HUMAN RIGHTS CENTER
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Pursuing justice through science, technology & law

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Subject: Written Testimony for the Little Hoover Commission Hearing on Electricity and Data Centers

Dear Commissioners,

The processes that determine where and how data center construction is approved remain opaque and difficult for residents to actively engage with. The communities most affected by these projects are often left without a clear path to engage with development and participate in decisions that will shape their health, resources, and future.

The Human Rights Center and Taps Run Dry are creating a resource guide for local stakeholders, including local governments and residents, to provide meaningful review of a proposed data centers resource consumption and impacts on local communities. To inform this guide, we are engaged in research documenting the extensive regulatory approval process for hyperscale data center development in California, focused on the regulations for water, energy, air quality and land use updates that must be assessed and approved before a data center can break ground. We are mapping the applicable legal requirements and then investigating how they have been applied in case studies.

While our work is ongoing, I am here today to share some insights into the human rights risks and regulatory gaps we have found from our preliminary research and survey of existing literature and legislation.

Government oversight through better enforcement of existing regulations as well as the creation of new policies can significantly impact whether or not the risks of harm hyperscale data centers pose to a local community materialize or not. Rulemaking is underway which has the potential to address some of these concerns. However, recent trends in California Public Utility Commission (CPUC) and California Energy Commission (CEC) rulemaking and state legislation have also considered methods to streamline data center approval with exemptions or new processes which may impede the reliability, affordability, and transparency concerns for communities.

I. Hyperscale Data Centers Pose Human Rights Risks

First, I'd like to take a step back to emphasize why this topic is a human rights issue. The explosive growth of data center developments in California has implications for several key human rights of local communities. Existing research and reporting on hyperscale data centers reveals these rights violations are already being experienced by communities in California and around the world:

A. Right to Health

Data centers pose a significant threat to individuals and communities' right to health: they degrade air quality; increase mortality and morbidity through air pollution exposure; diminish quality of life with noise pollution; and perpetuate environmental inequalities. Health impacts attributed to a data

center will vary substantially depending on their energy source used.[1] Recent research in the United States identified data centers generated 105 million tons of CO2e, and 56% of data center energy was derived from fossil fuels.[2] While California is a leader in the use of renewable energy sources, the consistent use of diesel power backup generators in California, as well as their more frequent use as primary power across the nation, contribute to rising concerns for how the proliferation of data center development will result in increased health disparities and overall health risks.

Air pollution from data centers may significantly threaten public health by producing substantial quantities of critical air pollutants, including fine particulate matter ($PM_{2.5}$), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2).[3] Training a single large AI model can generate emissions equivalent to more than 10,000 cross-country car trips.[4] Exposure to $PM_{2.5}$, SO_2, and NO_2 is one of the leading factors of mortality worldwide; in 2019, the World Health Organization attributed 4.2 million global deaths to outdoor air pollution exposure.[5] Both acute and chronic exposure are directly associated with severe adverse health outcomes, including premature mortality, respiratory disease, lung cancer, asthma, heart attacks, cardiovascular disease, ischemic strokes, diabetes mellitus, reduced immune function, and adverse birth outcomes.[6] Because criteria pollutants can travel hundreds of miles, the public-health consequences of data-center emissions extend far beyond the immediate surroundings. Yet these harms are unevenly distributed: while no exposure level of $PM_{2.5}$ is considered safe, exposure intensity increases with proximity to the emission source, and data centers are disproportionately sited in low-income communities.[7] As a result, the most severe health burdens fall on low-income communities.[8]

Data centers also threaten the right to health by generating noise pollution that erodes surrounding residents' quality of life.[9] Cooling systems often produce a persistent low-frequency hum[10] that nearby residents describe as sounding like a "loud drone hovering above 24/7" or a leaf blower.[11] Many residents report a growing sense of hopelessness as continuous operational sounds erode the quiet they once expected in their communities.[12] Persistent noise exposure, even at relatively low decibel levels, adversely affects general health and well-being.[13] Moreover, because this noise is continuous and low-frequency (22.3dB at 2 miles away, 28 dB at 200 feet away),[14] existing local ordinances often fail to

