint resonating across party lines, though the two parties have engaged with it differently. The organization Data Center Watch has identified 142 organized activist groups across 24 states as of early 2025.[36] As a state-wide campaign issue, data centers were prominent in the platforms of Democrats Abigail Spanberger in Virginia and Mikie Sherrill in New Jersey in their 2025 gubernatorial races, in which each ran on reining in data centers'

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[31] David Shonerd and Kim Miller, *State Data Center Legislation in 2026 Tackles Energy and Tax Issues*, MultiState, February 20, 2026, https://www.multistate.us/insider/2026/2/20/state-data-center-legislation-in-2026-tackles-energy-and-tax-issues

[32] David Shonerd and Kim Miller, "State Data Center Legislation in 2026 Tackles Energy and Tax Issues," *MultiState Insider*, February 20, 2026, https://www.multistate.us/insider/2026/2/20/state-data-center-legislation-in-2026-tackles-energy-and-tax-issues

[33] Brehm, K. (2025, August 11). *Tax breaks vs. grid strain: Minnesota's balancing act for data center growth*. Jones Walker LLP. https://www.joneswalker.com/en/insights/blogs/perspectives/tax-breaks-vs-grid-strain-minnesotas-balancing-act-for-data-center-growth.html

[35] Florida House of Representatives, *House Bill 7031 (PCB WMC 25-01): Final Bill Analysis*, July 7, 2025, https://www.flsenate.gov/Session/Bill/2025/7031/Analyses/h7031z1.WMC.PDF

[36] Data Center Watch. (2025). Community opposition tracker: Organized activist groups across U.S. states. Data Center Watch. https://www.datacenterwatch.org/q22025

energy demands and costs[37]. Republican officials have increasingly acted on the issues as well, framing policies as ratepayer-protection measures. For example, in June 2026, Texas Governor Greg Abbott (R) directed the Public Utility Commission and the Electric Reliability Council of Texas (ERCOT) to require data centers to fully fund their own electric infrastructure and pledged to work with the Texas legislature on closed-loop cooling requirements and potentially eliminate the sales and use tax exemption for data centers[38].

B. Emerging Policy Conditions

The legislative wave of 2025-2026 is not monolithic. Different bills have addressed different aspects of the data center problem. Across these bills, patterns are emerging; below, data center legislation is categorized by policy response.

1. *Ratepayer Protections*

   At least 30 bills related to ratepayer protection from data centers were introduced across 18 states in 2026, although legislation is generally not the vehicle through which these rate terms are set. In most states, electricity rates and customer classes are determined by utilities and approved by the state public utility or service commission[39]. The role of the legislature is mainly to direct regulations rather than to set rates itself. Accordingly, the bulk of ratepayer-protection activity associated with data centers has come through regulatory channels. By the end of 2025, utilities in 34 states had created 65 special large-load tariffs, and the Edison Electric Institute counted 23 states with at least one approved large-load tariff by May 2026[40][41]. In Georgia, the Public Service Commission adopted rules in January 2025 requiring data centers with 100 MW or more of load to pay for grid upgrades, rather than socializing those costs across all ratepayers, potentially raising costs for all users. The Virginia State Corporation Commission

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[37] Mufson, S., & Warrick, J. (2025, November 5). *The under-the-radar factor that helped Democrats win in Virginia, New Jersey, and Georgia: AI data centers*. Fortune. https://fortune.com/2025/11/05/elections-ai-data-centers-politics-democrats-republicans-virginia-new-jersey-georgia/

[38] Office of the Texas Governor. (2026, June 10). *Governor Abbott directs PUC and ERCOT to shield Texans from data center infrastructure costs*. https://gov.texas.gov/news/post/governor-abbott-directs-puc-and-ercot-to-shield-texans-from-data-center-infrastructure-costs

