

Date of Hearing: January 15, 2026

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Cottie Petrie-Norris, Chair

AB 710 (Irwin) – As Amended January 7, 2026

SUBJECT: Electricity: dynamic pricing: advanced metering infrastructure

SUMMARY: Establishes requirements on both electrical corporations and publicly owned utilities (POUs) related to smart grid readiness. Specifically, **this bill:**

- 1) Requires the California Public Utilities Commission (CPUC), by January 1, 2028, to require each electrical corporation to offer optional dynamic pricing tariffs consistent with California Energy Commission (CEC) standards and a CPUC pricing framework.
- 2) Requires both electrical corporations and POUs to analyze, by January 1, 2028, the feasibility of deploying advanced metering infrastructure to all customers, and develop a plan, by January 1, 2029, for complete advanced metering infrastructure deployment, where feasible.

EXISTING LAW:

- 1) Requires that all rates for any service or product charged by an electrical corporation be just and reasonable. (Public Utilities Code § 451)
- 2) Requires each customer with distributed energy resources (DERs), as specified, to participate in real-time metering and pricing programs; and requires the CPUC to adopt a real-time pricing tariff by December 31, 2001, to serve these customers. (Public Utilities Code § 353.3)
- 3) Requires investor-owned utilities (IOUs) to offer default rates to residential customers with at least two usage tiers. (Public Utilities Code § 739.9)
- 4) Permits IOUs, with approval of the CPUC, to offer residential customers the option of receiving electric service pursuant to “time-variant pricing,” which includes time-of-use rates (TOU), critical peak-pricing, and real-time pricing. (Public Utilities Code § 745)
- 5) Requires the CPUC to report to the Legislature and Governor biennially on progress made toward modernizing the state’s distribution and transmission grid, largely focused on connecting DERs. (Public Utilities Code § 913.6)
- 6) Declares it state policy to modernize the electrical transmission and distribution system with infrastructure that could be characterized as a smart grid, including consumer devices for metering and ones that provide consumers with timely information and control options. (Public Utilities Code § 8360)
- 7) Requires, by July 1, 2011, both electrical corporations and larger POUs¹ to develop a smart grid deployment plan. The electrical corporations must submit their plans to the

¹ Those with more than 100,000 service connections

CPUC for approval, who must ensure the plan meets specified policy objectives and federal operability rules. (Public Utilities Code §§ 8362, 8364, 8369)

- 8) Requires the CPUC, in consultation with the CEC and California Independent System Operator (CAISO), to evaluate the impact of smart grid technology deployment on major initiatives and policies, including implementation of new advanced metering initiatives. (Public Utilities Code § 8366)
- 9) Prohibits a business from sharing with any third party a customer's electrical or natural gas usage data made available by advanced metering without first obtaining the express consent of the customer and conspicuously disclosing to whom the disclosure will be made and how the data will be used. (Civil Code § 1798.98, Public Utilities Code §§ 8380-8381)
- 10) Authorizes the Department of Energy to award \$4 billion in grants ranging from \$500,000 to \$20 million for smart grid technology deployments and grants of \$100,000 to \$5 million for the deployment of grid monitoring devices. (federal Public Law 111-5, the American Recovery and Reinvestment Act (ARRA) of 2009)
- 11) Requires the National Institute of Standards and Technology to be the lead agency to develop standards and protocols for the smart grid, and creates a research, development, and demonstration program for smart grid technologies at the Department of Energy, among other provisions. (federal Public Law 110-140, the Energy Independence and Security Act of 2007)

FISCAL EFFECT: Unknown. This bill is keyed fiscal and will be referred to the Assembly Committee on Appropriations for its review.

CONSUMER COST IMPACTS: Unknown. This bill mandates an optional tariff. For customers who do not participate, they will likely be unaffected. For customers that do, there is potential for cost savings given the greater load management envisioned with the tariffs. However, these potential savings assume smooth deployment; if challenges materialize in updating utility systems, costs could escalate. The bill also mandates an advanced meter deployment plan. Both the planning for and the actual deployment of advanced metering will cost ratepayers money; however, most utilities in the state have already deployed advanced meters extensively throughout their service territory.

