

Date of Hearing: June 28, 2023

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Eduardo Garcia, Chair

SB 795 (Stern) – As Amended June 19, 2023

**SENATE VOTE:** 32-8

**SUBJECT:** Energy: building energy efficiency: heating, ventilation, and air-conditioning equipment sale registry and compliance tracking system: electronic statewide compliance documentation data repository

**SUMMARY:** Requires the California Energy Commission (CEC) to establish two separate online systems: the first, to track sales of heating, ventilation and air conditioning (HVAC) equipment (“Sales Registry”), and the second, to track compliance documents required for HVAC and lighting control building standards (“Compliance Registry”). Specifically, **this bill:**

- 1) Requires the CEC to establish a *Sales Registry* to track HVAC equipment sales that would enable the Contractors State License Board (CSLB) and other enforcement agencies to check HVAC sales against permit compliance documents in order to identify contractors or other installers that fail to comply with permitting requirements.
- 2) Authorizes the CEC to share information from the HVAC sales tracking system with local building officials, the CSLB, and other enforcement agencies.
- 3) Requires the CEC to establish a *Compliance Registry* for the installation of HVAC and lighting control equipment, and requires this registry to do all of the following:
  - a. Collect and store compliance, installation, and acceptance test documentation data for California’s building energy efficiency standards related to HVAC and lighting controls.
  - b. Allow local building departments and other enforcement agencies to review compliance, installation, and acceptance test documentation data for each project in their jurisdiction to verify that all required documentation has been submitted.
  - c. Link to or integrate with the Sales Registry required by this bill.
  - d. Enable the CEC to aggregate and use data from the compliance registry to evaluate compliance, inform the CEC’s appliance and building energy efficiency regulations, and inform program implementation and policy development.
- 4) Establishes specific data-handling requirements for the CEC’s administration of the two registries, including the following:
  - a. Specifying that the registries shall not be publicly available; however, members of the public may request non-confidential information under the California Public Records Act (PRA).

- b. Specifies that personal information, aggregate manufacturer sales data, and trade secrets collected by the systems are confidential and may not be disclosed as a public record under the PRA.
- c. Specifies that information disclosed under the PRA does not need to be disclosed in its original electronic format.
- d. Requires that individuals with access to the registries shall keep the information contained in those systems confidential.
- e. Requires each Integrated Energy Policy Report to include information about the status of the registries and report any barriers to implementing the system, including the need for funding.
- f. Allows the CEC to use its regular budget process to determine funding for the tracking systems, but requires the CEC to make good faith efforts to secure funding for the systems. Requires the CEC to seek and apply for federal funding for the development of the registries.

**EXISTING LAW:**

- 1) Establishes the CEC's authority to create regulations for building efficiency standards. Existing law requires the CEC to create cost-effective regulations for lighting, insulation, climate control systems, and other building design and construction standards that increase energy and water efficiency for new residential and new nonresidential buildings. Local governments may not issue permits for construction and installation projects that fail to comply with the CEC's certified efficiency standards. (Public Resources Code § 25402 (a-b))
- 2) Establishes the CEC's authority to create regulations for appliance efficiency standards. Existing law requires the CEC to set minimum levels of operating efficiency and allows the CEC to set other cost-effective measures, including incentive programs, fleet averaging, energy and water consumption labeling not preempted by federal labeling law, and consumer education programs, to promote the use of energy and water-efficient appliances. (Public Resources Code § 25402 (c))
- 3) Requires the CEC to adopt standards for appliances to facilitate the deployment of flexible demand technologies. These regulations may include labeling provisions to promote the use of appliances with flexible demand capabilities. (Public Resources Code § 25402 (f))
- 4) Requires the CEC to adopt a plan by January 1, 2019, to promote compliance with Part 6 of Title 24 of the California Code of Regulations in the installation of central air conditioning and heat pumps. The CEC must consult with the Contractors' State License Board (CSLB), local building officials, and other stakeholders to create the plan. Existing law authorizes the CEC to create regulations to increase compliance with permitting and inspection requirements for central air conditioning and heat pumps, based on the plan. (Public Resources Code § 25402.12)

- 5) Establishes Energy Efficiency Standards that include requirements for installation and acceptance test documentation to verify that heating, ventilation, and air conditioning equipment are installed and performing correctly. (California Code of Regulations, Title 24, Part 6)
- 6) Establishes the Information Practices Act of 1977 which prescribes a set of requirements, prohibitions, and remedies applicable to public agencies, as defined, with regard to their collection, storage, and disclosure of personal information. (Civil Code § 1798 et seq.)

**FISCAL EFFECT:** According to the Senate Committee on Appropriations, the CEC estimates ongoing costs of about \$901,000 (General Fund or special fund) and five positions, as well as one-time costs of about \$4 million (General Fund or special fund) for consulting services to implement the provisions of this bill.