[39] David Shonerd and Kim Miller, "State Data Center Legislation in 2026 Tackles Energy and Tax Issues," *MultiState Insider*, February 20, 2026, https://www.multistate.us/insider/2026/2/20/state-data-center-legislation-in-2026-tackles-energy-and-tax-issues

[40] Latitude Media. (2025, December 17). *The unsettled landscape of large load tariffs*. https://www.latitudemedia.com/news/the-unsettled-landscape-of-large-load-tariffs/

[41] Sabin Center for Climate Change Law. (2026, June 2). *Data center regulation: What local governments should know about large-load tariffs and clean transition tariffs*. Climate Law Blog. https://blogs.law.columbia.edu/climatechange/2026/06/02/data-center-regulation-what-local-governments-should-know-about-large-load-tariffs-and-clean-transition-tariffs/

approved a similar GS-5 rate class in November 2025, effective in January[42][43]. In Oregon, the state legislature passed the POWER Act in June 2025, designed to help utilities strike fairer agreements with large-load customers[44]. Finally, the Public Utilities Commission of Ohio approved AEP Ohio's new rate schedule, requiring that data centers pay for at least 85% of the energy they subscribe to, regardless of actual consumption[45].

2. *Energy and Water Use Transparency and Efficiency*

Some states have enacted legislation requiring disclosure of energy and water use, either as a standalone requirement or as a condition for incentive eligibility. In California, AB 93 was introduced in 2025 and would have required that data centers disclose their water use, submit estimates of expected use to water suppliers, and would have authorized the state Department of Water Resources to set tiered water-efficiency standards for different categories of data centers[46]. However, Governor Gavin Newsom vetoed the bill in October 2025, citing reluctance to impose rigid operational reporting requirements. In 2025, New York S. 6394 was introduced and would establish energy-efficiency standards for data centers, requiring both energy and water use disclosures[47]. As of early 2026, the bill has been referred to the Senate Energy and Telecommunications Committee.

3. *Renewable and Clean Energy Requirements*

Several states have looked to tie tax incentives to clean energy commitments. Virginia bills introduced in 2026 would require incentive-eligible data centers to transition backup energy generation from diesel to an emission-free source[48]. Illinois HB 5513 would require data centers to develop new clean energy generation or to fund state renewable energy procurement[49]. Massachusetts adopted a similar approach through its

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[42] State Corporation Commission, "In Biennial Review Ruling, SCC Creates New Class for Large-Scale Energy Users," *Virginia State Corporation Commission* (Nov. 25, 2025), https://www.scc.virginia.gov/about-the-scc/newsreleases/release/scc-issues-order-on-dev-biennial-review-2025/scc-rules-in-dev-biennial-review-case.html

[43] Oregon Legislature, *POWER Act: Protecting Oregonians With Energy Responsibility (HB 3546) one-pager* (March 5, 2025), Oregon Legislature, https://www.oregonlegislature.gov/marsh/Documents/POWER-Act_One-Pager_3-5-25.pdf

[45] American Electric Power, "AEP Ohio proposal on data centers to protect Ohio consumers adopted by PUCO," *AEP News* (July 9, 2025), https://www.aep.com/news/stories/view/10327/

[46] California Assembly Bill 93 (2025–2026 Reg. Sess.), vetoed October 11, 2025, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202520260AB93

[47] New York State Senate, *Senate bill S6394, amendment A (2025–2026 legislative session)*, accessed March 13, 2026, https://www.nysenate.gov/legislation/bills/2025/S6394/amendment/A

[48] Charles Paullin, "*Virginia House Passes Data Center Tax Exemption, With Conditions*," *Inside Climate News* (February 18, 2026), https://insideclimatenews.org/news/18022026/virginia-data-center-tax-exemption/

[49] Gabel, R., Williams, A. M., Blair-Sherlock, D., Du Buclet, K., Cassidy, K. M., et al. (2026, February 13). *HB5513: An act concerning safety* [104th General Assembly]. Illinois General Assembly. https://www.ilga.gov/legislation/billstatus.asp?DocNum=5513&GAID=18&GA=104&DocTypeID=HB

"Bring Your Own Clean Energy" framework, which would make eligibility for state sales and use tax exemptions contingent on developers supplying or procuring enough renewable energy to meet 100% of a facility's demand[50]. In New York, the proposed S.10542 would go further by mandating that those data centers with a peak load of 5 megawatts or more source an escalating share of their electricity from renewable sources[51]. This switch would address a significant source of air and noise pollution from diesel generators, which can run for hundreds of hours annually during grid events and testing.