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[1] Faisal Al Mubarak et al, *Economic, Societal, and Environmental Impacts of Available Energy Sources: A Review,* 5 Eng 3, 1232–1265 (2024).
[2] Gianluca Guidi et al*, Environmental Burden of United States Data Centers in the Artificial Intelligence Era,* (2024). https://doi.org/10.48550/arXiv.2411.09786.
[3] Shaolei Ren et al, *The Unpaid Toll: Quantifying and Addressing the Public Health Impact of Data Centers,* 1 (2025). https://doi.org/10.48550/arXiv.2412.06288.
[4] *Id.* at 3.
[5] Dominski, F. H., Lorenzetti Branco, J. H., Buonanno, G., Stabile, L., Gameiro da Silva, M., & Andrade, A., *Effects of air pollution on Health: A Mapping Review of systematic reviews and meta-analyses.* Environmental Research, 201 (2021). https://doi.org/10.1016/j.envres.2021.111487.
[6] *Id.*
[7] *See* Ren (2025) at 11.
[8] *Id.*
[9] *See* Wacuka M. Ngata et al, *The Cloud Next Door: Investigating the Environmental and Socioeconomic Strain of Data Centers on Local Communities.* In Proceedings of the ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies, 1, 769-774 (2025). https://doi.org/10.1145/3715335.3736324.
[10] Ngata (2025).
[11] Rosalie Chan, *Virginia's "Data Center Alley" residents say an eerie hum is keeping them up at night*. Business Insider, (2023, November 27). https://www.businessinsider.com/data-center-noise-disruptions-loudoun-county-virginia-2023-11.
[12] *See* Ngata (2025).
[13] Hiral Jariwala et al, *Noise Pollution & Human Health: A Review,* (2017).
[14] Ngata, W, *et al* (2025).

regulate it effectively. For example, Santa Clara County's noise ordinance sets exterior noise limits at 45 dBA at night and 55 dBA during the day for one- and two-family residential zones, 60-65 dBA for commercial areas, and 70–75 dBA at any time for industrial zones.[15] Under this ordinance, a data center may lawfully emit a constant, low-frequency hum so long as it does not exceed these decibel thresholds, leaving nearby communities insufficiently protected from chronic noise exposure.

1. Impacts in California

Data centers have already produced measurable public-health impacts in California. Between 2019 and 2023, health-related costs attributable to data-center emissions increased from $44.68 million to $155.44 million, with the majority of harms arising from the electricity required to power servers and cooling systems.[16] These adverse health effects are driven by both the emissions produced by data-center operations and the geographic features of the regions where they are located. Data centers frequently rely on diesel backup generators to maintain uninterrupted service, which emit significant quantities of criteria air pollutants and directly degrade air quality in surrounding neighborhoods.[17]

Geography and weather strongly shape pollution exposure by determining how long pollutants remain trapped in the air and how efficiently they transform into more harmful compounds.[18] In Santa Clara County's low-lying basin, weak winds and surrounding coastal ranges prevent dispersion, allowing NO_X and VOC emissions from backup generators to rapidly form ozone during clear summer days.[19] Similar stagnant, hot conditions in the Central Valley and Southern California regularly drive ozone and $PM_{2.5}$ above health-based standards.[20] Under these conditions, even modest additional emissions from data-center generators can push pollutant levels above regulatory thresholds, worsening respiratory and cardiovascular health outcomes. Despite California's broader decarbonization policies, rising electricity demand from data centers continues to generate substantial pollution-related health costs across the state.

B. Right to Safe Water and Sanitation

Data centers threaten the human right to water by consuming immense volumes of local freshwater from municipal systems, groundwater aquifers, and diverted surface water.[21] A single large-load data center can use up to five million gallons each day; equivalent to the daily water consumption of a town of 10,000-50,000 people.[22] In some regions, as much as 57 percent of cooling water is drawn from potable sources.[23] These withdrawals directly compete with household use,

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[15] Santa Clara County, California, Code of Ordinances, Chapter VIII, § B11-152.
[16] Rui Liu et al, *An Assessment of California Data Centers' Environmental and Public Health Impacts.* University of California Riverside, 5, (2025), https://www.next10.org/publications/ai-environmental-public-health-impacts.
[17] *Id.*
[18] *Id.* at 31.
[19] *Id.*
[20] *Id.* (providing detailed ozone and particulate matter exceedance data across California).
[21] *See* Mél Hogan, *Data flows and water woes: The Utah Data Center. Big Data & Soc*iety, 2(2) (2015), https://doi.org/10.1177/2053951715592429; David Mytton, *Data centre water consumption.* npj Clean Water 4, 11 (February 15, 2021). https://doi.org/10.1038/s41545-021-00101-w.
[22] Miguel Yanez-Barnuevo, *Data Centers and Water Consumption*, Environmental and Energy Study Institute (June 25, 2025), https://www.eesi.org/articles/view/data-centers-and-water-consumption.
[23] Yu Tao, & Peng Gao, *Global Data Center expansion and human health: A call for empirical research*. Eco-Environment & Health, 4(3), 100157 (2025), https://doi.org/10.1016/j.eehl.2025.100157.

agricultural needs, and ecological systems, reducing communities' ability to access reliable and affordable water. In several instances, public municipal funds have been allocated to expand water-delivery infrastructure specifically to serve a data center rather than household or community needs.[24]

Data centers' significant water consumption also increases the financial burden on local residents by intensifying strain on already overburdened local systems. Advocacy groups warn that the combined demands of data centers for both energy and water may ultimately be passed on to ratepayers.[25] Such increases are particularly alarming in California, where an estimated 18 percent of residents already pay rates deemed "unaffordable for basic needs like cooking, washing, and drinking," according to the State Water Resources Control Board.[26]