### **BACKGROUND:**

*CEC's Title 24 Building Energy Efficiency Standards* – Existing law establishes the CEC's authority to adopt cost-effective building and appliance standards to promote the conservation of energy and water. Title 20 of the California Code of Regulations includes the CEC's appliance standards and Title 24 includes the CEC's Building Energy Efficiency Standards (a.k.a. the "Energy Codes"). While the CEC establishes the Energy Codes, enforcement of these standards rests with local building officials. Existing codes require the completion of compliance documents and testing to demonstrate that certain installations are correctly installed and functioning. Correct installation of appliances and building elements ensures that these appliances and building elements deliver expected energy savings. Existing building codes also specify a process for submitting compliance and testing records in a digital format to a compliance document repository.

In a staff report as part of development for their 2022 Energy Codes, the CEC notes that "The Energy Code currently authorizes the CEC to develop a commission compliance document repository (CCDR) and collect and store compliance data and documents. The CEC is currently developing a CCDR, which will store nonresidential and residential buildings [sic] data. ... CEC staff has direct and complete access to the CCDR, which is developed and maintained by the CEC for analyses to support buildings, appliances, and demand flexibility standards, inform program implementation and policy development, and evaluate standards compliance."<sup>1</sup> The staff report goes on to note that the CEC has not "completed enough of the control structure" for the full CCDR—inclusive of a nonresidential data registry—to be approved. In January 2022, the CEC issued a notice to award a contract for help developing and expanding the CCDR.<sup>2</sup>

*HVAC Energy Usage and Potential Energy Savings* – According to the CEC's 2019 Energy Efficiency Action Plan, space cooling comprised 4% of residential building energy use and 15%

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<sup>1</sup> Pg. 3, "Nonresidential Data Repository for the 2022 Energy Code," CEC Staff Report, CEC-400-2021-002; February 26, 2021;

file:///C:/Users/shybutla/Downloads/TN236937\_20210226T163042\_Alternative%20to%20NDR%20Staff%20Report.pdf

<sup>2</sup> Task 2, pg. 18; "Request for Qualifications for Technical Support to Building Decarbonization and Energy Efficiency Compliance Strategies Development," RFQ-21-403; CEC; January 2022.

[https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.energy.ca.gov%2Fsites%2Fdefault%2Ffiles%2F2022-03%2F00\\_RFQ-21-403\\_Solicitation\\_Manual\\_Addendum\\_02\\_ada.docx&wdOrigin=BROWSELINK](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.energy.ca.gov%2Fsites%2Fdefault%2Ffiles%2F2022-03%2F00_RFQ-21-403_Solicitation_Manual_Addendum_02_ada.docx&wdOrigin=BROWSELINK)

of commercial building energy use.<sup>3</sup> For the commercial building sector, only interior lighting comprises a larger building energy end use than HVAC. Within the residential building sector, the largest sources of energy consumption vary between single family and multifamily buildings; however, over the entire residential sector, plug-in electronics are the largest source of energy use.

In 2011, the CEC issued an update to the California Energy Efficiency Strategic Plan.<sup>4</sup> The plan identified trends in energy efficiency, barriers to greater potential energy savings, and goals for addressing those barriers. The plan noted that only approximately 10% of HVAC installations may be meeting permitting requirements, and—citing a 1999 nationwide study<sup>5</sup>—that the lack of HVAC installation compliance could limit potential peak energy savings by up to 30%. The plan identified a goal of correctly installing and permitting 90% of HVAC installations by 2020. To address concerns about energy losses from incorrectly installed HVAC systems, the Legislature passed SB 1414 (Wolk, Chapter 678, Statutes of 2016). SB 1414 required the CEC to adopt a plan by January 1, 2019, to promote HVAC and heat pump installations' compliance with building code. It is currently unclear to the committee whether the CEC has published its plan pursuant to SB 1414; however, the CEC did publish a list of recommendations arising from SB 1414 in the 2021 Integrated Energy Policy Report.<sup>6</sup> These recommendations include expanding oversight to enforce permitting requirements and requiring HVAC distributors to sell equipment only to licensed contractors and report to the CEC the number of equipment units sold to each purchaser.

*Unclear Evidence of Energy Savings from HVAC Permitting Compliance* – Since 2016, both the CEC and California Public Utilities Commission (CPUC) have sought more information about what policy changes could influence the efficiency of HVAC systems. Despite the CEC-cited statistic that HVAC installation compliance may save up to 30% in peak energy, a 2017 study commissioned by the CPUC indicated that permitting makes little statistical significance in HVAC systems' energy consumption following replacements.<sup>7</sup> The CPUC study found similar levels of efficiency for equipment at permitted and non-permitted sites in a representative statewide sample, concluding that, under current market and enforcement conditions, permitting does not lead to increased energy efficiency of HVAC replacements. The CPUC study indicated that advances in training for those installing HVAC systems may make the largest contributions to improving HVAC energy efficiency.