4. *Siting and Local Review*

More than 13 states introduced or enacted legislation in 2025 requiring siting reviews that assess water, agriculture, and community impacts before approval of new data centers. Indiana SB 135 would allow local governments to access and disclose a data center's projected power and water usage and evaluate resource impacts before permitting[52]. In Virginia, SB 285 would give localities the power to assess the environmental and resource impacts of data centers before approving[53]. Tennessee HB 0946, before approval of new high-energy use facilities, which include data centers, local governments must obtain site assessments of environmental and infrastructure impacts[54]. These examples demonstrate a broader shift in how states and localities are thinking about data center development and reflect what the World Resources Institute and other commenters have noticed: a growing number of local governments are beginning to treat data centers as a distinct land use rather than lump them with ordinary warehouses or industrial developments. This includes steering data center development away from prime farmland through agricultural zoning and applying performance standards for buffering, noise, traffic, and long-term site management before approval.[55]

5. *Community Benefit Agreements*

In the 2025 and 2026 legislative sessions, several states have introduced legislation that would require community benefit agreements between data center developers and the

[50] Massachusetts Executive Office of Energy and Environmental Affairs. (n.d.). *Healey-Driscoll administration statement of expectations for responsible data center development and operations in Massachusetts*. Commonwealth of Massachusetts. https://www.mass.gov/info-details/healey-driscoll-administration-statement-of-expectations-for-responsible-data-center-development-and-operations-in-massachusetts

[51] Responsible Data Center Development Act, S. 10642, 2025–2026 Reg. Sess. (N.Y. 2026). https://www.nysenate.gov/legislation/bills/2025/S10642

[52] Indiana General Assembly, *Senate Bill 135 – 2025 regular session: Bill details*, (n.d.), https://iga.in.gov/legislative/2025/bills/senate/135/details

[53] Virginia General Assembly, *SB285 – 2025 Regular Session*, Legislative Information System, accessed March 13, 2026, https://lis.virginia.gov/bill-details/20251/SB285

[54] Tennessee General Assembly, *HB0946, 114th General Assembly (2025–2026)*, Tennessee General Assembly (accessed March 13, 2026), https://wapp.capitol.tn.gov/apps/BillInfo/Default?BillNumber=HB0946&ga=114

[55] World Resources Institute. (2025). Data centers as a distinct land-use category: Siting recommendations for states. World Resources Institute. https://www.wri.org

localities that host them. In Indiana, HB 1333, as introduced, would have required data centers to enter into agreements with the local community to pay at least 1% of state retail taxes not paid on qualified data center equipment[56]. New York S 10642, which has passed both chambers and, as of July 2026, awaits the Governor's action, if signed, would establish community benefit programs in localities where data centers are proposed, providing infrastructure benefits and including measures to mitigate certain adverse local impacts[57]. California's SB 887 would require that data centers enter into a community benefits agreement, developed with input from affected communities and benefiting local residents, among other requirements, to qualify for accelerated environmental review[58].

IV. Framework for Performance-Based Incentives

The sections above have established that legislators across the country see a case for reform and that local community concerns are spurring and informing legislative responses. The following section will outline the paper's primary policy contributions: a framework for embedding performance-based building and environmental standards into state data center incentive programs[59]. This framework seeks to mitigate some of the potential adverse community impacts of data centers, but additional standards and local zoning regulations remain necessary to address issues such as noise pollution and backup generator emissions.

