



Building a Human-Centered Digital Future

Part 1: Data Centers

Written by Ford Copple & Derek Monson | April 2026

Introduction

Every time you post to a social media account, use an AI tool like ChatGPT, or stream your favorite show or movie, you're using a data center. Data centers are the 24/7 technology infrastructure that makes our modern world possible. The rapid rise of generative AI in recent years has accelerated the need for data centers nationwide.

Public discourse around data centers has become increasingly polarized. Some advocate for rapid expansion of the number and location of data centers, while others call for halting development altogether. This divide has made it difficult for policymakers and the public to develop a clear, grounded understanding of the issue.

This brief seeks to provide a basic understanding of data centers so that voters and policymakers can make better-informed, more thoughtful policy decisions.

I. Data Center Background

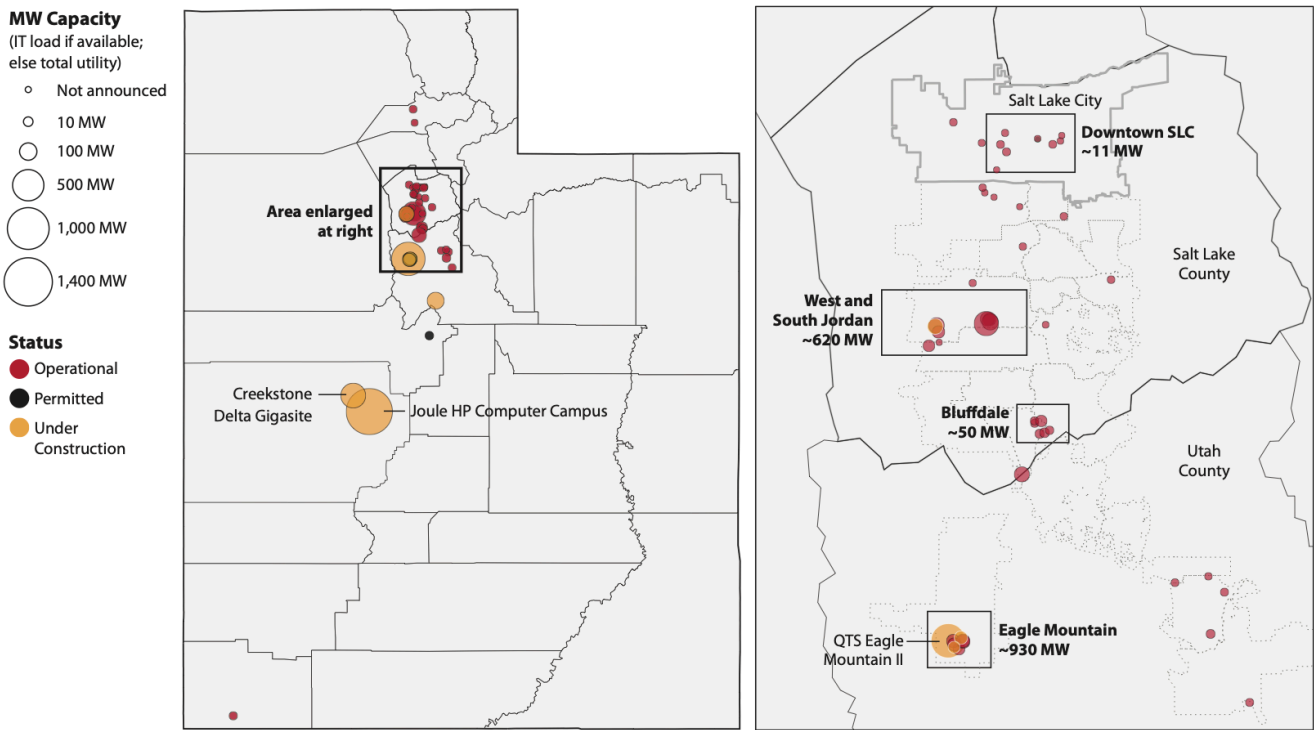
To put it simply, a data center is the physical warehouse that stores the computing power needed to run various aspects of modern digital life such as AI, social media, and video streaming services on devices across the country. Data centers contain computing machines, servers, data storage devices, networking equipment, and maintenance infrastructure, such as server cooling systems. Many new AI data centers are considered "[hyperscale](#)," meaning they contain more than 5,000 file servers serving a single company. The other main type of data center is a [colocation](#) facility that hosts servers for multiple companies in the same building.

