SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Josh Becker, Chair
2025 - 2026 Regular

Bill No:	AB 222	**Hearing Date:**	7/1/2025
Author:	Bauer-Kahan		
Version:	5/23/2025 Amended		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Sarah Smith		

SUBJECT: Data centers: energy usage reporting and efficiency standards: electricity rates

DIGEST: This bill requires an artificial intelligence (AI) developer to publicly post the amount of energy used to create an AI model on the developer's website. This bill requires the California Energy Commission (CEC) to include data center energy consumption trends in the Integrated Energy Policy Report (IEPR). This bill also requires the California Public Utilities Commission (CPUC) to determine if electrical corporation costs associated with the construction or expansion of a data center are just and reasonable, as specified.

ANALYSIS:

Existing law:

1) Authorizes the CPUC to supervise and regulate every public utility in the state and permits the CPUC to do anything that is necessary and convenient to exercise its power and jurisdiction. (Public Utilities Code §701)

2) Authorizes the CPUC to set rates for public utilities and specifies that every cost charged by utilities to customers must be just and reasonable. (Public Utilities Code §451)

3) Defines an electrical corporation as every corporation or person owning, controlling, operating, or managing any electric plant for compensation within this state, except where electricity is generated on or distributed by the producer through private property solely for its own use or the use of its tenants and not for sale or transmission to others. (Public Utilities Code §218)

4) Defines "electrical or gas consumption data" as a customer's electrical or natural gas usage that is made available as part of an advanced metering infrastructure, and includes incremental and monthly meter-specific electricity data, to the extent produced by that infrastructure, and the name, account number, and

address of the customer. Existing law prohibits electric and gas utilities from disclosing customers' electrical or gas consumption data without the customer's consent unless state law, federal law, or the CPUC orders the disclosure of the data. Utilities may also share customer consumption data with certain third parties for operational needs or implementation of certain utility programs if specific data protection requirements are met. (Public Utilities Code §8380)

5) Requires the CEC to adopt an IEPR every two years, with an update published every year. Existing law specifies the contents of the IEPR and requires the CEC to report on major energy trends in the IEPR, including assessments of statewide electricity, natural gas and transportation fuel demands. (Public Resources Code §25302)

This bill:

1) Establishes various definitions for its purpose, including, the following:

   a) "Artificial intelligence" or "AI" means an engineered or machine-based system that can, for explicit or implicit objectives, infer from the input it receives how to generate outputs that can influence physical or virtual environments.
   b) "Covered model" means an AI model developed using a quantity of computing power exceeding 10^25 integer or floating-point operations.
   c) "Data center" means a building with a primary purpose of housing one or more computer rooms with an energy demand of at least five megawatts (MW).
   d) "Developer" means a person, partnership, state or local government agency, or corporation that designs, codes, trains, or otherwise produces a covered model.

2) Requires an AI developer to do the following before commercially using a covered AI model:

   a) Estimate the energy used to develop the covered model, including estimating the percentage of energy provided by in-state generation.
   b) Publish the estimated energy usage data on the developer's internet website.

3) Requires an AI developer to do the following annually, starting February 1, 2027:

   a) Estimate the energy used to operate the covered model during the prior year, including estimating the percentage of energy provided by in-state generation.

b) Publish the estimated energy usage data on the developer's internet website.

4) Requires the AI developer to provide its energy use data as required by this bill for free for as long as the developer uses the AI model or offers the AI model for use, and it requires the data to be formatted in an accessible manner.

5) Requires a data center to provide the following formation to the CEC before commencing operations and at any point when this information changes:

   a) The data center's name.
   b) The data center's physical addresses.
   c) The data center's internet website.
   d) A telephone number and email address for a point of contact for the CEC to communicate with the data center.

6) Requires the CEC to include data center energy consumption trends in the IEPR.

7) Requires the CPUC to determine if utility costs associated with data centers are just and reasonable.

8) Requires the CPUC to minimize ratepayer cost shifts associated with the construction or alteration of a data center.

