

INTELLIGENCE UPDATE

Regulations for behind-the-meter power are emerging



Jay Dietrich 25 Feb 2026

Data center operators are struggling to secure enough electricity generation to support rapid expansion. Meta, Google, AWS and Microsoft have announced plans to invest \$635-660 billion in data center expansion in 2026, with Oracle, Coreweave and Equinix contributing an additional \$88 billion. In many global markets, existing power generation, transmission and distribution systems cannot meet this demand within 5 years.

As a result, many operators — especially in the US — are turning to dedicated power systems that bypass traditional grids. These behind-the-meter (BTM) systems provide electricity directly to facilities via private transmission. Recent reports 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](#)) suggest that approximately one-third of new data center projects intend to rely on BTM energy.

AI data centers can generate \$10-12 billion per GW annually, according to Cleanview. Faster deployment of power generation systems for large facilities could unlock this, but current regulatory frameworks for electricity infrastructure are not designed to accommodate dedicated power solutions.

In the US, the Public Utility Regulatory Policies Act of 1978 allows non-utility electricity generation but requires energy sales to be transacted through incumbent utilities at rates set by a designated regulatory authority. Individual state public utility commissions can adjust their rules. The Electric Reliability Council of Texas allows private networks on a single property but still requires oversight of the private system by the Public Utility Commission of Texas.

In Ireland, the large and growing data center infrastructure is restricted by the limitations of the generation and transmission system, which is controlled by transmission system operator Eirgrid. Under the Electricity Regulation Act 1999 organizations are effectively prohibited from independently managing and operating an electricity transmission system.

Similar regulatory structures constrain or prevent BTM power in many jurisdictions worldwide.

China encourages onsite power systems, but under strict governmental control, with an

expectation that it will be connected to the grid. In many provinces, China has excess power capacity. The East-West Computing Resources Transmission Project was created in part to connect data centers to this excess supply.

The Middle East governments, e.g. Saudi Arabia, the Gulf Cooperation Council, and the United Arab Emirates, strategically encourage captive or dedicated power generation to support large loads. However, they maintain specific regulatory and approval processes that must be satisfied to build and operate these power systems.

Legislation to support BTM generation

To enable data center operators to develop BTM generation efficiently, governmental entities need to create specific utility regulatory structures that free power generation developers and operators to build and manage private energy generation and transmission systems. In turn, the organizations generating and consuming the power need to assume the full risk of the financing, construction and operation of the generation system. The Cato Institute briefing paper, [The case for consumer regulated electricity](#), discusses the following necessary attributes:

- The power generation and energy transmission system must be islanded/disconnected from the regulated grid. However, generation is not required to be colocated with consumption.
- Different entities can operate the power generation assets and the data center facility. Most data center operators will not want to construct, operate and maintain power generation infrastructure.
- The projects can be co-developed with required local zoning and building permitting submittals coordinated to accelerate approval.
- The energy consumer has the sophistication necessary to manage the costs and financial and physical risks associated with power purchase agreements of 10 years or more.

The US Senate, individual US states and the Irish government have proposed, or are experimenting with, legislation that enables consumer-regulated electric utility (CREU)-type agreements.

The Irish government has proposed (and is refining) the Private Wires Bill 2026, with final passage expected in the first half of 2026. The bill allows direct connections between one or more electricity generation and storage assets, and one or more consuming facilities and contiguous siting of generation and consuming facilities.

The bill is intended to ease the strain on the Irish electricity supply transmission grid while enabling data center development. It supports the public policy which requires large energy users to provide on-site power, which can be shared with the grid (see [Ireland's new grid rules signal shift in data center roles](#)).

The US States of New Hampshire, Ohio, West Virginia, Oklahoma, Utah, and the [US Senate](#) have all passed or proposed statutory changes to enable new, large-load facilities, including data centers and large manufacturers, to build or contract for an off-grid power supply. The bills are intended to accelerate permitting and construction of projects, while shielding commercial and residential customers from the rate increases that could result from the transmission and generation projects needed to support them.

BTM power challenges

The creation of CREU-type regulatory frameworks is just the first step to enabling data center developers and operators to build campuses with dedicated power supplies. Several regulatory, economic and technical hurdles remain:

- **Local permitting requirements.** Operators and developers must obtain local zoning, right-of-way and construction permits for their large infrastructure projects. Navigating the permit process for a 1.5 GW power plant, associated high-voltage transmission and data center campus will be challenging and is likely to face opposition.
- **Economic considerations.** A data center campus has a useful life of 10-20 years, while a power plant has a useful life of 30 years or more. In addition, there are few (if any) operators that have a clear understanding of data center power demand and infrastructure requirements for 2035. The contract and risk-sharing conditions will be complex and are likely to require difficult negotiations.
- **Technical considerations.** Matching a single natural gas or nuclear power system to a single data center will require new designs and operating strategies to align generator output with load changes. Modular N+1 to N+X configurations will likely be needed to maintain reliability.
- **Carbon-free energy generation.** Arranging BTM carbon-free energy for wind and solar generation will be more difficult due to the required land area and the intermittent nature of their output. Power systems will need to be carefully choreographed combinations of wind, solar, batteries and reliable generation assets.

The Uptime Intelligence View

BTM power generation will be a major component of data center growth over the next decade, but its success depends on targeted updates to electric utility regulations. These legislative changes need to enable siting, construction and contracting for new generation and transmission while protecting residential and commercial ratepayers. Outcomes are uncertain, as current proposals range from practical to deeply flawed, making operator engagement with legislators and regulators essential.

Even with workable CREU legislation, large BTM-powered data center campuses face substantial hurdles, including complex permitting and significant technical and economic challenges. Operators should continue to redesign and adapt their facilities to meet the demands of AI-driven expansion.

Other related reports published by Uptime Institute include:

[Ireland's new grid rules signal shift in data center roles](#)

[Microsoft's Community-First Plan needs more work](#)

[Giant data center power plans reach extreme levels](#)

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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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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