Data centers are necessary for quick, accurate, and seamless use of things like AI because they are the only way we currently have to store and process the massive amounts of data required by large language models (LLMs). Having a hyperscale data center nearby enables faster, more efficient AI products, and many businesses now expect rapid, low-latency information processing from a range of AI tools.

The size of the [U.S. data center market](#) was \$35 billion in 2025, and is predicted to reach nearly \$170 billion by 2033. For reference, the U.S. [accounts](#) for 23.8% of the global data center market and is expected to lead the world by 2033. This rapid market growth is driven not solely by the increased development and use of AI, but also by the global competition to win the AI race. Current [reports](#) indicate that the U.S. remains comfortably ahead of China in all aspects of AI development except energy infrastructure.

Demand for new data centers continues to surge, reflected in a steady stream of project proposals in critical markets. According to a 2026 [Reuters report](#), “the U.S.’ data center computing capacity could jump by close to 1,000% if all projects currently planned come to fruition.” Top states for current and planned data center growth include Virginia, Texas, and Pennsylvania, with Utah ranking 7th in [that list](#). Utah [jumps to](#) 6th when just planned growth is considered. Research from [Goldman Sachs](#) suggests that although the data center supply-to-demand ratio is tight, the industry is on track to absorb rising demand effectively, with occupancy peaking at 93%.

Utah’s Data Centers, 2026

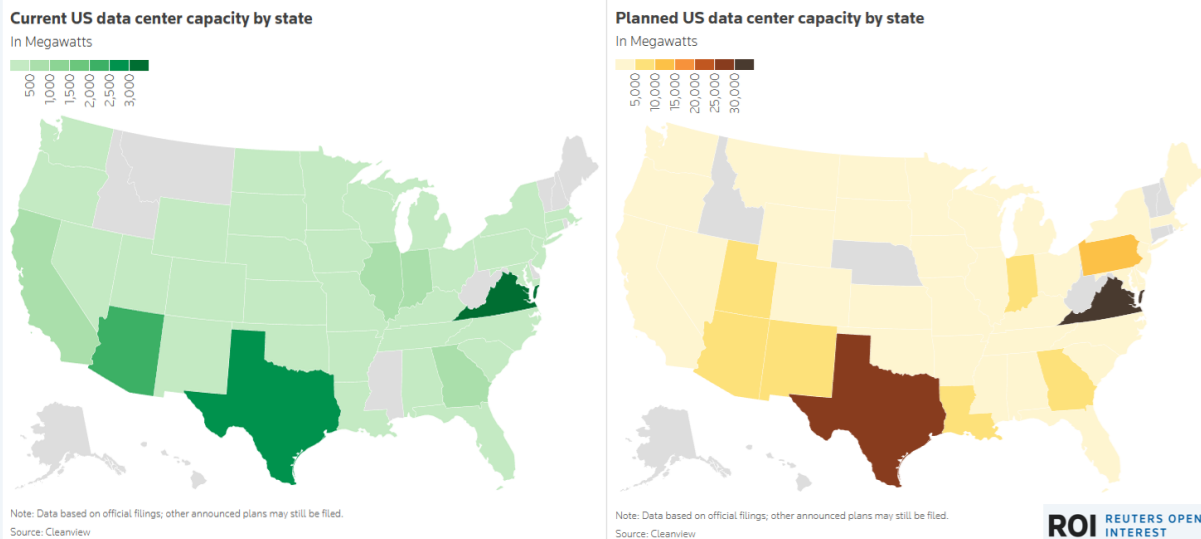


One of the limiting factors in data center construction in the U.S. is the availability of critical minerals needed for semiconductor manufacturing. Semiconductors are core components in servers and are required for data centers to function. Semiconductors [require](#) critical minerals such as gallium, germanium, antimony, tungsten, tellurium,

bismuth, indium, and molybdenum, which are mainly produced in China. These minerals can be found in North America, but strict mining regulations make their production difficult. [Some believe](#) Utah could play a key role in expanding U.S. production of critical minerals.