The following framework is organized into five pillars:

- Green building and energy-efficiency standards.
- Water efficiency and stewardship.
- Carbon and embodied-carbon emissions requirements.
- Accountability and enforcement mechanisms.
- Bonus incentives for exceptional performance.

Together, these pillars tie subsidy value to verified performance, with clawbacks if commitments are not met.

A. Green Building Standards supplemented with Specific Metrics

[56] Land Use and Development, H.B. 1333, 124th Gen. Assemb., 2d Reg. Sess. (Ind. 2026). https://iga.in.gov/legislative/2026/bills/house/1333/details
[57] Responsible Data Center Development Act, S. 10642, 2025–2026 Reg. Sess. (N.Y. 2026). https://www.nysenate.gov/legislation/bills/2025/S10642
[58] California Environmental Quality Act: Environmental Leadership Development Projects: Data Centers: Clean Energy Powerplant Projects, S.B. 887, 2025–2026 Reg. Sess. (Cal. 2026). https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB887
[59] Author note: *The proposed framework reflects the author's personal opinion and should not be interpreted as the views of the author's employer*.

Tying incentive eligibility to a recognized, third-party-verified certification provides states with a cost-effective baseline for accountability. Rather than requiring regulators to develop their own efficiency criteria and verification processes from scratch, states can leverage existing, independently audited standards that already carry industry credibility. This reduces administrative burden, guards against greenwashing, and ensures that incentives are tied to measurable, third-party-confirmed performance standards. The framework proposes that a baseline for incentive eligibility be a third-party-verified certification under a recognized green-building standard. Industry-accepted standards range from energy-efficiency-specific certifications (e.g., EnergyStar Certified Data Centers) to holistic frameworks (e.g., Green Globes, LEED) and may also draw on net-zero energy certifications (e.g., ILFI Zero Energy Certification, LEED Zero Certification).

While the certifications above assess whole-facility performance holistically, a maximum Power Usage Effectiveness (PUE) threshold should be set as a complementary, directly measurable energy-efficiency requirement. PUE measures the efficiency of a data center's building systems by dividing a facility's total energy consumption by the energy consumed by the IT equipment. [60]. A lower number means that less energy is needed to run the power, cooling, and support systems, so most of the energy goes to the computing operations. The framework would require that, for data center developers to qualify for certain incentives, facility PUE must be 1.4 or lower after one year. To receive full incentives, the PUE needs to be 1.2 or lower. There would be an extra bonus for facilities that can achieve PUEs of 1.1 or lower.

Note that some commenters, including ACEEE, have called for additional metrics for data centers, noting that PUE does not indicate whether the IT equipment itself is efficient. In ACEEE's Report, *Future-Proof AI Data Center, Grid Reliability, and Affordable Energy: Recommendations for States*, ACEEE has recommended, among other organizations, shifting to output-based metrics, such as energy consumed per AI task, query, or training run, which directly tie efficiency to the computing work rather than to the facility overhead alone[61]. As of July 2026, several organizations, such as The Green Grid and Uptime Institute, are working on developing such metrics[62]. Additionally, the European Commission is poised to issue a new regulation requiring labels for data centers aimed at energy efficiency and other objectives[63].

[60] The Green Grid Association. (2012). *PUE™: A comprehensive examination of the metric*. Lawrence Berkeley National Laboratory. https://datacenters.lbl.gov/sites/default/files/WP49-PUE%20A%20Comprehensive%20Examination%20of%20the%20Metric_v6.pdf

[61] American Council for an Energy-Efficient Economy. (2025). Future-proof AI data centers, grid reliability, and affordable energy: Recommendations for states. ACEEE. https://www.aceee.org

[62] Jacqueline Davis. 2026. "AI's Growth Calls for Useful IT Efficiency Metrics." Uptime Institute Blog, January 15, 2026. https://journal.uptimeinstitute.com/ais-growth-calls-for-useful-it-efficiency-metrics/