Background

Conspicuous Consumption: Growth of AI will accelerate data centers' energy demands. Data centers are facilities that house computer systems, including servers that help store, process, and route data used for computing and telecommunications. A May 2024 report from the CEC on data centers' power systems indicates that data centers comprise approximately two percent of the state's total annual electricity demand. The CEC anticipates that data centers' electricity consumption may double in the next 10 years without implementation of any additional energy efficiency measures. In December 2024, the United States Department of Energy released a report by the Lawrence Berkeley National Laboratory on data centers' energy use. The report shows that data centers' electricity use comprised approximately 4.4% of the United States' total electricity consumption in 2024. The report also estimates that this load may grow to reach between 6.7% to 12% of national electricity consumption by 2028. The growth of data centers' electricity consumption has been partly driven by the growth of AI. Data centers that serve AI customers are particularly large electricity consumers within the data center sector. Five of the anticipated facilities serving OpenAI could collectively use more electricity than three million households.

Bill focuses on disclosure regarding software development, but these disclosures may not provide an accurate picture for energy modeling. While some data centers wholly serve a single entity, many data centers provide services to a variety of clients, including software developers, telecommunications providers, video streaming services, and other web-based applications. This bill requires AI developers to publicly post specified information about energy consumption associated with developing an AI model on the developer's website. However, an AI developer and the data center used by the AI developer are not necessarily the same entity or owned by the same entity. As a result, a data center facilitating AI activities may be a separate utility customer from the AI developer.

Existing law (Public Utilities Code §8380) prohibits electric and gas utilities from sharing customers' consumption data unless the customer provides the utility with consent to share that information. Historically, customers' metered energy consumption data and associated personal information has been protected by customer privacy restrictions placed on utilities. These privacy protections are intended to prevent third parties from using customer energy consumption to infer additional personal information or proprietary and confidential business information. Disclosure of certain energy consumption and trends in energy use for a specific customer can enable third parties to make certain assumptions about the customer's behavior, technology use, and personal habits without the customer's consent. To the extent that an AI developer and a data center running AI processes for that developer are separate businesses, it is not clear that an AI developer can obtain the historical utility data necessary to accurately estimate or report the energy consumption associated with the development of an AI model. Even in circumstances where a data center is willing to provide its energy consumption data, the data center may not be able to fully disaggregate the energy it consumes for the development of single company's AI model from the data center's total load. To the extent that AI substantially impacts overall electric load growth in California, the load growth will likely come from data center energy demands where those facilities are providing services for generative AI.

Opportunities to assess data centers' energy consumption and identify strategies to improve energy efficiency. While much of this bill focuses on energy consumption associated with specific AI models, data center owners are already monitoring their facilities' efficiency and seeking ways to increase data centers' capacity to run complex tasks while limiting energy costs. The efficiency of a data center may be expressed in a number of ways; however, Power Usage Effectiveness (PUE) and Data Center Infrastructure Efficiency (DCIE) are two widely used measures to express a data center's relative efficiency. Below are descriptions of what these measures say about a data center's performance:

- PUE: this measure is a ratio of the total amount of power used by a data center relative to the power delivered to the center's computing equipment. A lower PUE rating indicates that a facility is more efficient. A PUE rating of 1 indicates that all power consumed by the data center is used by the computing equipment. The National Renewable Energy Laboratory (NREL) set a goal of achieving a PUE of 1.06 or better for the data center serving its Energy Systems Integration Facility. NREL states that the data center has achieved that goal every year and has an annualized PUE rating of 1.036.

- DCIE: this metric helps identify the energy consumed by a data center's computing equipment. Unlike PUE, a higher DCIE indicates a more efficient data center because it shows that a higher proportion of the data center's energy consumption is used for the computing units.

A variety of factors can influence a data center's efficiency, including, but not limited to the data center's location, size, facility type, equipment, and clients. As a result, a variety of tools exist to improve the energy efficiency in data centers. Lawrence Berkeley National Lab hosts the Center of Expertise for Energy Efficiency in Data Centers. The Center provides resources to analyze data centers' energy consumption trends and identify tools to improve data centers' energy performance. In its 2024 report sponsored by the Department of Energy, the Center noted that accurate projections of data center energy consumption and opportunities to mitigate potential impacts associated with that consumption would depend upon obtaining sufficient data to model real-world trends on a regular basis. Regarding the lack of sufficient data on data centers, the report says, "The lack of direct energy data available in a sector with rapidly evolving technologies limits the analysis in this report, especially when trying to understand and estimate future energy demand scenarios." The report makes several recommendations, including the following:

