INTELLIGENCE UPDATE

Mandated off-grid power could derail cloud expansion

Jay Dietrich   4 Mar 2026

Legislators, government officials and the public are increasingly concerned about rapid data center expansion and its effects on electricity rates, grid stress, noise and water use (see **Table 1** for a summary of the impact to electricity supply in four US states). These concerns have sparked vocal opposition to — and the cancellation of — some new projects and have prompted lawmakers and regulators worldwide to introduce measures to slow and manage data center growth (see the related Uptime Institute reports listed at the end of this report). Although momentum for regulation is rising, a newly introduced US Senate bill, the _Guaranteeing Rate Insulation from Data Centers (GRID) Act_, marks a troubling shift.

Table 1 Data center demand growth is large compared with peak demand in several US states

Electricity supply region	2024/2025 peak electricity demand (GW)	Estimated or reported	Projected growth in data center demand 2027-2035 (GW)	Demand growth as a percentage of peak demand
Electricity Reliability Council of Texas (ERCOT)	89	Reported	230	258%
Wisconsin	17	Reported	6	35%
Utah*	10	Estimated	14	140%
Illinois†	29	Estimated	8	62%

* The load growth is driven by two projects supported by behind-the-meter power (BTM) power generation: Joule (4 GW) and Creekstone (10 GW) data center campuses with BTM power.
† All projects are in the greater Chicago area. The 8 GW of demand is for five announced data center projects in a 144 square mile are in Aurora (Illinois). The remaining 10 GW of demand is from 18 projects ranging in size from 0.1 GW to 2.2 GW.

SOURCES: MEDIA ARTICLES, DATA CENTER OPERATOR'S WEBSITES, OTHER WEB RESOURCES. UPTIME INSTITUTE 2026

So far, regulatory efforts have focused on adjusting electrical grid rules to ease siting and interconnection of new grid assets and large data center loads, safeguard grid stability, allow creation of private utilities to serve large customers, and require standby generation to support the grid. Operators are increasingly required to bear the full cost of necessary electrical system upgrades to shield residential and commercial ratepayers.

The GRID Act

The GRID Act would upend the data center power market. In a bid to shield consumers from potential rate increases, it would require all new data centers of 20 MW or more to obtain power exclusively from off-grid generation. If passed as written, nearly all projects that come into operation 180 days after enactment would require an off-grid power source.

The Act would affect existing data centers above 20 MW, requiring operators to compensate ratepayers for any impact on consumer marginal utility rates, for a period of 10 years. To operate these facilities, operators would need a Zero Rate Effect Certificate, which confirms that they have paid rate effect credits that compensate ratepayers for any increase in the rates they pay.

These assessments and credit values must be updated annually by an undefined bureaucratic process under the control of the Secretary of Energy. This could be a high-risk process for operators, as the prospect of revenue may bias evaluations toward identifying rate impacts.

Operators must also report 5 years of past and projected utility use; list property purchases for data center development; and disclose all utility procurement contracts, including incentives from local or state entities.

Rather than supporting data center growth or protecting customers, the Act would create unintended consequences — slowing development, reducing grid reliability and ultimately increasing electricity costs for all consumers.

The rate of data center expansion will be slowed. The electricity grid has available capacity and can be expanded to support data center load growth. When implemented properly, adding generation and transmission can diversify the energy mix, increase carbon-free generation, support electrification and manufacturing, and help manage rates by ensuring adequate capacity and better grid management.

Research from Bloom Energy (*2026 Data center power report*) and clean energy data company Cleanview (*Bypassing the grid: how data centers are building their own power plants*) shows that roughly one-third of announced US data center projects plan to use off-grid generation. The reported data indicates the market is seeking an effective balance between on-grid and off-grid power to support orderly data center expansion.

Mandated behind-the-meter (BTM) systems will result in economic inefficiencies. Data center energy demand fluctuates throughout the day, the week and the year. During periods of lower demand, private power systems will have excess capacity available to sell to the grid. Access to the grid market can improve the economic performance of the data center campus and support grid electricity supply and stability.

There is also a mismatch of the useful life of a data center (10-20 years) and the useful life of a power generation asset (30-50 years or more). AI training and inference systems should become more energy efficient, as standard compute systems have over the period 2010 to 2025, to

improve the economic viability of the technology. Dedicated generation assets could become stranded due to these efficiency improvements, wasting available resources and creating economic losses for some operators or energy developers.

There are other ways to shield residential and commercial ratepayers. Regulatory structures exist or can be modified to require large electrical load projects to assume the full cost of the generation and transmission assets needed to support a given project. States and transmission system operators are implementing these measures. If multiple data centers are proposed for a given grid region or sub-region, the project costs can be minimized by a comprehensive system design supported by multiple operators.

Data centers are not the only cause of rising electricity rates. The proposed Act will not prevent electricity rate increases. Large load growth is just one of several factors affecting electricity rates. The costs of upgrading aging grid systems, implementing fire and weather protection, fuel price increases, and new generation and battery systems to support electrification and other demands will still be borne by ratepayers.

The Uptime Intelligence View

The GRID Act, as proposed, is unlikely to become law. Its strict requirements for off-grid power for new data centers and early disclosure of project plans are a response to the massive scale and utility demand of modern facilities. The Act signals that operators can no longer hide negotiations, incentives, and projected energy and water use behind nondisclosure agreements; the industry needs to be more transparent about its operations.

Major operators (such as Microsoft, OpenAI, Google, QTS, CoreWeave, Digital Realty and Equinix) have responded to concerns about data center power use with broad, promise-heavy statements that lack detail (see *Microsoft's Community-First Plan needs more work*). They typically cite corporate-level environmental goals while avoiding facility-level reporting on the use of energy, water and other essential services, as well as on operational commitments, such as PUE and WUE performance targets.

Operators need to clearly demonstrate the costs and benefits of new facilities. They also need to show how they will serve local communities and customers, while managing and minimizing resource use within the constraints of local energy and water systems.

Other related reports published by Uptime Institute include:

US state drafts plan for data center regulations
State governments act to control power demand
In the US, data center pushback is all about power
Malaysia manages data center growth with regulations
French data center policies affecting sustainability
Japan joins the push for data center regulation
China: centralized rules for data center efficiency

Note: The regulatory analysis provided in this Update is the opinion of Uptime Intelligence. Data center operators should validate the interpretations with their legal staff and any relevant regulatory authorities.

ABOUT THE AUTHOR

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4 Mar 2026

Jay is the Research Director of Sustainability at Uptime Institute. Dietrich looks beyond the hype to analyze the transformations required in energy and IT systems, data centers and software management systems, and intra-organizational collaboration, both within and between companies, to deliver sustainable data center operations.

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Offerings include the organization's Tier Standard and Certifications, Management & Operations reviews and assessments including SCIRA-FSI financial sector risk assessment, the Sustainability Assessment, and a broad range of additional risk management, performance, availability, and related offerings. Uptime Education training programs have been successfully completed by over 100,000 data center professionals, such as the much-valued ATD (Accredited Tier Designer) and AOS (Accredited Operations Specialist). The Uptime Education curriculum has been expanded by the acquisition of CNet Training Ltd. In 2023.

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