Facts About Energy

Connecting large load projects to the grid in Kentucky occurs under strong planning, cost allocation and ratepayer protections.

Bottom line: Data centers in Kentucky must pay the costs of connecting to the electric system and to build infrastructure to serve their projects. Utility planning, applicable regulatory review and enforceable service agreements establish infrastructure requirements, allocate costs and protect reliability and existing customers.

What the evidence says

- **Global data center electricity consumption** is projected to reach 565 terawatt-hours in 2026, up 26% from 447 TWh in 2025, according to Gartner. AI-optimized servers are expected to account for 31% of data center power consumption in 2026, and total consumption is forecast to exceed 1,200 TWh by 2030. These global projections describe demand growth; they do not establish whether a particular Kentucky project can be served reliably. Project-specific utility studies evaluate the capacity, infrastructure and timing needed to serve each proposed load. [1]
- **Electric demand** varies by facility type, customer occupancy, computing workload, cooling design and the pace at which buildings and servers come online. A campus announced at hundreds of MW may ramp in phases rather than arrive as one block.
- **Power availability shapes location decisions.** Large data centers often favor sites near existing generation, high-voltage transmission lines and substations because using available infrastructure can reduce the cost, complexity and time required to connect a major new load. Even then, utilities must confirm that sufficient capacity and reliability are available for the project's size and schedule. [2]
- **Data center loads can help stabilize electric rates.** When the revenues from large customers cover the costs of serving them, additional electricity sales can help spread fixed system costs across more customers and potentially moderate rates for everyone. These benefits depend on responsible planning and appropriate cost protections.

How a large load moves through the regulatory processes

1 Utility request and screening

The customer submits its proposed location, phased MW demand, operating profile and reliability needs to the serving utility. The utility establishes agreements with the data center on the studies needed to establish interconnection costs, requirements and timing.

2 Studies and proposed facilities

The utility studies generation, transmission, substations, voltage and reliability. If new utility facilities are required, it determines regulatory approvals needed.

3 Regulatory filings and public process

If regulated by the Kentucky PSC, the utility may file a proposed tariff or special contract and, when required, seek a certificate for major construction. The PSC docket provides filings, data requests, testimony, intervention and public-comment opportunities. [3] For projects served through TVA's system, the applicable TVA and local power company processes govern power supply, rates and service arrangements; the Kentucky PSC process described here is not a universal approval path.

4 Commission review and order

For projects under Kentucky PSC review, the PSC decides whether proposed rates and terms are fair, just and reasonable and whether regulated construction is needed without wasteful duplication. Its order may approve, modify or reject the proposal, and impose protections. [3]

Regulatory map: The Kentucky Public Service Commission regulates rates and service for investor-owned utilities and many rural electric cooperatives, but not municipal utilities. In TVA-served areas, TVA and the local power company have distinct roles in power supply, rates and service arrangements. Transmission planning may also involve regional grid organizations and federal rules. Project-specific obligations depend on the serving utility, tariff, contracts and approvals. [3, 7]

Common protections for other customers

- **Up-front deposits**, letters of credit or financial guarantees for dedicated facilities and study costs.
- **Minimum-demand** or minimum-bill provisions, long contract terms and early-termination charges to address cost risks, helping protect other customers if a project uses less electricity than expected or closes before its contract ends.
- **Separate large-load tariffs** or special contracts that assign identifiable costs to the customer and require PSC review.
- **Phased service commitments** tied to demonstrated milestones, not speculative queue positions.

Rate structures designed to protect existing customers

The three PSC-approved structures below establish rates, contracts and service requirements for exceptionally large loads. They use different eligibility thresholds and terms, but each is designed to allocate the costs and financial risks of serving these projects to the large-load customer, helping protect residential and other existing customers. TVA's separate wholesale rate structure is also relevant to projects in TVA-served areas and is not approved by the Kentucky PSC.

- **EKPC Rate DCP — Data Center Power.** Applies across EKPC's 16 owner-member systems to eligible data centers with at least 15 MW of peak demand and a monthly load factor of at least 60%. Each project must have a separate PSC-approved contract and power-supply plan. The tariff requires the customer to pay the costs of serving it, including an application fee of at least $75,000 plus $1,000 for each MW above 15 MW, a rolling six-month prepayment deposit and potentially weekly billing. Projects above 250 MW must be supported by one or more dedicated resources under a separate rider, reducing the risk to other cooperative members. [4]
- **Kentucky Power revised I.G.S. tariff — new loads of 150 MW or more.** Applies to new commercial and industrial customers, including potential data centers. It requires a 20-year contract, a minimum monthly billing demand generally equal to at least 90% of contract capacity, collateral tied to the customer's maximum non-fuel bill, five years' notice before reducing capacity after the initial period and a substantial early-closure payment. These commitments help protect existing customers if a large project is delayed, downsized or closes the utility recovers the costs. [5]
- **LG&E and KU Rate EHLF — Extremely High Load Factor Service.** This PSC-approved rate applies to exceptionally large electricity users, including eligible data centers, and includes protections for existing customers. Eligible customers must sign 15-year contracts, pay for at least 80% of their reserved electric capacity, even if they use less, and provide financial security covering 12 to 24 months of minimum billing. Early-termination charges also apply. Customers are responsible for infrastructure and costs specific to their projects, helping prevent costs from being passed along. [6]
- **TVA wholesale rate structure for data centers.** In August 2026, TVA's Board approved wholesale rate changes intended to align charges with growing data center demand costs and protect residential and manufacturing customers from subsidizing them. Project-specific requirements depend on applicable TVA rate provisions and local power company service arrangements. [7]

Questions utilities and regulators address

The questions below describe matters evaluated through utility planning and applicable regulatory review. Community leaders can use the answers to understand a proposed project and explain the process to residents; the questions do not imply that local governments approve utility rates or utility infrastructure.

- What are the requested MW, expected annual MWh, load factor, and phased in-service dates?
- Which upgrades are dedicated to this customer, and which are system-wide? Who pays if the project is delayed, downsized, or canceled?
- What deposit, collateral, minimum-bill, contract-term and exit-fee protections apply?
- What new generation, transmission or demand-management resources can communities expect to experience?
- Which decisions are subject to regulatory review, and where can our citizens participate, and the filings be found?

Sources

1. Gartner, "Data Center Electricity Consumption to Grow 26% in 2026" — global 2025–2030 consumption forecast and the growing share of AI-optimized servers.
2. North American Electric Reliability Corporation — Long-Term Reliability Assessment — resource adequacy and large-load growth context.
3. Kentucky Public Service Commission — About the PSC — Kentucky jurisdiction and regulatory role.
4. Kentucky PSC, Case No. 2025-00140 — EKPC Rate DCP final order — eligibility, special contracts, deposits, fees, billing and dedicated-resource requirements.
5. Kentucky PSC, Case No. 2024-00305 — Kentucky Power revised I.G.S. tariff order — long-term contracts, minimum billing, collateral and early-termination protections for new loads of 150 MW or more.
6. Kentucky PSC — LG&E and KU Rate EHLF tariffs — current PSC-approved Extremely High Load Factor Service rate schedule and related terms.
7. https://www.tva.com/news-media/releases/tva-board-protects-consumers--strengthens-reliability-amid-rising-power-demand