BACKGROUND:

Smart Grids. The term smart grid refers to an electric system that enables two-way communication between a customer's meter and the utility. By incorporating advanced, information-based technologies, a smart grid seeks to increase efficiency, reliability, and operational flexibility, while reducing the need for new grid infrastructure. Smart grids have been a critical component of California's clean energy transition. Since 2009, it has been state policy to "modernize the electric system" with infrastructure that increases the use of digital information and control technology, provides for dynamic grid optimization, develops cost-

effective demand response, and integrates cost-effective, smart consumer devices (like appliances), among other characteristics.²

The most important step to achieving a smart grid is installing smart meters, also known as “advanced metering infrastructure.” These meters allow utilities and customers to monitor real time usage, manage the system more effectively, and better handle electricity from renewable sources like rooftop solar. Beyond the data-sharing benefits, smart meters also save utilities money on avoided meter operation costs and truck dispatch. The Sacramento Municipal Utility District (SMUD) saw over \$8.6 million in savings in the first 13 months of smart meter deployment from reduction in manual meter readings and service calls alone.³ Smart meters are also critical in achieving advanced rate design –such as dynamic, real-time tariffs – which rely on the fast flow of customer usage data to be implementable. In other words, you can only manage what you can measure; and smart meters enable more real-time measurement – and therefore management – of the electric system.

In 2009, as part of the American Recovery and Reinvestment Act (ARRA), the federal government awarded billions of dollars in grants for smart grid infrastructure, including smart meters. Tens of millions of those dollars flowed to California utilities, largely to finance smart meter installations.⁴ From 2009-2020, the CPUC annually reported on the state’s smart grid activities.⁵ As part of their last report, the CPUC provided a status update on the deployment of smart meters as of October 2019.⁶ Less than one percent (<1%) of all San Diego Gas & Electric (SDG&E), Southern California Edison (SCE), and Pacific Gas & Electric (PG&E) customers remained on older, analog meters.⁷

A Decade of Residential Rate Re-Design. There are several ways to price electricity used by the customers of an electric utility. Traditionally, customers paid the same price for each unit of electricity, regardless of when they used it. More recently, IOUs have offered their customers electricity pricing that varies by time of day. For example, the IOUs have offered time-of-use (TOU) rates to their nonresidential customers for over a decade and have made them available to their residential customers, on an opt-in basis, for several years. This rate structure is to better align the price the customer pays for electricity with the cost to the IOU to generate, transport, and deliver that electricity.⁸

To illustrate, an IOU customer subject to TOU rates pays more for each unit of electricity they use on a hot, sunny afternoon—when demand for electricity and costs of electricity generation are both high—than they do for each unit of electricity the customer uses in the middle of the

² Public Utilities Code § 8360

³ Pg. 54, Office of Electricity Delivery and Energy Reliability, US DOE, *Advanced metering Infrastructure and Customer Systems*, September 2016; https://gridmap.gridwise.org/wp-content/uploads/2024/07/AMI-Summary-Report_09-26-16.pdf

⁴ *Ibid.*

⁵ <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/smart-grid-landing-page>

⁶ CPUC, *California Smart Grid Annual Report, 2019*, February 2020; https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpucwebsite/content/about_us/organization/divisions/office_of_governmental_affairs/legislation/2020/2019-smart-grid-annual-report.pdf

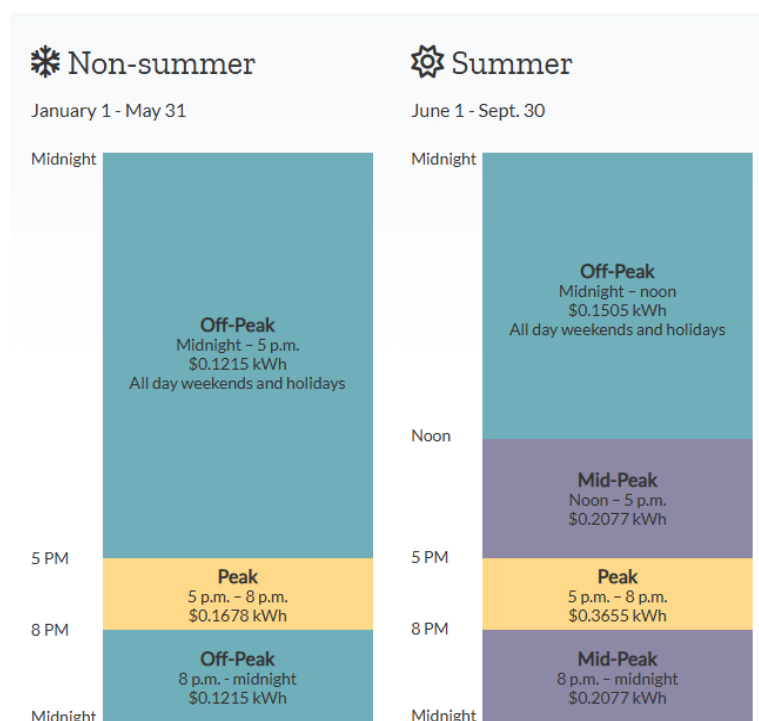
⁷ largely due to their opting-out of the installation; see Table 4, pg. 38, *Ibid.*