Rising water rates can threaten food security by reducing farmers' ability to irrigate crops and maintain stable production, particularly in regions that rely heavily on groundwater. When pumping becomes more expensive, growers initially cut back on water use but cannot immediately switch to less water-intensive crops, leaving them exposed to yield declines during dry periods.[27] Sustained increases in water costs eventually force longer-term adjustments, including shifting away from water-intensive perennial crops[28] and fallowing[29] substantial portions of farmland.[30] In areas where achieving sustainable groundwater use would require fallowing nearly half again as much land and retiring close to one-tenth of all irrigated acreage, these changes translate directly into reduced agricultural output.[31] Because perennial crops are central to high-value food supply chains and fallowed land produces no food at all, higher water rates can diminish the availability of key commodities and increase vulnerability across the food system.

C. Right to Housing

Data centers may threaten the right to housing by consuming essential community resources and polluting surrounding areas. Their rapid expansion may exacerbate California's already severe housing crisis. The state has a higher proportion of cost-burdened households than the national average, and approximately half of Californians report that housing costs impose a significant financial strain.[32] The potential for data centers to constrain housing availability is not merely theoretical. In London, new housing construction was halted after electricity capacity had already been allocated to data centers,

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[24] *See* Hogan (2025) *supra* n. 21.
[25] Alejandro Lazo, *Data centers are putting new strain on California's grid. A new report estimates the impacts*, CalMatters, (Nov 14, 2025), https://calmatters.org/environment/2025/11/data-center-environmental-report/.
[26] Caitrin Chappelle, & Ellen Hanak, *Water Affordability in California,* PPIC Water Policy Center (May 2021), https://www.ppic.org/publication/water-affordability/.
[27] Fiona Burlig, Louis Preonas, & Matt Woerman, *Groundwater and Crop Choice in the Short and Long Run*. Energy Policy Institute at the University of Chicago, Working Paper NO. 2024-83 (2024), https://epic.uchicago.edu/wp-content/uploads/sites/5/2025/05/BFI_WP_2024-83.pdf.
[28] In California, perennials generate 62% of total crop revenue. *Id.*
[29] Fallowing is when "usually cultivated land is allowed to lie idle during the growing season." *Fallowing,* Merriam-Webster Dictionary, https://www.merriam-webster.com/dictionary/fallow.
[30] Burlig (2024).
[31] *Id.*
[32] *Californians and the Housing Crisis*. Public Policy Institute of California, https://www.ppic.org/interactive/californians-and-the-housing-crisis/.

leaving insufficient grid resources for residential development.[33] One housing developer was formally notified that inadequate "electrical capacity" rendered new projects infeasible, resulting in a multi-year moratorium on new housing construction until 2035.[34]

Communities surrounding data centers also face rising utility costs. Nearly one in five California households is currently behind on energy bills, and any additional rate increases would intensify the financial burden on residents already struggling to meet basic expenses.[35] Increased water and energy rates attributable to data-center resource demands will disproportionately harm low-income communities, further entrenching existing patterns of environmental injustice.

Data centers can also decrease the value and habitability of nearby housing by degrading air quality. A 2025 study found that worsening air quality reduces property values as households incorporate pollution risks into their location decisions.[36] The study further revealed that housing prices are influenced by the values of nearby properties, indicating that pollution impacts spill over across neighborhoods.[37] Thus, air pollution not only lowers the value of directly affected homes but also depresses the broader housing market.

Willingness-to-pay dynamics compound these effects. High-income households exhibit a greater willingness to pay for cleaner air, producing a larger pollution-related price penalty in wealthier areas.[38] Lower-income households and larger households exhibit lower willingness to pay, likely because financial constraints limit their ability to relocate to areas with better air quality.[39] As high-income households self-select into cleaner-air neighborhoods, they reduce their exposure to harmful pollutants, while low-income households remain disproportionately exposed. This dynamic furthers inequitable environmental burdens and amplifies existing housing-related injustices.

D. Right of Access to Information

As the use of renewable energy sources and new mitigation technologies emerge, annually updated figures for a data center's projected energy demand and actual usage are important to facilitate local communities' continual access to reliable and affordable electricity. Increased transparency on these measurements can also help facilitate trust for new development in communities and substantiate claims by utility and corporate stakeholders that electric grids will be able to withstand exponentially increasing loads over time.