Country	WIPO GII		IMF AI Preparedness Index		Stanford Global AI Vibrancy Tool		Oxford Insights GAIRI	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
United States	62.4	3	0.77	3	70.06	1	87.03	1
Canada	52.9	14	0.71	18	15.71	14	78.18	6
France	55.4	12	0.7	22	22.54	6	79.36	4
Germany	58.1	9	0.75	9	18.49	8	76.9	8
Italy	45.3	26	0.62	36	14.11	22	71.22	25
Japan	54.1	13	0.73	12	18.47	9	75.75	12
United Kingdom	61	5	0.73	13	27.21	3	78.88	5
China	56.3	11	0.64	30	40.17	2	72.01	23
India	38.3	39	0.49	71	25.54	4	62.81	46

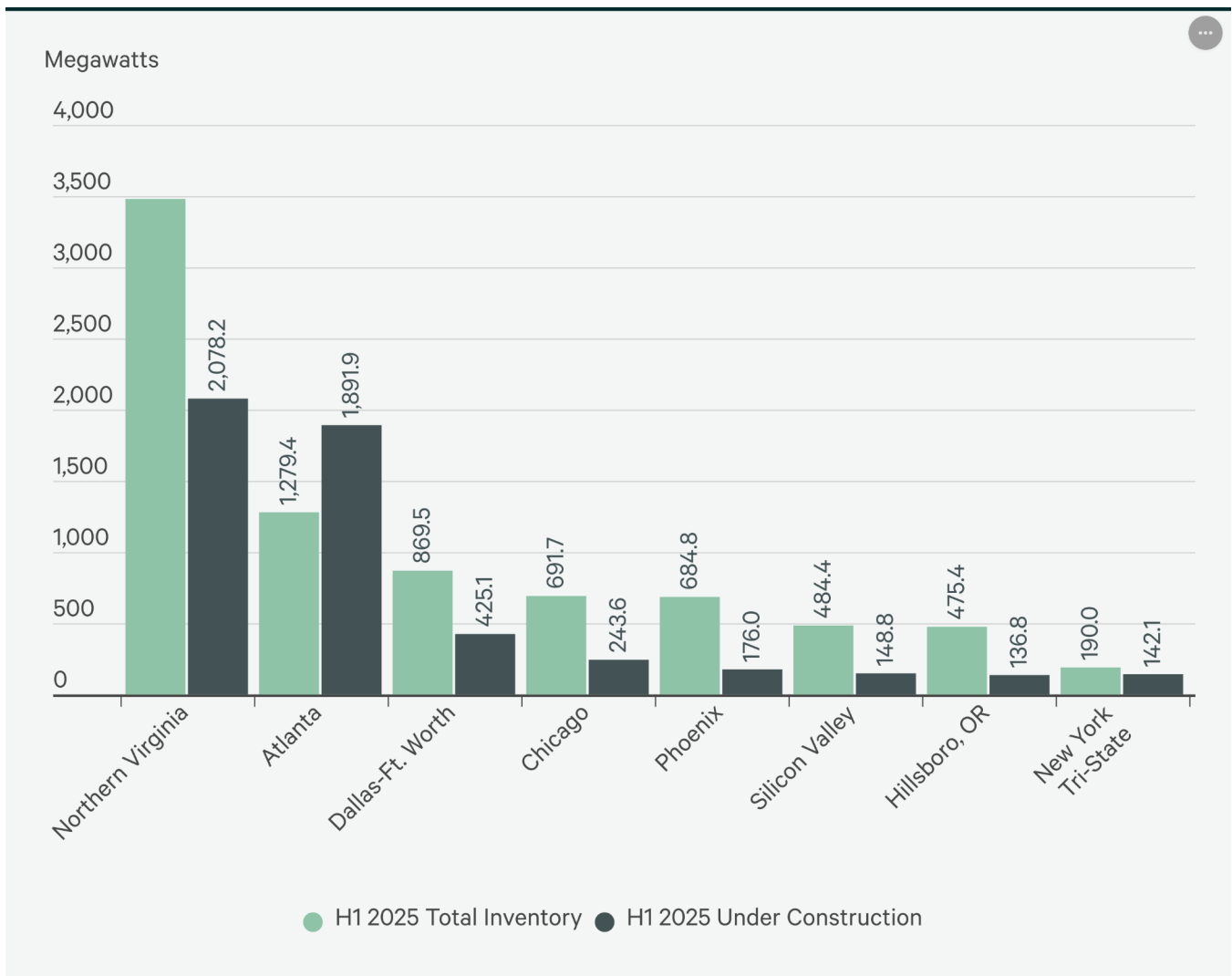
Current & planned data center capacity across key US states