⁸ Energy Upgrade California website; “Time Matters – FAQs;” accessed 03.25.2025; <https://energyupgradeca.org/time-of-use-faqs#:~:text=When%20did%20Time%20Of%20Use,to%20TOU%20by%20June%202022.>

night—when demand for electricity and the cost of generation typically are both low. In this way, TOU rates align costs and price signals, thereby encouraging customers to shift their use of electricity to times of low cost and low demand. By June 2022, all eligible residential customers of the state’s three largest IOUs⁹ transitioned to TOU rates.

The TOU rate structure, however, is a blunt signal. TOU time blocks encompass hours—say, 5:00 p.m. to 8:00 p.m. for the most expensive TOU block—and the amount an IOU charges for each kilowatt of electricity a customer uses during those time blocks only loosely mirror wholesale electricity costs. In contrast, dynamic electricity rates price electricity on closer to real time (typically every hour), better aligning with the actual cost to produce and deliver electricity. This is a common business practice, experienced by anyone who has faced surge pricing in an Uber or booked airline tickets during the summer travel season. In this way, dynamic pricing sends a much more precise signal to customers than do TOU rates, and customers can make fine-tuned changes in their use of electricity based on those precise price signals.

Figure 1: Non-summer and Summer TOU prices for SMUD, showing 2 daily prices in the non-summer months and 3 daily prices in the summer months. In both seasons, the highest prices are those associated with the “peak” (yellow) from 5pm-8pm.



On July 14, 2022, the CPUC opened a rulemaking,¹⁰ following the release of a CPUC Energy Division staff white paper on the California Flexible Unified Signal for Energy (CalFUSE), a proposal that includes integrating real-time price signals in customer rates with better DER management.¹¹ Recent studies that have analyzed the costs and benefits of DERs and other flexible resources show that a co-optimized system – i.e., a system that optimizes both the planning and dispatch of DERs with real-time price signals – can achieve significant long-term cost savings and partially mitigate the curtailment of renewable resources.¹² As part of the

⁹ San Diego Gas & Electric (SDG&E), Southern California Edison (SCE), and Pacific Gas & Electric (PG&E).

¹⁰ R. 22-07-005

¹¹ Madduir, A., et al., *Advanced Strategies for Demand Flexibility Management and Customer DER Compensation*; CPUC; June 22, 2022; <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/demand-response/demand-response-workshops/advanced-der---demand-flexibility-management/ed-white-paper---advanced-strategies-for-demand-flexibility-management.pdf>

¹² Reeve, Hayden, et. al., “Distribution System Operator with Transactive (DSO+T) Study Volume 1: Main Report,” Pacific Northwest National Laboratory (PNNL), 2022. <https://doi.org/10.2172/1842485>.

rulemaking, the CPUC initiated dynamic pricing pilots for SDG&E,¹³ PG&E,¹⁴ and SCE¹⁵ to examine various customer behavior, system modifications, and customer needs before seeking to apply these activities statewide.¹⁶

In August 2025, the CPUC closed the proceeding and directed SDG&E to propose demand flexibility rates for all customer classes by late November 2025.¹⁷ The decision directed PG&E and SCE to provide additional information within their pilot programs' proceedings, and to share any learnings from their pilots by May 2028.¹⁸

COMMENTS:

- 1) *Author's Statement.* According to the author, "Californians are facing an affordability crisis in the form of rapidly rising electricity rates. One mechanism to help promote affordability in the electric sector is the widespread use of dynamic pricing, also known as time-of-use rates, which encourages customers to use electricity at times when it is inexpensive while discouraging usage during peak times, when electricity is both more expensive to generate and more emissions-intensive. Advanced metering infrastructure, often referred to as smart meters, can facilitate dynamic pricing and support better utilization of the electrical grid, potentially providing additional cost savings to ratepayers. Encouraging the adoption of dynamic pricing and the installation of advanced metering infrastructure will help move California toward a modernized electrical grid and reduce costs to ratepayers."
- 2) *Purpose of Bill.* AB 710 seeks to increase the rate options for electrical corporation customers, providing them the opportunity to voluntarily subscribe to dynamic rates, and thereby increasing their load management abilities. Both residential and business consumers, as well as renters, can save on their bills by using programmable load-shifting devices to automatically schedule appliance operations based on electricity cost. Smart technology automation already exists and may be installed in your home or business. However, the implementation of dynamic prices to harness these technologies is still largely in the pilot phase; though, as noted above, SDG&E has recently proposed demand flexibility rates for all customer classes. This bill would require all electrical corporations to offer optional dynamic pricing tariffs by January 1, 2028.
- 3) *Unequal Smart Meter Deployment.* AB 710 also recognizes that the main infrastructure barrier to dynamic rates is the availability of smart meters. As noted above, this is not a barrier in the large IOU territories, which have had near-universal adoption of smart meters for over a decade (since 2013). Less information is available for POUs. Many – such as SMUD and Glendale Water & Power – received federal money under the ARRA

¹³ D. 21-07-010

¹⁴ D. 21-12-015, D. 24-01-032

¹⁵ D. 21-12-015, D. 22-10-022

¹⁶ D. 24-01-032

¹⁷ D. 25-08-049

¹⁸ Order #7 of D. 25-08-049, pg. 148, directs a Tier 1 AL within 90 days after the final evaluation reports. D. 24-01-032 directed the expanded the pilots to conclude around December 2027, with final evaluation reports due March 1, 2028; putting the Tier 1 ALs at May 2028.

to fully deploy smart meters.¹⁹ Los Angeles Department of Water & Power (LADWP) received \$60 million in ARRA funding in 2013 for their “Smart Grid LA” program, which installed 52,000 smart meters – only a small share of their roughly 1.6 million LADWP customer accounts.²⁰ More than a decade later, LADWP reports that it has begun deploying additional smart meter infrastructure in 2025,²¹ and estimates needing about 1.5-2 years to reach full deployment.²² The status of smart meter deployment at other small, multijurisdictional IOUs, electric co-operatives, or small POUs is unknown to the committee.

This bill requires all IOUs and POUs to analyze the feasibility of deploying smart meters to all customers by January 1, 2028, and to develop a deployment plan by January 1, 2029. Writing in opposition, SDG&E notes this requirement duplicates and overrides the existing decade of work, forcing a new process and new work when smart meter infrastructure is already well established. (SDG&E for its part is already in its second smart meter deployment, having requested additional funding during its 2024 General Rate Case.) It is unclear how much the requirements of the bill will be interpreted by the CPUC or POU governing boards as new work, or if past feasibility analyses and deployment plans would meet the bill’s obligations. If the effect of this bill is to create new obligations in addition to what has already happened, the opposition’s emphasis on duplication seems warranted, at least for most utility customers in the state. However, this bill also captures utilities who otherwise have been statutorily excluded from these obligations.

- 4) *Unequal Utility Impacts.* Statute related to smart grid technologies and smart metering deployment permits the CPUC to modify or adjust the requirements for any electrical corporation with fewer than 100,000 service connections and excludes outright any POU under that threshold.²³ These off-ramps include all the state’s electric co-operatives, which are considered “electrical corporations” under current Public Utilities Code definitions. This bill makes no such modification and instead requires all utilities in the state to establish deployment plans for smart meters. Given the deployment that has been underway for over a decade with the large IOUs²⁴ and many of the large POUs, this bill will largely impact just these smaller utilities that have been excluded from statutory requirements since 2009. (That is, if one assumes new deployment plans won’t be required for the earlier adopters, which is not a guarantee.) Back in 2009 many stakeholders were uncertain of the benefits of smart meter technology;²⁵ especially given IOUs smart meter project costs ran into the billions of dollars.²⁶ However, over a decade

¹⁹ Office of Electricity Delivery and Energy Reliability, US DOE, Advanced metering Infrastructure and Customer Systems, September 2016; https://gridmap.gridwise.org/wp-content/uploads/2024/07/AMI-Summary-Report_09-26-16.pdf

²⁰ <https://www.ladwp.com/who-we-are/power-system/advanced-metering-infrastructure>

²¹ <https://www.ladwp.com/who-we-are/power-system/advanced-metering-infrastructure>

²² In correspondence with the committee.