[63] Andy Lawrence. 2025. "Is This the Data Center Metric for the 2030s?" Uptime Institute Blog, November 5, 2025. https://journal.uptimeinstitute.com/is-this-the-data-center-metric-for-the-2030s/

While other processes, such as mandatory commissioning at occupancy, a formal process of verifying that all mechanical, electrical, and control systems are performing as designed, should be required for all incentive-eligible facilities. This requirement is consistent with established practice in the commercial building sector and is recognized as the most cost-effective mechanism for identifying and correcting energy performance gaps by continuously monitoring a building's automated systems via quarterly reporting to the state authority overseeing incentives to ensure ongoing compliance[64].

Beyond operational energy, incentive programs should address grid interaction. Data centers that participate in demand response programs, agreeing to curtail or shift load during grid-stress events, can provide significant public benefit by reducing the need for peaking capacity that drives spikes in capacity market prices or the risk of brownouts. Recent research shows the scale of opportunity for demand response programs. A 2025 Duke University Nicholas Institute study found that 76 to 215 gigawatts of new load could be integrated into the existing grid without capacity expansion, depending on the load curtailment rate, suggesting that well-designed commitments could unlock substantial grid capacity at low operational cost to data centers[65]. Tying incentives to demand response participation acknowledges this public benefit while creating a financial signal that favors flexible load over inflexible consumption.

B. Water Efficiency and Stewardship

Water efficiency requirements should be structured around the Water Usage Effectiveness (WUE) metric, defined as annual water consumption (liters) divided by IT energy consumption (kilowatt-hours)[66]. Lower WUE values indicate more efficient use of water per unit of computational work performed. The framework recommends tiered WUE thresholds similar to the PUE structure: incentive eligibility requires disclosure and a WUE below a regional benchmark; full incentive value requires demonstrated performance; and bonus tiers reward water- or near-waterless cooling approaches.

Data centers, as a condition of their incentive eligibility, should be required to demonstrate that they have evaluated the availability of non-potable water sources for cooling, including reclaimed wastewater, industrial process water, and captured stormwater, and to explain why potable water is necessary if alternative sources cannot be used. In areas where non-

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[64] Crowe, E., Mills, E., Poeling, T., Curtin, C., Bjørnskov, D., Fischer, L., & Granderson, J. (2020). Building commissioning costs and savings across three decades and 1,500 North American buildings. *Energy and Buildings, 227*, Article 110408. https://doi.org/10.1016/j.enbuild.2020.110408

[65] Norris, T. H., T. Profeta, D. Patino-Echeverri, and A. Cowie-Haskell. 2025. *Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems*. NI R 25-01. Durham, NC: Nicholas Institute for Energy, Environment & Sustainability, Duke University. https://nicholasinstitute.duke.edu/publications/rethinking-load-growth

[66] The Green Grid. (2011). *Water usage effectiveness (WUE™): A Green Grid data center sustainability metric*. The Green Grid. https://www.thegreengrid.org

potable water infrastructure, such as reclaimed wastewater or industrial water delivery systems, is within a reasonable service radius, the use of non-potable water should be mandatory rather than a preference. An example of a policy intended to protect water resources is Minnesota's 2025 law, which authorizes the Department of Natural Resources to request additional information and to conduct a preapplication evaluation of water availability for data center projects that propose to use more than 100 million gallons of water per year[67].

Once a data center site and project are proposed, an assessment of baseline water stress at the location, using local data where available, alongside sources such as the World Resources Institute's Aqueduct Water Risk Atlas, should inform state or local government review and determination of incentive eligibility[68]. This would require that, in areas with high water stress, facilities demonstrate a plan to use non-potable water sources for cooling. Southern Nevada's local building codes, which ban evaporative cooling in all new buildings due to water stress, provide a precedent for place-based water-use restrictions[69].