> The lack of primary performance and utilization data indicates that much greater transparency is needed around data centers. Very few companies report actual data center electricity use and virtually none report it in context of IT characteristics such as compute capacities, average system configurations, and workload types. These details are often considered proprietary, but novel data sharing arrangements could address these concerns by developing a repository for companies to provide energy use data that would be anonymized and aggregated for public release through coordination with entities that collect and anonymize data for other industries.

Cost-shifts directly attributable to data centers is unclear, but the CPUC is already addressing some cost-shift concerns. This bill is one of several pieces of legislation authored this year to address concerns about the potential rate and cost-shift impacts

associated with meeting data centers' energy needs. This bill requires the CPUC to determine whether an electrical corporation's expenses associated with the construction of a data center are just and reasonable when the electrical corporation seeks to recover those costs through rates. This bill also requires the CPUC to take steps to minimize the extent to which utility costs for data centers are shifted to ratepayers who do not directly benefit from the data center. It is unclear how the CPUC or utilities would be able to assess which other ratepayers benefit from the data center. To the extent that data centers produce cost-shifts to other ratepayers, those cost shifts would manifest in two distinct ways: (1) costs associated with utility electrical generation procurements, including the potential construction of new generation resources, to serve data centers' electrical demand growth and (2) increased costs for transmission and distribution facilities needed to interconnect and serve data centers. Since transmission rates are largely regulated by the Federal Energy Regulatory Commission, California is limited in its options for regulating how transmission costs are recovered from other ratepayers; however, the CPUC can take certain steps to mitigate overall transmission costs and address cost-shifts associated with distribution facilities and utility procurement.

Data centers are one type of commercial and/or industrial utility customer known for large energy consumption. Certain data center operations, including generative AI, are known for particularly large energy demands; however, not all data center operations consume the same amount of electricity. Those data centers that anticipate consuming particularly large loads are more likely to interconnect with utilities at the transmission-level, which provides electrical service at higher voltages. Increasingly, the investor-owned utilities are seeing a growth in data centers requesting transmission-level service. Between 2014 and 2022, Pacific Gas & Electric (PG&E) had a total of 16 retail customers interconnected with the transmission grid. Since 2023, PG&E has received 34 applications for transmission-level service from entities with an electrical demand of at least four MW. According to PG&E's filings, data centers comprised 67% of the 34 transmission interconnection applications that PG&E has received since 2023. In the absence of an electric rule for these interconnections, PG&E used the "exceptional case" filing process at the CPUC, which is reserved for those circumstances when adhering to existing rules are not feasible, and a party requests a solution that is not authorized under existing CPUC rules and regulations. In November 2024, PG&E filed an application at the CPUC to establish a new Electric Rule 30 (Application 24-11-007). PG&E's filing seeks to establish rules for interconnecting non-residential retail electric customers at transmission level voltages. On June 20, 2025, the CPUC issued a proposed decision allowing PG&E to implement interim measures for transmission-level customers who prepay up to 100% of specific transmission-level upgrades. The CPUC authorized this interim relief while it considers the other issues in PG&E's application.

More information is likely needed to determine the extent to which projected load growth from the data center sector will impact utility rates in a manner that results in cost-shifts. Some stakeholders have asserted that scarcity in electrical generation resources, particularly for those resources necessary to meet reliability standards on days when the grid is strained, will necessarily mean that increased procurement to meet data center load demands will drive up rates. However, other stakeholders contend that meeting these demands will increase incentives for large energy procurements that drive down per-megawatt electricity costs.