AB 2021 (Levine, Chapter 734, Statutes of 2006) required the CEC to develop a strategic plan to improve the energy efficiency of air conditioning and decrease their peak energy demands; the CEC published the plan in June 2008.<sup>8</sup> The working group responsible for the estimated peak

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<sup>3</sup> CEC, *2019 California Energy Efficiency Action Plan*, November 2019; CEC-400-2019-010-SF; <https://www.energy.ca.gov/filebrowser/download/1900>

<sup>4</sup> California Energy Commission. *California Energy Efficiency Strategic Plan – January 2011 Update*. January 2011.

<sup>5</sup> Neme, C., Proctor, J., and Nadel, S. *Energy Savings Potential from Addressing Residential Air Conditioner and Heat Pump Installation Problems*. February 1999, American Council for an Energy-Efficient Economy (ACEEE).

<sup>6</sup> California Energy Commission. *Final 2021 Integrated Energy Policy Report Volume I Building Decarbonization*. February 1, 2022. Docket #21-IEPR-01

<sup>7</sup> DNV GL. *Final Report: 2014-2016 HVAC Permit and Code Compliance Market Assessment (Work Order 6) Volume I – Report*. September 22, 2017. CPUC contract #12PS5119 (HVAC WO6)

<sup>8</sup> California Energy Commission. *Strategic Plan to Reduce the Energy Impact of Air-Conditioners*. June 2008, CEC-400-200-010

energy savings in the AB 2021 report assumed only 20% of new construction (and 5% of replacement) HVAC installations would meet building code efficiency specifications for airflow, refrigerant charge, and duct leakage if performed by contractors who did not comply with permitting and testing requirements. They also assumed all installations performed by contractors who complied with requirements would meet code. This large difference in the success rate between permit-compliant and non-compliant installations led them to calculate a large potential for peak energy savings if HVAC permitting compliance rates were dramatically improved.

However, the 2017 CPUC study conducted quality tests on permitted and non-permitted installations and found much smaller differences in the rates of successful HVAC installations. In particular, the data showed that 14% of non-permitted installations met building standards for airflow compared to 26% for permitted. For refrigerant recharge, 68% of non-permitted installations met code standards compared to 63% of permitted installations. And for duct leakage, 47% of non-permitted installations met code quality specifications compared to 56% of permitted installations. The discrepancies between the 2008 CEC report and the 2017 CPUC report make it unclear just how effective increased HVAC permitting compliance would be in providing energy efficiency gains.

#### COMMENTS:

- 1) *Author's Statement.* According to the author, “Barriers to effective compliance and enforcement are undermining California’s building energy efficiency standards. Studies show, for example, that the vast majority of HVAC replacement projects are performed without a permit and without completion of acceptance testing and other Title 24 energy efficiency verification requirements. This puts contractors that pull permits and comply with the California Energy Code at a disadvantage because they must bid against contractors that cut costs by ignoring these requirements altogether. Currently, however, there is no way to readily track and identify HVAC replacements that are installed without a permit. To address this issue, past Energy Commission reports have called for developing an HVAC equipment sale registry that can be used to track HVAC sales to ensure that permit requirements are being followed for all HVAC installations. In addition, stakeholders have long called for a central Title 24 compliance document repository and data registry that would provide building officials the ability to simply type in an address in order to confirm that all required Title 24 compliance documents have been completed. Even when permits are pulled, the large number of Title 24 energy efficiency compliance documents now required for each project makes it difficult for building officials to verify compliance, resulting in uneven enforcement.”
- 2) *Two Registries with Unclear Distinctions.* This bill requires the CEC to establish two different data registries: a Sales Registry and a Compliance Registry. The Sales Registry is meant to track the sales of HVAC equipment and cross-check those sales with submittal of permit compliance documents. The Compliance Registry is meant to collect and store compliance, installation, and acceptance test documentation for lighting control and HVAC installations. This bill provides a list of functions and data requirements for the Compliance Registry, but provides no such guidance for the Sales Registry. The Sales Registry is labeled in the bill as an “HVAC equipment sales registry and compliance tracking system,” but it is unclear whether the Sales Registry is meant—as the name suggests—to house compliance information or merely be linked to the Compliance

Registry. The distinction in data collection needs for these two separate registries is unspecified.

Moreover, while the Sales Registry is specific to HVAC sales, the Compliance Registry is inclusive of both HVAC and lighting installations. It is unclear why lighting is included in one registry but not the other.