Finally, all incentive-eligible data centers should be required to produce a drought contingency plan that describes how they would reduce their water consumption during drought emergencies, what water sources they would shift to, and what operational changes they would implement. These plans would be updated annually and would be made available to the public for review.

C. Carbon and Embodied Emissions

Carbon requirements for data centers that are eligible for incentives should be addressed in three categories:

- Operational carbon: Emissions from electricity consumed on site during normal operation.
- Backup Generation: Emissions from backup power sources, which are often diesel generators.
- Embodied Carbon: Locked-in emissions from materials used during construction, as well as replacement equipment over the life of the facility.

Operational Carbon

States should require that all incentive-eligible data centers demonstrate progress toward powering their centers with renewable energy, which could come from onsite generation, offsite

[67] Minnesota Session Laws 2025, 1st Special Session, Chapter 12 (HF16), §§ 3–4 (amending Minn. Stat. § 103G.271). https://assets.senate.mn/summ/chapter/2025/1/Laws%202025,%20Chapter%2012.pdf
[68] World Resources Institute. (2023). Aqueduct water risk atlas. World Resources Institute. https://www.wri.org/applications/aqueduct/water-risk-atlas

[69] Las Vegas Valley Water District. "Drought and Conservation Measures." https://www.lvvwd.com/conservation/measures/index.html; City of Henderson, Nevada, Bill No. 3695 (amending Henderson mechanical code), passed February 2023.

generation, or matching their energy use to renewable energy procurement, in which a data center's energy consumption is matched, hour-by-hour, with clean energy from the same regional grid. Some data center operators have already reached full renewable coverage, such as Meta's Eagle Mountain in Utah, and Apple's Viborg, Denmark, facility has reported 100% renewable-powered operations through long-term power purchase agreements and on-site renewable energy generation[70]. An alternative would be annual or monthly matching, which is a more common way for facilities to claim renewable energy procurement. Iron Mountain, for example, currently matches 100% of its global data center portfolio's annual electricity consumption with renewable energy, while working toward a goal of 24/7 hourly matching by 2040[71]. The United Nations 24/7 Carbon-Free Energy Compact provides a framework that states can reference when establishing requirements.[72]

Backup Generation Emissions

Diesel generators are prevalent in data centers, serving as emergency and backup power sources. A large data center campus may host numerous generators, each with a capacity ranging from 1 to 2 megawatts. Such generators have the potential to release substantial quantities of nitrogen oxides (NOx), particulate matter, and greenhouse gases during testing procedures, which can span hundreds of hours annually, and during power outage events. Incentives for existing data centers should incorporate phased requirements to transition backup generation to lower-emission alternatives, such as battery storage, hydrogen fuel cells, or natural gas with emission controls. The Clean Power Act (S.1475), proposed in the U.S. Senate, includes provisions on backup power generation that could serve as models for states.[73]

Embodied Carbon

Incentive-eligible data centers should be required to produce an embodied carbon disclosure covering the facility's structural materials, MEP equipment, and IT hardware procurement practices. The disclosure should include an Environmental Product Declaration (EPD) for construction materials and a recognized Life Cycle Assessment (LCA) methodology. A standardized, comparable embodied-carbon benchmark for data centers does not yet exist industry-wide, as data centers' material- and equipment-intensive systems are not well captured by conventional building LCA approaches[74]. States should assess the feasibility of establishing

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[70] Craske, Ben. 2025. "Top 10: Data Centres Using 100% Renewable Energy." *Data Centre Magazine*, August 27, 2025. https://datacentremagazine.com/top10/top-10-data-centres-using-100-renewable-energy

[71] Iron Mountain. "Sustainability & Green Data Centers." https://www.ironmountain.com/data-centers/sustainability

[72] United Nations. (2021). 24/7 carbon-free energy compact. United Nations. https://www.un.org/en/energy-compacts/page/compact-247-carbon-free-energy

[73] U.S. Congress, Senate. (2025). Clean Power Act, S. 1475, 119th Cong.