Our current understanding of both energy and water consumption of data centers is based on a combination of self-reported figures, academic research, investigative journalism, and

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[33] Lauren E. Bridges, *Competing digital capacities: Between state-led Digital Governance and Local Data Center tradeoffs*, Information, Communication & Society, *27*(10), 1906–1923, 1916 (2024), https://doi.org/10.1080/1369118x.2024.2331765.
[34] *Id.*
[35] *Q1 2025 electric rates report,* The Public Advocates Office at the California Public Utilities Commission. (May 20, 2025), https://www.publicadvocates.cpuc.ca.gov/-/media/cal-advocates-website/files/press-room/reports-and-analyses/242005-public-advocates-office-q1-2025-rates-report.pdf.
[36] Warawut Ruankham, & Nguyen Thanh Luan, *Air pollution and housing market valuation: a spatial hedonic pricing approach to welfare loss estimation.* International Journal of Housing Markets and Analysis, Manuscript IJHMA-03-2025-0054.R1 (2025), https://www.researchgate.net/publication/391228638_Air_pollution_and_housing_market_valuation_a_spatial_hedonic_pricing_approach_to_welfare_loss_estimation_International_Journal_of_Housing_Markets_and_Analysis.
[37] *Id.*
[38] *Id.* at 14.
[39] *Id.*

government-imposed reporting obligations or records made public through government disclosures.[40] Public records laws are critical to public disclosure of information; other states are adopting more affirmative disclosure requirements.[41]

When a large-load customer withholds information or refuses to keep track of their energy or water consumption, stakeholders may be deprived of the ability to properly assess their representatives' decisions and prepare for changes to their own water access and electricity bills.

In Oregon for example, the city of Dalles sued a local newspaper to stop them from gaining access to Google's data center water consumption in their city ahead of a city council vote on a new water pact between the corporation and city.[42] While select council members were granted access, residents complained "It seems pretty uncomfortable to be negotiating with somebody who can just claim trade secrets on all of their activities, that is only known to a few of you but not the rest of us."[43] The case went on for over a year until the city lost, and it was revealed Google's data centers accounted for 29% of the city's water.[44]

In California, the lack of state laws for monitoring electricity and water usage has resulted in challenges for local governments' drafting and approving environmental impact reports (EIR) for new data center developments. In the City of Gilroy for example, the final EIR for an Amazon Data Center was approved in July 2025, providing blanket approval for two phases of development without identifying what the backup energy source for phase II of the data center will be.[45] The Center for Biological Diversity recently sued the City of Pittsburg for failure to conduct a proper EIR in compliance with obligations under the California Environmental Quality Act (CEQA).[46] Among other claims, the complaint points out the EIR was completed before the California Energy Commission (CEC) had approved the Data Centers request for a Small Power Plant Exemption, which could lead to substantial changes in the project or provide critical analysis by state experts on the project's impact on local residents.[47] This challenge also highlights how access to accurate information is integral to meaningful public participation in the data center approval process.

II. The Role of Regulation:

The approval process to build a data center represents a patchwork of state and local regulations across many resource areas. The complexity of this process and regulations, the sheer amount of

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[40] e.g., A.B. 802, 2015–2016 Leg., Reg. Sess. (Cal. 2015).

[41] For example, New York, Illinois, and New Jersey. A. 9086-A, 2025–2026 Assemb., Reg. Sess. (N.Y. 2025); S. 6394-A, 2025–2026 S., Reg. Sess. (N.Y. 2025); S.B. 2181, 104th Gen. Assemb., Reg. Sess. (Ill. 2025); S. 4293, 221st Leg., Reg. Sess. (N.J. 2025); A. 5548, 221st Leg., Reg. Sess. (N.J. 2025).

[42] Mike Rogoway, *The Dalles sues to Keep Google's Water Use a Secret,* The Oregonian (February 9, 2023), https://www.oregonlive.com/silicon-forest/2021/11/the-dalles-sues-to-keep-googles-water-use-a-secret.html.

[43] *Id*.

[44] Mike Rogoway, *The Dalles settles public records lawsuit over Google's data centers, will disclosewater use,* The Oregonian (February 22, 2023), https://www.oregonlive.com/silicon-forest/2022/12/the-dalles-settles-public-records-lawsuit-over-googles-data-centers-will-disclose-water-use.html.

[45] City of Gilroy, *Amazon Data Center*, https://www.cityofgilroy.org/1019/Amazon-Data-Center.

[46] *Lawsuit Pushed California to Reevaluate Data Centers Environmental Harms,* Center for Biological Diversity (December 3, 2024), https://biologicaldiversity.org/w/news/press-releases/lawsuit-pushes-california-city-to-reevaluate-data-centers-environmental-harms-2024-12-02/.

[47] Verified Pet. for Writ of Mandate & Compl. for Decl. & Inj. Relief, *Center for Biological Diversity v. City of Pittsburg,* (Cal. Sup. Ct. Dec 2, 2024).

resources being used, energy being a private commodity, and the speed at which development is happening all necessitate keen regulatory oversight.

Whether or not the harms of data centers materialize in Californian communities requires the enforcement of existing regulations, as well as additional guidance. This requires coordinated action by both the state legislature, with new laws, and state agencies, by embracing their statutory authority to protect rates, reliability, and the right to information. Below is a subset of the key actors and regulations that exemplify how authorities are currently managing existing and new data center developments and considering their impact on reliability, affordability, and transparency for communities.