²³ Public Utilities Code §§ 8368-8369

²⁴ CPUC. (2025). “The Benefits of Smart Meters.” CPUC. <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/the-benefits-of-smart-meters>

²⁵ See the Assembly Committee on Utilities and Commerce analysis for SB 17 (Padilla) from June 22, 2009; https://lis.caegis.net/LISWeb/faces/bills/billdetail.xhtml?jsessionid=rBm3lYbFr_5PL2WMvzE3WE1kbjFVmAf_Bxj4tySGZWmvpH-mLQs1!414268824!-637988048#

²⁶ https://lis.caegis.net/LISWeb/faces/bills/billdetail.xhtml?jsessionid=rBm3lYbFr_5PL2WMvzE3WE1kbjFVmAf_Bxj4tySGZWmvpH-mLQs1!414268824!-637988048#

later, the smart grid is here, and many customers are demanding more opportunities to install load-modifying devices or tailor their energy consumption. This measure proposes revisiting these past off-ramps, to instead require all utilities to plan for this technology.

- 5) *Which Customers?* The customers likeliest to benefit from the dynamic pricing tariffs required under this bill are solar and storage customers with on-site equipment that tracks dynamic grid conditions and price signals, and savvy commercial and industrial customers with the time and financing (and, likely, dedicated staff) to maximize savings from dynamic pricing. However, the bill is not clear which customers must be included in the optional dynamic tariffs.

Any change to customer rate design, even an optional one, may create unintended consequences. Vulnerable customers – i.e., elderly, low-income, or those with medical needs – may have limited access or understanding of the technology needed to optimize for cost savings under the new rate design. Moreover, they may have limited flexibility in adapting to grid needs, such as being unable to reduce air conditioning usage during a heat wave. There also exists the potential cost shifts between participating or nonparticipating bundled and unbundled customers.

However, the bill gives the CPUC only broad direction to require each electrical corporation to offer optional dynamic pricing rates. As noted above, in August 2025 the CPUC already directed SDG&E to adopt such rates. PG&E and SCE already offer dynamic pricing to some customers through pilot programs, which appear to satisfy the bill's requirements. By contrast, smaller, multi-jurisdictional utilities and electric cooperatives – which have not previously been required by the CPUC to run pilots or change their rate structures – could be newly required under this bill to offer these options.

- 6) *Prior Legislation.*

AB 44 (Schultz, 2025) required the CEC on or before December 1, 2026, to create and publicize methodologies for load modification protocols, as specified. Status: Vetoed.

AB 740 (Harabedian, 2025) required the CEC, by January 1, 2027, to adopt a virtual power plant deployment plan, as specified. Status: Vetoed.

AB 1117 (Schultz, 2025) created optional, dynamic electricity rates for IOU customers. The bill also aimed to ensure that adopting these new rates doesn't unfairly shift costs between different customer groups. Additionally, the bill authorized medium and large commercial and industrial customers to receive generation service through the Direct Access (DA) program, thereby, opening the current statutory cap on this third-party service. Status: Held in the Senate Committee on Appropriations.

SB 541 (Becker, 2025) required the CEC, as part of an existing biennial report, to estimate each retail supplier's load-shifting potential, considering certain factors, including cost-effectiveness; and to publish, on or before July 1, 2028, and biennially thereafter, the amount of load shifting that each retail supplier achieved in the prior calendar year. Status: Vetoed.

AB 2891 (Friedman, 2024) required the CEC to adopt technical requirements and load modification protocols, as specified. Status: Died – Assembly Committee on Appropriations.

SB 846 (Dodd), among its many provisions, requires the CEC to adopt a goal for load shifting by June 1, 2023, to reduce net peak electrical demand, and requires biennial updates to the targets. Status: Chapter 239, Statutes of 2022.

AB 242 (Holden) struck a statutory requirement that the CPUC annually report on smart grid deployment (previously Public Utilities Code § 913.2) and updated an existing report focused on DER technology to include “progress made toward modernizing...the grid” (now Public Utilities Code § 913.6). Status: Chapter 228, Statutes of 2021.

SB 17 (Padilla) establishes the smart grid policy of the state and requires the CPUC to determine the requirements for a smart grid deployment plan no later than July 1, 2011. Status: Chapter 327, Statutes of 2009.

REGISTERED SUPPORT / OPPOSITION:

Note: This bill was significantly amended on January 7th. Any position letters on file are in reference to the previous version of the bill, which is unrelated to its current policy.

Support

California State Association of Counties (CSAC)

Opposition

San Diego Gas and Electric Company

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