[74] Infrastructure Masons (iMasons) Climate Accord, Materials and Equipment Working Groups. 2026. *Best Practices for Data Center LCAs*. https://climateaccord.org/publications/best-practices-for-data-center-lcas/

benchmarks for embodied-carbon intensities in data centers and provide incentive tiers for facilities that achieve reductions below a certain threshold.

For materials with embodied carbon emissions, such as concrete and steel, there should be specifications, such as a recycled-steel requirement, alternative concrete mixes, or restrictions on unnecessary use of concrete in structural applications. Making these practices a condition of public subsidies rather than an optional initiative would help leverage the considerable procurement power of states to drive market demand for low-carbon building materials at scale, thereby reducing industry-wide costs.

V. Regional Coordination to Prevent Undercutting

The long-term effectiveness of a performance-based data center incentive structure does not depend on every state succeeding in attracting data center investment. Rather, success should be measured by whether a state's incentive structure achieves its own policy goals, such as energy efficiency, grid reliability, and responsible resource use among the facilities it attracts. Effectiveness will depend instead on whether states can avoid being pressured to water down or weaken standards, or to extend taxpayer subsidies for data center projects that, once community impacts are accounted for, yield a net negative return for those communities. When a single state adopts strong performance standards, it can still attract responsible actors, but it will also face continued pressure from neighboring states with weaker environmental or community frameworks or expanding tax incentives in the name of remaining "competitive". If this is left unchecked, these pressures can produce a falling tide that sinks all ships, in which states compete to offer the most generous incentives and the least oversight. This section addresses the mechanisms through which states can coordinate to prevent that dynamic.

A. The Case for Interstate Coordination

The data center siting market is competitive, with large hyperscale data center operators evaluating dozens of sites across multiple states before committing to investment. Variables such as land cost, power availability, tax rates, permitting timelines, and incentive value all factor into their decision-making process. When one state strengthens its environmental or transparency requirements to protect its residents and communities, developers seeking to reduce costs may shift their investment to a state with weaker standards, driving a race-to-the-bottom dynamic. On the other hand, some data center tenants and developers are setting their own energy and environmental standards that they apply at any location, which may help counter weaker regulatory systems in some states.

The energy aspect of this problem is not purely local. Data center siting decisions have multi-state grid consequences. PJM's regional transmission organization serves 13 states and the District of Columbia; the capacity market price spikes affect ratepayers across the entire region, regardless of which state hosts the load growth that drives those increases. Regional Transmission Organizations (RTOs) like the Midcontinent Independent System Operator (MISO) and ISO-New England present comparable multi-state exposure. A state that chooses to impose ratepayer protections for its own residents is, under the current market structure, still exposed to grid cost shifts driven by data center growth in neighboring states. Effective reform, therefore, requires coordination at the regional grid level, not just the state level.

The Lincoln Institute of Land Policy, in its *Data Drain* report, reached a similar conclusion: jurisdictions competing individually for data center investment are not fully accounting for the shared regional resource cost, water withdrawals from shared aquifers, grid stress, and infrastructure investment requirements across state lines that their individually negotiated incentive packages impose on the broader region.[75]

Model Legislation

There are multiple organizations that support state legislators and/or develop resources to aid in the development of state policies. This includes state legislator networks (e.g., National Caucus of Environmental Legislators), state agency associations (e.g., National Association of State Officials), regional and national research organizations (e.g., the Northeast Energy Efficiency Partnership and ACEEE), and funders and coalitions (e.g., the Energy Foundation and RE-AMP), which offer research, technical assistance, and policy expertise relevant to developing performance-based data center incentive conditions.