A. Energy Regulators and the Allocation of Large Transmission Upgrade Costs

Data centers connect at distribution-level voltage, but also require large, transmission-level upgrades.[48] While large transmission-level upgrades are primarily governed at the federal level, The California Public Utilities Commission (CPUC) has authority over how investor-owned utility companies (IOUs) like Pacific Gas & Electric Company (PG&E) distribute the costs of these upgrades to customers, from data centers to residences and small businesses.[49] How the CPUC exercises this authority directly influences who pays for transmission upgrades, whether it be residences and small businesses, PGE's shareholders, or the customers requiring these updates for operation.[50] This authority has been the topic of considerable public debate and featured heavily in recent California legislation and state agency rulemaking.[51]

The reliability of the broader transmission system in California is governed by both the California Independent System Operator (CAISO) and the Federal Energy Regulatory Commission (FERC).[52] CAISO operates the high-voltage transmission grid within the state in real time, ensuring the lights stay on by balancing supply and demand and identifying when and where major transmission upgrades are needed.[53] FERC oversees the interstate transmission system and approves the cost-allocation and reliability standards (through the North American Electric Reliability Corporation).[54] FERC's recent issuance of Order No. 1920 and its follow-on rehearing orders significantly expand the requirement for long-term regional transmission planning and cost-allocation reforms, further demonstrating how federal oversight affects state-level transmission investment and cost recovery.[55]

Even though FERC sets transmission rates, the FERC-approved transmission cost is passed through to utility customers in California through retail rates approved by the CPUC.[56] This is reflected in the CPUC's General Rate Case (GRC) proceedings, which include a line item for FERC-approved

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[48] *A Free Guide to Data Center Power*, DEVICE42 (last visited Nov. 16, 2025), https://www.device42.com/data-center-infrastructure-management-guide/data-center-power/.
[49] See Cal. Pub. Util. Code §§ 451, 454 (West 2025) (establishing CPUC authority over utility rates and cost recovery).
[50] Cal. Pub. Util. Code § 451 (West 2025).
[51] TechEquity, *Which 2025 AI Bills Became Law in California?*, TechEquity ("Nov. 12, 2025"), https://techequity.us/2025/11/12/which-2025-ai-bills-became-law-in-california/.
[52] California Independent System Operator, *About CAISO*, https://www.caiso.com/About/Pages/Default.aspx (last visited Nov. 16, 2025).
[53] *Id*.
[54] Federal Energy Regulatory Commission, *Overview of FERC*, https://www.ferc.gov/what-ferc/overview-ferc.
[55] Federal Energy Regulatory Commission, *Explainer on the Transmission Planning and Cost Allocation Final Rule – Order No. 1920*, https://www.ferc.gov/explainer-transmission-planning-and-cost-allocation-final-rule.
[56] California Public Utilities Commission, *Electric Rates*, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-rates.

transmission charges.[57] In practice, while FERC sets the amount PG&E may recover for transmission, the CPUC must approve how that cost is allocated to PG&E customers.[58]

Not only does the CPUC approve rate design, it governs distribution reliability standards and interconnection rules.[59] The agency decides how utilities must procure the energy resources needed to serve customers reliably and affordably.[60] This includes wildfire mitigation plans, buying or contracting for electricity generation (solar, wind, geothermal, gas, hydro), energy storage (lithium-ion batteries, long-duration storage), and resource adequacy. CAISO, in turn, ensures the grid can physically operate given the resources the CPUC requires utilities to procure for the distribution system's reliability.[61]

The California Public Utilities Commission (CPUC) has broad regulatory authority, including over retail electricity rates, distribution reliability standards, and interconnection rules for distribution level projects like data centers.[62] It also has strong enforcement powers: it can impose penalties, corrective orders, operational restrictions, and reject project proposals.[63] To ensure the affordability and reliability of electricity, the CPUC should continue considering how these upgrades affect wildfire risk and, consequently, distribution reliability, as well as allocate costs fairly through its general rate cases, demand charges, time-of-use pricing, and special tariffs like PG&E's proposed Electric Rule 30 for Transmission Level Retail Electric Service (Rule 30).[64]

The proposed Rule 30 requires large-load customers (including data centers) to pay for Tiers 1-3 facilities.[65] The initial approved rule addresses the risk of abandonment costs to some degree, but notably does not require large transmission-level customers to pay for the Tier 4 facilities, which are specifically designed to integrate large customer loads required for the operation of data centers and EV

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[57] California Public Utilities Commission, *Electric Transmission Rates and FERC Proceedings*, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/electric-transmission-rates-and-ferc-proceedings.

[58] California Public Utilities Commission, *Electric Rates*, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-rates.

[59] California Public Utilities Commission, *Electric Transmission Rates and FERC Proceedings*, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/electric-transmission-rates-and-ferc-proceedings; Electric Rule 21: Generating Facility Interconnections, https://www.cpuc.ca.gov/Rule21/

[60] California Public Utilities Commission, *Electric Power Procurement*, https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement.