II. Data Centers and Electricity Bills

Data centers not only consume vast amounts of energy to power servers but also face strict reliability demands, with only about 1 hour of downtime [permitted](#) annually. This raises the possibility that growth in data center construction could affect electricity bills, given how the electricity market operates.

Electricity infrastructure costs are spread across a utility's customer base. When new data centers require significant infrastructure investment, a utility might choose to pay for that by raising electricity bills generally. Additionally, many utilities purchase power through wholesale markets, where higher demand can drive up prices. If new data centers significantly increase demand for electricity in wholesale markets, utilities may choose to pass that cost onto all customers.



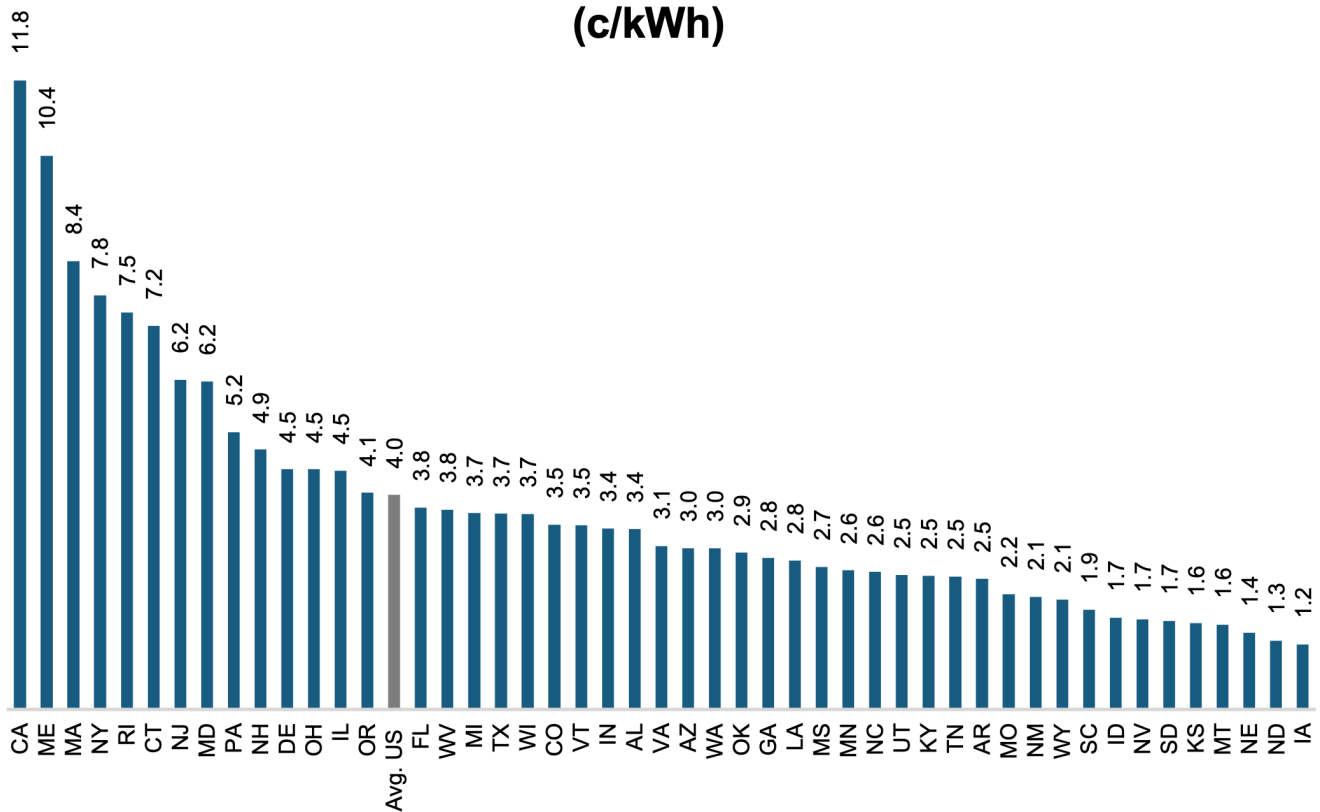
Empirical evidence suggests these hypothetical scenarios are not materializing in practice. Research from [Charles River Associates](#) found that “data centers have generally not caused retail rate increases,” and “most areas have experienced stable rates, with utilities effectively managing controllable costs.” USC professor Shon Hiatt, presenting his research at a recent Gardner Institute Societal Impact Seminar, reported only a 0.007%-0.08% increase in residential power bills attributable to data centers.