Need for Amendments. As currently written, this bill attempts to address the need for more information about the energy impacts associated with the growth of AI by focusing data reporting on software developers creating more advanced AI models. This framework may not provide the best information to support load planning and identifying energy efficiency and load shaping opportunities. Additionally, this bill's provisions regarding cost-shifts may be duplicative of ongoing attempts to address cost-shifts associated with transmission interconnected facilities, including data centers with large loads. *As a result, the author and the committee may wish to amend this bill to do the following:*

- *Delete Section 1 of the bill.*
- *Recast requirements in Section 2 of the bill to require data center owners to report the Power Usage Effectiveness of data centers to the CEC.*
- *Require the CEC to assess potential grid impacts associated with new data center load and provide recommendations for mitigating these impacts.*
- *Specify that the CEC must include its findings regarding data center energy trends in the 2027 full IEPR.*
- *Clarify that the CEC may report data center energy consumption, consistent with Public Utilities Code 8380, on an aggregate basis if all information has been removed regarding the individual identity of a customer. However, the CEC shall not disclose data center energy consumption data on a single facility-basis or in a manner that would result in the disclosure of energy usage data for a specific utility customer.*
- *Recast provisions in Section 3 of the bill to require the CPUC to assess the extent to which data center growth will result in cost shifts to other utility customers for the following:*
  - *Utility procurement to meet growing load demands from increased energy consumption associated with data centers.*
  - *Increased costs for the installation of new transmission and distribution assets to serve new data centers or expansions of existing data centers.*
  - *To the extent that the CPUC finds that energy demands from data centers will result in cost-shifts, the CPUC's assessment shall also identify opportunities to prevent or mitigate these costs.*

Dual Referral. Should this bill be approved by this committee, it will be re-referred to the Senate Judiciary Committee.

Prior/Related Legislation

SB 57 (Padilla) of 2025, establishes a tariff for customers with at least 50 MW of load interconnecting with transmission. The bill identifies utility costs included in this tariff, requires the tariff to ensure just and reasonable rates, and prohibits cost shifts to customers who are not participating in the tariff. The bill is currently pending before the Assembly.

SB 58 (Padilla) of 2025, provides certain tax incentives for data center equipment if those data centers using the equipment meet certain job creation, economic investment, and renewable energy requirements. The bill is currently in the Senate Revenue and Taxation Committee.

SB 1298 (Cortese) of 2024, would have increased the amount of thermal generation a data center could use as backup power from 100 MW to 150 MW without triggering the CEC's power plant siting process. The bill would have also created conditions for data centers to use this exemption. The bill died in the Assembly.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

SUPPORT:

350 Bay Area Action
350 Humboldt: Grass Roots Climate Action
Climate Action California
League of California Cities
Santa Cruz Climate Action Network
Sierra Club
Solano County Democratic Central Committee
Sustainable Rossmoor
An Individual

OPPOSITION:

Bay Area Council
CA Blockchain Advocacy Coalition
California Chamber of Commerce
California Hispanic Chambers of Commerce
California Pacific Asian Chamber of Commerce
Central Valley Business Federation
Data Center Coalition

Information Technology Industry Council
Los Angeles Business Federation
Orange County Business Council
San Diego Regional Chamber of Commerce
San Mateo County Economic Development Association
Santa Barbara South Coast Chamber of Commerce
Silicon Valley Leadership Group
TechCA
TechNet
VICA

ARGUMENTS IN SUPPORT: According to the author:

> Across California, energy-intensive data centers are being built to support the rapid expansion of the artificial intelligence (AI) industry. These data centers increase energy demand and frequently require expansions to the electrical grid; together, these factors threaten to increase energy costs for Californians. AB 222 creates accountability for data centers by increasing transparency around their energy use, adopting energy efficiency standards, and preventing grid development costs from being passed onto ratepayers. California's energy costs are already among the highest in the country, and ratepayers should not be forced to bear the additional costs of AI development.

ARGUMENTS IN OPPOSITION: In opposition, the Silicon Valley Leadership Group states:

> Mandating the disclosure of detailed proprietary and sensitive operational details indicating computer workloads, energy consumption and changes, and other elements can be used by business competitors to deduce trade secrets and inform competitive strategies. Sharing of this information may also leave critical energy infrastructure more exposed to cyber threats, industrial espionage, and potential exploitation by foreign adversaries. Further, isolating energy consumption specifically for AI model training and development is difficult to accomplish, given the multifaceted role of data centers. These facilities underpin a diverse array of services, transactions, and applications across numerous industries. Supporting the training and development of AI models is merely one component of the broader functions supported by data centers.

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