[61] Electric Rule 21: Generating Facility Interconnections, https://www.cpuc.ca.gov/Rule21/.

[62] *Id*.

[63] California Public Utilities Commission, *Enforcement & Citations*, https://www.cpuc.ca.gov/regulatory-services/enforcement-and-citations.

[64] *See* Legislative Analyst's Office, *State of the State: California's Electricity Sector*, https://lao.ca.gov/Publications/Report/4950.

[65] "PG&E describes the four facility types as follows:
Type 1: Transmission Service Facilities. These new transmission facilities are dedicated to providing service to the large load customers only.
Type 2: Transmission Interconnection Upgrades. These are substation or switching station facilities that could be new transmission facilities connecting the transmission network to large load facilities.
Type 3: Transmission Interconnection Network Upgrades. These are modifications to adapt the PG&E transmission network to provide service to the large load customers.
Type 4: Transmission Network Upgrades. These are modifications to the existing transmission grid to integrate service to the large load customers. PG&E describes the need to adapt an existing transmission asset to large customers." California Public Utilities Commission, Proposed Decision of ALJ Lakhanpal, *Application of Pacific Gas & Electric Company (U39E) for Approval of Electric Rule No. 30 for Transmission-Level Retail Electric Service* (A.24-11-007, July 24, 2025) (Rev. 1) [PDF], https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M574/K341/574341982.PDF. Type 4 facilities are the facilities needed to connect larger consumers like data centers and EV charging channels.

charging facilities.[66] Instead, the Rule proposes that the large load customer provide, at the customer's discretion, a pre-funding loan to PG&E that could then be recovered by the customer.[67]

Additionally, under the proposed rule and still under consideration by the CPUC, an applicant could terminate its request from PG&E and receive a refund for anything more than "cost of the work performed by PG&E prior to the Applicant's termination."[68] It's unclear what would be considered costs performed and who would bear any IOU costs not included in costs performed.[69] Future CPUC decisions would determine what costs may be considered,[70] but it would be more efficient to assign in advance those costs up-front to their creators, whether through Rule 30 or other rate programs.

Not all upgrades necessary for data center operation are covered under the proposed rule.[71] While other rules cover smaller, distribution-level connections,[72] proposed Rule 30 only applies to transmission levels between 50 kiloVolts (kV) and 230 kV.[73] Additionally, under the proposed Rule 30, PG&E reserves the right to apply the rule to interconnections above 230 kV, but is not required to do so.[74] The distribution of these transmission-level upgrade costs, including in abandonment situations, should be clearly defined by PG&E for CPUC's approval.[75]

The CPUC approved the Interim Implementation of Electric Rule 30 to standardize and increase efficiency for contracting transmission-level upgrades, and to allow utilities to charge upfront for Tiers 1-3 facility upgrades, but the CPUC is still determining the outcome of how utilities can distribute the costs of larger upgrades like Tier 4 facilities and upgrades approved at the federal level.[76]

While the tariff is more standardized under both the proposed rule and interim implementation of Rule 30,[77] there remains opacity around how PG&E clusters loads, how cost sharing will work among

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[66] California Public Utilities Commission, Proposed Decision of ALJ Lakhanpal, *Application of Pacific Gas & Electric Company (U39E) for Approval of Electric Rule No. 30 for Transmission-Level Retail Electric Service* (A.24-11-007, July 24, 2025) (Rev. 1) [PDF], https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M574/K341/574341982.PDF.

[67] Pacific Gas & Electric Company, *Electric Rule No. 30 — Retail Service Transmission Facilities* (Advice 7671-E, Cal. P.U.C. Sheet No. 59831-E), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_30.pdf, at Applicability and A3; California Public Utilities Commission, Proposed Decision of ALJ Lakhanpal, *Application of Pacific Gas & Electric Company (U39E) for Approval of Electric Rule No. 30 for Transmission-Level Retail Electric Service* (A.24-11-007, July 24, 2025) (Rev. 1) [PDF], https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M574/K341/574341982.PDF.

[68] Pacific Gas & Electric Company, *Electric Rule No. 30 — Retail Service Transmission Facilities* (Advice 7671-E, Cal. P.U.C. Sheet No. 59831-E), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_30.pdf, at C7.

[69] *Id*.; California Public Utilities Commission, Proposed Decision of ALJ Lakhanpal, *Application of Pacific Gas & Electric Company (U39E) for Approval of Electric Rule No. 30 for Transmission-Level Retail Electric Service* (A.24-11-007, July 24, 2025) (Rev. 1) [PDF], https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M574/K341/574341982.PDF.

[70] *See* Pacific Gas & Electric Company, *Electric Rule No. 30 — Retail Service Transmission Facilities* (Advice 7671-E, Cal. P.U.C. Sheet No. 59831-E), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_30.pdf, at D1.