States often cited for rising electricity rates due to data center growth, such as Pennsylvania and California, were [found to](#) have experienced increases

driven by higher wholesale market rates and natural-disaster-related infrastructure damage.

President Donald Trump recently established the [Ratepayer Protection Pledge](#), which aims to ensure that Americans do not bear the electricity cost of data center growth. Major AI firms, including Meta, Amazon, and OpenAI, have signed the pledge, committing to fully cover the costs associated with their new data centers’ power needs. In addition to paying for their own energy consumption, companies like [Meta](#) are investing in grid improvements and supporting the development of new energy resources, helping strengthen overall energy capacity.

Figure E1: Five-year change in retail rates by state (c/kWh)



III. Data Centers and Water Usage

Data centers also require constant cooling systems to ensure that social media, AI, and streaming services do not stop working due to server malfunctions. Many of these cooling systems can be water-intensive, raising concerns in water-scarce states. A typical facility can [use](#) roughly 300,000 gallons of water each day, while large hyperscale centers may consume closer to 5 million gallons daily.

A 2024 Berkeley Lab [report](#) estimates that U.S. data centers used nearly 17 billion gallons of water in 2023, with hyperscale facilities accounting for the vast majority of that total. If current trends continue, water

consumption tied to data center cooling [could rise](#) by 870% in the coming years.

Cooling system innovation holds the potential to address water concerns. Emerging [cooling technologies](#) like closed-loop systems and immersion cooling are reducing reliance on water. With the right incentives and policy environment, growth in data center construction can align with responsible resource stewardship. Some tech firms are proactively moderating their own water usage. [Meta](#) has promised that through improved water efficiency, reduced water use, and water restoration projects, it will restore more water than it uses through its data centers by 2030.



