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**SENATE COMMITTEE ON ENERGY, UTILITIES AND  
COMMUNICATIONS**

**Senator Steven Bradford, Chair  
2023 - 2024 Regular**

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<b>Bill No:</b>	SB 837	<b>Hearing Date:</b>	4/24/2023
<b>Author:</b>	Archuleta		
<b>Version:</b>	2/17/2023	Introduced	
<b>Urgency:</b>	No	<b>Fiscal:</b>	Yes
<b>Consultant:</b>	Sarah Smith		

**SUBJECT:** Energy: building energy standards: unvented attics

**DIGEST:** This bill requires the California Energy Commission (CEC) to consider adopting building energy efficiency standards for unvented attics as part of the next cycle of building code development.

**ANALYSIS:**

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) Requires the CEC’s building efficiency standards to be cost-effective when taken in their entirety and amortized over the economic life of the structure compared with historic practice. When determining cost-effectiveness, the CEC must consider the value of the water or energy saved, impact on product efficacy for the consumer, and the life-cycle cost of complying with the standard. The CEC must consider other relevant factors, including, but not limited to the standards’ cost on house costs, the total statewide costs and benefits of the standard over its lifetime, economic impacts on California businesses, and alternative approaches and their associated costs. (Public Resources Code §25402(b)(3))

This bill requires the CEC to consider revising the definition “conditioned space, indirectly” in the next cycle of building energy efficiency development to include unvented attics, where the space is enclosed by the primary thermal and air barrier directly adjoining the conditioned space.

## Background

*CEC's Title 24 authority establishes energy code requirements for buildings.* 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, which are also known as energy codes. While the CEC establishes the energy codes, enforcement of these standards rests with local building officials. Existing law also sets cost-effectiveness requirements for energy codes and requires the CEC to consider the cost of housing as part of cost-effectiveness determinations.

Under existing law, the CEC adopts new building energy efficiency standards every three years, and standards become effective one year after their adoption. The CEC has started developing the 2025 building energy efficiency standards. According to the CEC, the updated standards will be proposed for adoption in 2024, and they will become effective on January 1, 2026. This bill would require the CEC to consider changes to the building energy efficiency standards for attics as part of the codes proposed in 2024.

*Lofty ambitions: unvented attics may improve building performance under the right conditions.* Historically, building codes have favored vented attics. These vents are intended to allow warm air and moisture to escape the building, preventing mold and moisture damage. However, attics have also been the location in which many heating, ventilation and air conditioning (HVAC) features, including ducts, are installed. In high-heat conditions, these attics can become hotter than the outside temperature and reduce the energy efficiency of HVAC systems. Frequently, building owners may accommodate for the loss of performance from HVAC systems in attics by oversizing HVAC systems and using the HVAC for longer periods of time at cooler thermostat levels to reach the desired indoor conditioned temperature. The federal Department of Energy has recognized the energy losses from HVAC systems in vented attics without air conditioning:

The additional heat loss and gain of ducts in unconditioned, vented attics increases energy use for heating and cooling 10 percent. Additionally, duct air leakage has been measured to commonly exceed 20 percent of conditioned air flow, which results in a significant energy loss when ducts are in unconditioned space.

Unlike vented attics, unvented attics are sealed to prevent heated air from transferring into the attic space. This seal can enable the attic to be an air-

conditioned space. However, not all unvented attics are directly air-conditioned. This bill would require the CEC to consider changes to its definition of an indirectly air-conditioned space to include unvented attics. The 2022 Energy Code defines an indirectly air-conditioned space as an enclosed space that is not directly conditioned and also has certain features that limit the degree to which energy losses occur from heat and air transferring between the conditioned and unconditioned spaces. As part of the recent building code development cycle, multiple stakeholders submitted comments to the CEC requesting that the CEC consider adopting standards for unvented attics to be considered an indirectly air conditioned space; however, the CEC declined to consider these standards for unvented attics as part of that code cycle. This bill would require the CEC to consider adopting standards to include unvented attics in the definition of an indirectly conditioned space as part of the next code cycle development.

*Bill is permissive, but some energy codes are mandatory.* This bill requires the CEC to consider adopting energy codes related to unvented attics; however, this bill does not require the CEC to adopt these codes. The CEC also adopts three different types of codes: mandatory, performance and prescriptive standards. While mandatory standards are required for all new construction in the state, performance standards may vary by geographic location, building type, and the energy budget for the building. The CEC's 2022 energy codes state:

The Energy Code is conceptually divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards – the energy budgets – that vary by climate zone (of which there are 16 in California) and building type; thus the Energy Code are tailored to local conditions, and provide flexibility in how energy efficiency in buildings can be achieved. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that provide a recipe or a checklist compliance approach.

This bill does not require mandatory energy codes for unvented attics. This bill instead would require the CEC to consider whether standards for unvented attics should be included in the energy code and allows the CEC to determine what those standards should include. For example, the CEC may identify standards to ensure energy savings and prevent moisture accumulation in sealed attics as part of its considerations.

*Need for amendments.* As currently drafted, this bill uses the term “unvented attics” to refer to building measures that may also be known as “sealed attics.” **To**

*prevent confusion, the author and committee may wish to clarify that the CEC can consider standards for sealed and unvented attics.*

### **Prior/Related Legislation**

SB 795 (Stern, 2023) would require the CEC to establish online systems to track sales of HVAC equipment and track compliance documents for building energy efficiency standards. The bill is currently pending in the Senate.

SB 1164 (Stern, 2022) was substantially similar to SB 795 and would have required the CEC to create a compliance testing registry. The bill was held in the Assembly Appropriations Committee.

AB 660 (Levine, 2019) as heard by this committee, would have required the CEC to consider establishing additional cool roof requirements as part of building code development cycles occurring over 12 years. The bill was subsequently amended into a different subject matter and held in the Senate Appropriations Committee.

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

### **SUPPORT:**

California Building Industry Association, Sponsor  
California Building Officials  
California Business Properties Association

### **OPPOSITION:**

Asphalt Roofing Manufacturers Association  
Associated Roofing Contractors of the Bay Area Counties  
National Roofing Contractors Association  
North American Insulation Manufacturers Association  
Western States Roofing Contractors Association

**ARGUMENTS IN SUPPORT:** According to the author:

California's Energy Code encourages builders to construct energy efficient buildings, while giving them flexibility to choose which design techniques and technologies best suit their work. SB 837 is a simple bill that adds another tool to this arsenal, a tool that is recognized by the International Residential Code, utilized in other jurisdictions, and proven to have significant energy savings.

**ARGUMENTS IN OPPOSITION:** Opponents argue that this bill is duplicative of existing efforts and constrains the CEC's ability to flexibly consider those energy codes that are proven to provide energy savings. In opposition, the North American Insulation Manufacturers Association states:

Every home is different and impacts of a sealed vs. vented attic will vary greatly. Limited data is available to support the notion that SB 837 would result in any real energy savings. This issue requires significant research and analysis of California's existing homes before moving forward with any efficiency strategies.

**-- END --**