[71] *Id*.

[72] Pacific Gas & Electric Company, *Electric Rule No. 16 — Service Extensions* (Cal. P.U.C. Sheet No. 58903-E, Revised Nov. 21, 2024), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_16.pdf; Pacific Gas & Electric Company, *Electric Rule No. 21 — Generating Facility Interconnections* (Cal. P.U.C. Sheet No. ___, Revised Aug. 29, 2025), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_21.pdf.

[73] *Id*.; *See* Pacific Gas & Electric Company, *Electric Rule No. 30 — Retail Service Transmission Facilities* (Advice 7671-E, Cal. P.U.C. Sheet No. 59831-E), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_RULES_30.pdf, at Applicability.

[74] *Id*. at F6.

[75] *See* California Public Utilities Commission, Proposed Decision of ALJ Lakhanpal, *Application of Pacific Gas & Electric Company (U39E) for Approval of Electric Rule No. 30 for Transmission-Level Retail Electric Service* (A.24-11-007, July 24, 2025) (Rev. 1) [PDF], https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M574/K341/574341982.PDF.

[76] *Id*.

[77] *Id*.

different customer types, and how abandonment scenarios will be managed.[78] The CPUC should ensure all costs are assigned justly and reasonably and disclose their reasoning for these decisions.[79]

B. The California Energy Commission and the Small Power Plant Exemption

The California Energy Commission (CEC) monitors energy demand and system adequacy through statewide load forecasting and by setting efficiency requirements under Title 23, including computer-room and data center efficiency standards.[80] The Commission prepares the Integrated Energy Policy Report (IEPR) in accordance with SB1389, which contains an assessment of major energy trends and issues facing California's electricity sector.[81] These standards inform grid reliability and overall energy loads through efficiency standards. The CEC also has exclusive authority over thermal power plants of 50 megawatts (MW) and greater.[82]

The Small Power Plant Exemption (SPPE) creates a process for applicants with facilities between 50 and 100MW to proceed with a streamlined process subject to CEQA-level environmental review by the local lead agency rather than the CEC.[83] However, an SPPE may only be granted if the CEC determines that building the plant "would not create a substantial adverse impact on the environment or energy resources."[84] This determination required for the exemption process provides an important check, though less extensive than a traditional CEC review, on the environmental impact of a project before allowing it to proceed.[85] However, hyperscale data centers have found a loophole even from that lower level of CEC oversight by colocating two 49MW facilities on the same property to avoid the CEC oversight more or less entirely.[86] This is concerning for the lost evaluation of impacts the facilities will pose to the environment and local communities.[87]

Furthermore, while the CEC reviews SPPE applications from data center developers, the agency is not required to notify the public of the proposed facilities. The CEC maintains a list of approved and active requests on its website,[88] but local governments are responsible for affirmatively notifying local residents of these large scale facilities planned for their communities.[89] In practice, city and county

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[78] *See* California Public Utilities Commission, Proposed Decision of ALJ Lakhanpal, *Application of Pacific Gas & Electric Company (U39E) for Approval of Electric Rule No. 30 for Transmission-Level Retail Electric Service* (A.24-11-007, July 24, 2025) (Rev. 1) [PDF], https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M574/K341/574341982.PDF

[79] Cal. Pub. Utils. Code § 451.

[80] California Energy Commission, *2022 CEC Computer Rooms and Data Centers — ADA* (Sept. 2023), https://www.energy.ca.gov/sites/default/files/2023-09/2022_CEC-Computer_Room_and_Data_Centers_ADA.pdf

[81] California Energy Commission, *Integrated Energy Policy Report*, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr.

[82] California Energy Commission, *Power Plant Licensing*, https://www.energy.ca.gov/programs-and-topics/topics/power-plants/power-plant-licensing.

[83]California Energy Commission, *Power Plant Compliance and Siting*, https://www.energy.ca.gov/programs-and-topics/topics/power-plants/power-plant-compliance-and-siting.

[84] CEC, Power Plant Compliance and Siting: Exempt- Small Power Plant Exemptions, https://www.energy.ca.gov/programs-and-topics/topics/power-plants/power-plant-compliance-and-siting.

[85] *Id*.

[86] City of Gilroy, *Amazon Data Center*, https://www.cityofgilroy.org/1019/Amazon-Data-Center.

[87] *See* California Energy Commission, *Power Plant Compliance and Siting*, https://www.energy.ca.gov/programs-and-topics/topics/power-plants/power-plant-compliance-and-siting.

[88] California Energy Commission, *Power Plant Licensing*, https://www.energy.ca.gov/programs-and-topics/topics/power-plants/power-plant-licensing#:~:text=a%20proposed%20project%3F-,Yes.,area%20to%20take%20public%20comment.