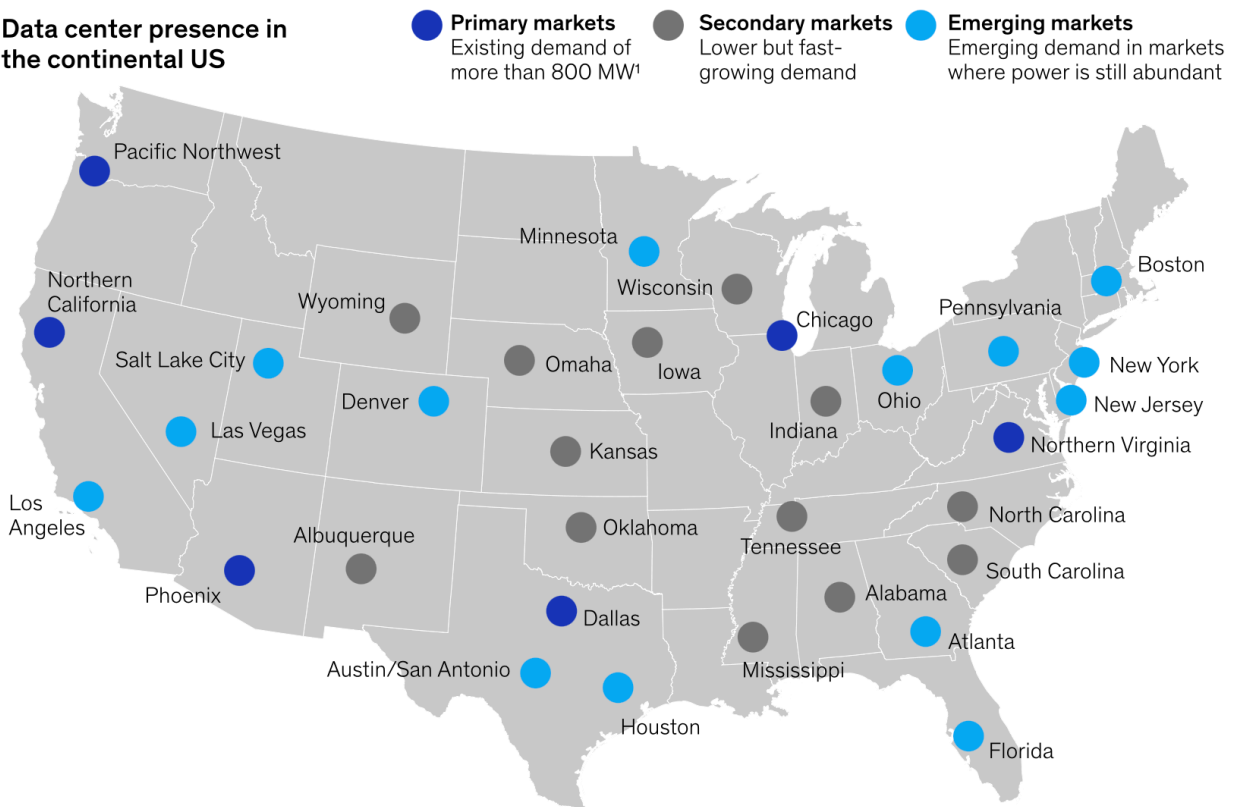
IV. Data Centers and Regulation

In 2025, over 200 new pieces of legislation were [introduced](#) across all 50 states to regulate data centers at the state or local level, with a focus on energy and water use, labor standards, and cybersecurity. More legislation is likely to be proposed by the end of 2026, unless federal action reduces the political pressure for new regulation. The [Ratepayer Protection Pledge](#) is an example of federal action that could limit state and local regulation by alleviating fears of energy rate spikes and infrastructure inadequacies.

Steptoe offers a helpful data center regulation [tracker](#) that allows users to track regulatory efforts state by state. Common [trends](#) in state regulation are emerging, with a focus on energy, water, the environment, zoning, and security. An increasing number of state-level proposals require large-load customers, often including data centers, to be placed in separate rate classes or subject to targeted tariffs intended to recover energy and infrastructure costs while easing pricing pressures on households and other businesses.

Data centers are emerging in more remote locations, where power is still abundant and grids less strained.

Data center presence in the continental US



¹ Megawatt.
Source: Datacenters.com; S&P Global Market Intelligence 451 Research; McKinsey Data Center Demand model

McKinsey & Company

Some states have explored charging data centers higher rates for their [water use](#) or even limiting the amount of water they can use for cooling. Proposed [legislation](#) in New Jersey would mandate that new data centers be powered entirely by newly developed clean or nuclear energy. Several states have attempted to limit data center growth through [zoning restrictions](#). Additionally, cybersecurity concerns are also being used to limit the construction of new data centers, such as in [Florida](#).