- 3) *Is HVAC Sales Tracking the Right Solution?* This bill identifies that compliance with energy efficiency building codes, specifically in HVAC installation and testing, is very low. It then posits that this has immense consequences on energy demand. The bill then offers, as a solution to increase compliance, the tracking of HVAC sales to each purchaser to then compare the number of sales to the number of HVAC compliance documents the purchaser uploads to the Compliance Registry.

Evidence supports the notion that HVAC compliance with energy efficiency building codes is low; however, there is conflicting data as to the impact of properly *permitted* installations on energy efficiency and the largest claims of potential energy savings are dubious. Proponents of the bill correctly point out that HVAC systems are the largest energy users in homes and many commercial buildings, and that there is energy waste caused by errors in installation. However, the bill chooses a Sales Registry out of a long list of recommended actions without investigation of the costs and benefits.

- 4) *Vague Terms Raise Data Concerns.* This bill establishes two registries with the impact—if enacted—that any HVAC installation in the state, from large businesses to personal residences, would be recorded, tracked, and noted whether a proper permit was used for its installation. The bill does provide various levels of data protection for the information stored in these registries, including specifying the data are not publicly available except through a PRA request; placing limits on what data could be disclosed under a PRA; that the data are not required to be disclosed in their original electronic form; and that data may be shared—without a PRA—with local building officials and other agencies who must keep the data confidential.

However, it is unclear the true impact of these protections. The bill provides no definitions for the types of data that cannot be disclosed under a PRA, such as what constitutes “personal information,” “manufacturer-specific sales data,” or “trade secrets.” This provides great discretion to the CEC to determine how much or how little customer and business information would fall under these categories for public release. Moreover, the bill provides no definitions or restrictions on the entities outside of the CEC who would have unlimited access to these data, listing them as “local building departments and other responsible enforcement agencies.” As noted above, Energy Code compliance is enforced by local building officials who seem to be the intended target for these data, along with the CSLB. However, the bill is not specific, leaving data access open to any “responsible enforcement agency,” presumably inclusive of entities from police departments to your local homeowner association. Again, the effect of this lack of clarity is to provide the CEC broad discretion in determining who is eligible to access the registries.

Finally, the bill provides that the Compliance Registry shall be used by the CEC to aggregate and evaluate the data to help inform the development of codes and regulations, and inform program implementation and policy. However, the bill does not limit the data

usage in the Compliance Registry to only those activities; and provides no guidelines for the data usage in the Sales Registry. This provides little assurance that the data in the registries will be limited to only purposes currently envisioned by this measure. This measure, should it pass out of this committee, will next go to the Assembly Committee on Judiciary for its review.

5) *Prior Legislation.*

SB 1164 (Stern, 2022) contained provisions substantially similar to this bill and required the CEC to create a compliance testing registry. Status: held in the Assembly Appropriations Committee.

SB 49 (Skinner) expanded the CEC's authority to create appliance efficiency standards to require the CEC to adopt standards to promote the deployment of appliances with flexible demand capabilities. Status: Chapter 697, Statutes of 2019.

SB 1414 (Wolk) required the CEC to create a plan to promote HVAC and heat pump installations' compliance with building codes. The bill also required customers or contractors to demonstrate that a permit for the installation of an HVAC or heat pump system is closed for the customer or contractor to obtain a rebate or incentive provided by a public utility. Status: Chapter 678, Statutes of 2016.

AB 2021 (Levine) established energy efficiency procurement and planning requirements for local publicly owned electric utilities. The bill also required the CEC to take certain steps for energy efficiency planning, including requiring the CEC to create a plan to improve HVAC energy efficiency and decrease the peak electricity demand of air conditioners. Status: Chapter 734, Statutes of 2006.

6) *Double Referral.* This bill is double-referred; upon passage in this Committee, this bill will be referred to the Assembly Committee on Judiciary for its review.

**REGISTERED SUPPORT / OPPOSITION:**

**Support**

350 Humboldt  
350 Sacramento  
Aim Associates  
American Institute of Architects California  
Building Electrification Institute  
California Building Industry Association  
California Building Officials  
California Business Properties Association  
California Efficiency + Demand Management Council  
California Environmental Voters  
California State Pipe Trades Council  
Carbon Zero Buildings INC  
City and County of San Francisco  
Climate Action California  
Climate Reality Project - Silicon Valley Chapter

Earthjustice  
Indivisible Sacramento  
Natural Resources Defense Council  
Natural Resources Defense Council (NRDC)  
Rewiring America  
RMI  
Sacramento Municipal Utility District (SMUD)  
San Francisco Bay Physicians for Social Responsibility  
Sierra Club California  
Western States Council Sheet Metal, Air, Rail and Transportation  
Wooley Energy & Environment

**Opposition**

None on file.

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