[89] CEC, Power Plant Compliance and Siting: Exempt- Small Power Plant Exemptions, https://www.energy.ca.gov/programs-and-topics/topics/power-plants/power-plant-compliance-and-siting.

departments have provided this information to varying degrees. For example, Residents in San Jose have reported having to call the city to learn about a new data center proposal and request notices be placed around the proposed site.[90]

While the CEC collects annual reports on energy usage and GHG emissions from data centers,[91] other states have implemented more stringent disclosure laws, requiring reporting of fossil-fuel usage, renewables procurement, cooling-system efficiency, and other operational metrics.[92] California has considered similar proposals (e.g., AB 222) that would require data centers to disclose Power Usage Effectiveness (PUE) so the CPUC can monitor cost shifts to other customers, though this proposal did not advance.[93]

The Public Resources Code "grants the CEC authority to hold public hearings and stakeholder processes to best assess the necessary reporting and efficiency standards for buildings."[94] Within this authority, the CEC may also play an active role in evaluating new reporting mechanisms which can increase transparency in the data center development process and encourage the innovation and use of best availability technology to improve electricity efficiency and overall reliability for all electricity users on the power grid.

C. Takeaways from the 2025 Legislative Cycle

California had over 60 bills to regulate AI introduced in this past legislative cycle. Of these, five bills focused on data centers and environmental impacts. Of these five, only one bill was signed, one was vetoed, and three did not pass. Bill analysis from various committees in the State Assembly and Senate provides insight into how legislators, special interest groups, and state agencies considered the best ways to moderate the economic and physical impacts of data centers on communities.

When first drafted, SB57 required the CPUC to establish special rate structures shielding residential and small business customers from data center transmission costs and allow pre-payment by large load customers for expected usage.[95] The bill passed through the State Senate as is, but was amended into a study bill by the State Assembly before going to the Governor. Ultimately Governor Newsom signed the bill requiring the CPUC to analyze and report to the legislature key findings on the costs associated with utility procurement, expanded transmission and distribution for data centers in California. The bill also requires the CPUC report to the legislature if these large load customers' electricity needs are resulting in cost-shifting to non-participating customers.[96] The Assembly Committee on Utilities and Energy bill analysis comments recommended these changes, suggesting a need to separate public policy considerations from the tariff and treating potential cost-shifting to

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[90] Aaron Cantu, *As California's AI Data Centers Grow So Does Dirty Energy*, Capital & Main (January 21, 2025), https://capitalandmain.com/as-california-ai-data-centers-grow-so-does-dirty-energy; *See also* Cecilia Lei et al, How the Bay Area AI Boom Fuels a Dirty Energy Dilemma, *KQED* (February 12, 2025), https://www.kqed.org/news/12026604/bay-areas-ai-boom-fuels-a-dirty-energy-dilemma.

[91] California Energy Commission, *Building Energy Benchmarking Program*, https://www.energy.ca.gov/programs-and-topics/programs/building-energy-benchmarking-program; A.B. 802, 2015–2016 Leg., Reg. Sess. (Cal. 2015).

[92] For example, New York, Illinois, and New Jersey. A. 9086-A, 2025–2026 Assemb., Reg. Sess. (N.Y. 2025); S. 6394-A, 2025–2026 S., Reg. Sess. (N.Y. 2025); S.B. 2181, 104th Gen. Assemb., Reg. Sess. (Ill. 2025); S. 4293, 221st Leg., Reg. Sess. (N.J. 2025); A. 5548, 221st Leg., Reg. Sess. (N.J. 2025).

[93] A.B. 222, 2025–26 Leg., Reg. Sess. (Cal. 2025), https://legiscan.com/CA/text/AB222/id/3245356

[94] Cal. Pub. Res. Code § 25402(b)(4).

[95] Assembly Committee on Utilities and Energy, SB57 Bill Analysis, July 9, 2025.

[96] *Id.*

non-participating rate-payers.[97] Upon amendment however, the CPUC called the updated bill "unnecessary and duplicative" as it already had authority for this analysis and action."[98] The ultimate text provided far less affirmative protections than other states have implemented, and than the original text originally conceived. While the bill now creates a formal tracking process for the CPUC to submit its analysis to the state legislature, how this actually impacts CPUC regulatory activities and ratepayer protections remains to be seen.

III. Next Steps

California has long been a leader in both technological innovation as well as environmental and health protections. The scaling of hyperscale data centers to support artificial intelligence now presents an opportunity to continue this legacy and scale technology while improving oversight and protections for the human rights of all Californians. In addition to the above analysis, I encourage you to review the testimony of my co-presenter, Masheika Allgood, and the recommendations for regulating data center development in California put forth by the Berkeley Energy Resource Collaborative. I look forward to engaging with the Commission at the hearing.

Best,

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[97] Assembly Committee on Utilities and Energy, SB57 Bill Analysis, July 9, 2025.
[98] ASSEMBLY COMMITTEE ON APPROPRIATIONS, SB57 Bill Analysis, August 20, 2025.