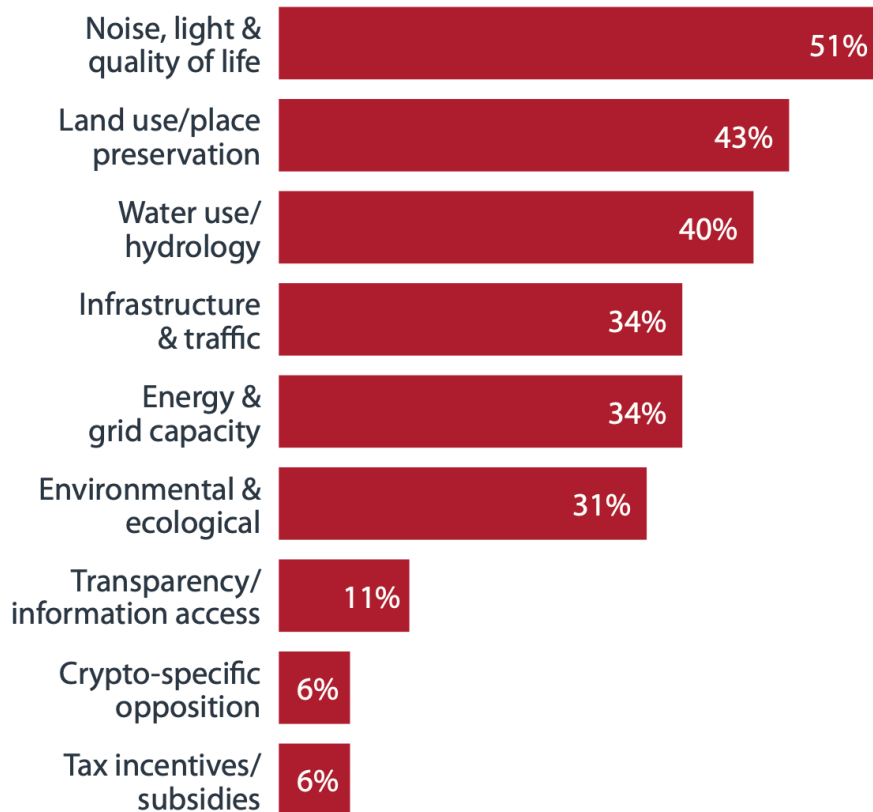
While many states are considering regulatory limits on data center growth, others, like [Maine](#), are working to establish an outright ban. Maine passed a first-of-its-kind

[moratorium](#) on data center construction for facilities that use more than 20 megawatts of power this year.

Moratoriums or bans on data center construction are quickly becoming a trend among state legislators, with other states such as [South Dakota](#), [Wisconsin](#), [Oklahoma](#), [Maryland](#), and [Ohio](#) considering similar legislation.

As state and local regulation of data centers expands, it raises concerns that data center growth will be insufficient to support the technological innovation required to meet Americans' growing demand for new AI tools, social media features (including safety features), and digital entertainment services.

Top Data Center Concerns



Conclusion

Data centers represent both a significant opportunity and a meaningful policy challenge. Their rapid expansion reflects the growing importance of artificial intelligence to economic competitiveness, national security, and everyday life. At the same time, questions about energy use, water consumption, and infrastructure call for thoughtful governance rather than reflexive action.

Policymakers have an opportunity to pursue a balanced approach that encourages innovation and investment,

ensures responsible stewardship of natural resources, and keeps electric bills low. If approached with clarity and discipline, data center growth can deliver substantial benefits, including new high-quality jobs, increased local investment, and strengthened economic resilience. By fostering an environment that supports technological advancement while addressing real tradeoffs, policymakers can help ensure that growth in the number of data centers contributes to broader prosperity and reinforces the foundations of a dynamic, opportunity-driven economy.



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