The model legislation should, at a minimum, include green building standards, standardized PUE or output-based metrics, WUE thresholds with verification methodologies, and baseline embodied-carbon disclosure requirements, ongoing energy and water consumption reporting, clawback and enforcement mechanisms, and a community benefits framework requiring that data centers fund local affordable energy programs, which, as according to Rewiring America, could be scaled to fund universal access to solar panels, batteries, and heat pumps[76]. Potentially, a model law could enable provisions for reciprocal recognition among states adopting the model,

ACEEE's report, *Future-Proof AI Data Centers, Grid Reliability, and Affordable Energy: Recommendations for States*, should serve as the primary technical foundation for energy-efficiency requirements, along with the requirement for advanced commissioning and consideration of additional metrics as they may evolve to address total energy use.[77]

[75] Gorey, J. (2025, October 17). *Data drain: The land and water impacts of the AI boom*. Lincoln Institute of Land Policy, *Land Lines Magazine*. https://www.lincolninst.edu/publications/land-lines-magazine/articles/land-water-impacts-data-centers/

[76] Rewiring America. (2025, September). *Homegrown energy: How household upgrades can meet AI data center demand*. Rewiring America. https://www.rewiringamerica.org/research/homegrown-energy-report-ai-data-center-demand

[77] Wang Esram, N., & Assadi, C. (2025, April 7). *Future-proof AI data centers, grid reliability, and affordable energy: Recommendations for states*. American Council for an Energy-Efficient Economy.

Reciprocal Recognition

States that adopt compatible performance-based incentive frameworks should consider establishing reciprocal recognition agreements for the measurement methodologies and underlying standards of their frameworks, such as LCA protocols, PUE or output-based metrics, WUE measurement standards, and approved third-party verifiers, so that operators certified under one state's methodology need not requalify in another. Facility-specific data and site review would still be required by each state. This approach has precedent in building energy code reciprocity agreements and would reduce the compliance burden on operators willing to meet high standards.

VI. Conclusion

The AI data center boom is a defining infrastructure challenge of this decade. It is not, fundamentally, a technology problem, but a governance one. The technology for building efficient, low-water, low-carbon data centers is available today. The financial resources for deployment are available, with major players in the space (Meta, Amazon, Microsoft, etc.) spending hundreds of billions on data center construction annually. What is missing is the regulatory design that channels those resources towards outcomes that serve both the economic development goals of states and communities and the resource stewardship goals that make that development sustainable over time.

The past incentive structure has outlived its tenure: when states competed to offer the most generous subsidies, this attracted investment, but that investment externalizes costs onto ratepayers through grid infrastructure charges, onto communities through water stress and land-use conflicts, and onto the atmosphere through unaccounted-for carbon emissions. The communities most burdened by these costs, those whose electricity bills rise to fund grid upgrades, whose water pressure drops when a neighboring data center withdraws hundreds of thousands of gallons per day, whose agricultural land disappears under hundreds of acres of sever farms, may be different from the communities receiving the economic benefit those investments promised; and even when the same community has both burdens and benefits, there is diminishing appetite for taking those on.

This is not an anti-investment framework. It is a framework for attracting the right kind of investment, investment that delivers on the economic development promises states make to justify forgone revenue, and that leaves communities better equipped to manage the long-term resource and infrastructure implications of digital infrastructure growth.

The call to action is straightforward. ACEEE, NCEL, NASEO, the six Regional Energy Efficiency Organizations (REEOs), NARRUC, RAP, state energy offices, and others should collaborate on model performance-based incentives legislation that establishes common technical standards, verification requirements, and accountability mechanisms. States should adopt this model or an equivalent. The data center industry should recognize that regulatory clarity is ultimately in its own interest, as it provides the level playing field that prevents operators committed to high performance from being undercut by competitors who are not.

The AI race is real, the infrastructure it requires is real, and the community and environmental costs of building that infrastructure without adequate safeguards are real. The question is not whether to build data centers, but how. The answer, this paper argues, lies in public subsidies tied to public accountability and standards that make performance a condition of partnership rather than an afterthought.