



# California Building Industry Association

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In the matter of: )  
)  
Rulemaking – )  
2016 California Building Energy )  
Efficiency Standards CCR, Title 24 )  
Part 1, Chapter 10 and Part 6 )  
(California Energy Code) )

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**Introduction:**

The California Building Industry Association (CBIA) is a statewide trade association representing over 3,000 member-companies involved in residential and light-commercial construction. CBIA member-companies are responsible for over 90% of the new homes built in California each year.

**General Policy Statement:**

The California Building Industry Association supports the adoption of the CEC's 45-Day language for Part 1 and Part 6. We realize the formal adoption process is just beginning and we understand there will be significant fine-tuning that will result from the comments that the CEC will be receiving over the next 30 days. However, we also recognize the extraordinary amount of time and effort that the Commissioner McAllister, the Energy Commission Staff and interested parties have already devoted to this package over the past 12 months.

Of particular note were the two all-day energy forums that CBIA co-hosted with the CEC at SMUD's headquarters. Over one hundred interested parties attended each of these gatherings, including industry, building officials, CEC staff and manufacturers from all over the country. This provided a very productive setting where stakeholders could "think out loud" and interact with CEC staff and others regarding concerns and potential solutions.

CBIA and our consultant also worked extensively with CEC staff in developing cost-of-compliance data for each of the four main proposals for new residential construction. We completed this cooperative analysis in late-January with the CEC estimating an average increased cost of \$2,500 per home which is very close to CBIA's estimate of \$2,700 per home.

While this is a significant amount, there is no question that the CEC staff made every effort to keep overall costs in mind while still working hard to move the state closer to its goal of having all new homes zero-net-energy by 2020. And as the staff has pointed out in the public Notice and the Initial Statement of Reasons, "the proposed standards are cost-effective to consumers in that the energy bill savings over the life of the building will be much greater than the increased construction costs that will result from the standards".

CBIA would like to recognize the efforts of Mazi Shirakh, Eurllyne Geiszler, Dave Ashuckian, Patrick Saxton and Commissioner Andrew McAllister. It is largely due to your efforts that that this package includes a historically large increase in energy savings while still providing an unprecedented level in design flexibility and still maintaining sensitivity to increased costs.

**Specific Comments:****Part 1:**

*Comments regarding proposed changes to Part 1 will be filed under separate submittal.*

## **Part 6:**

### ***High Performance Attics***

The introduction of High Performance Attics (HPAs) into California's energy efficiency Standards marks one of the most significant changes to residential construction in recent history. The CEC has proposed two prescriptive options for meeting the new HPA requirement. Builders can choose to insulate below-roof-deck with R-13/R-18 fiberglass *or* above-roof-deck with R-6/R-8 rigid foam (plus radiant barrier affixed to the OSB). In either case, the roof deck insulation will be configured above a conventional vented attic with R-38 ceiling insulation.

Neither of these methods have been widely used or tested for energy performance or long-term structural or moisture performance in California climates. Given the newness and lack of market experience with either of the two prescriptive methods for HPA construction, it is hard to gauge how builders will respond to the requirement, but it will likely take some time to adjust and the CBIA encourages the Commission to offer as much flexibility as possible during this transition.

The CBIA applauds the Commission's decision to allow credit for solar PV as one method of easing the transition to HPAs. This new compliance path will provide builders with a relatively straightforward method to achieve compliance as they adjust to and test materials and methods for insulating the roof deck and reducing attic temperatures.

While it is possible that builders will embrace one of the two prescriptive options, many will instead take an interest in unvented attics, insulated tile or foam wedge roofing systems, or other products yet to hit the market. In order to allow builders the flexibility to utilize these options, it is of critical importance that the performance modeling software, CBECC, be equipped to provide users with the ability to simply and accurately model alternative HPA designs.

CBIA would also like to emphasize the importance of training and incentive programs in moving the market towards the construction of High Performance Attics. We are encouraged by the developments around special incentives under the CAHP program and by the draft solicitation for EPIC-funded training targeted at attics and walls. CBIA would also be supportive of research to demonstrate and test the performance, integrity, and durability of materials, systems, or techniques for the construction of High Performance Attics.

### ***Advanced Wall Systems***

The CBIA appreciates the collaborative effort and discussion around prescriptive U-factor requirements and the potential impacts on the building industry. Changes to wall assembly systems have historically been problematic, and more than nearly any other building

component, need to be approached with an abundance of caution. The CBIA believes that our collaborative work with the CEC has resulted in the most energy-efficient requirements possible. Incremental costs and long term risks will be reduced due to the flexibility and options the Standards have proposed.

However, the new requirements will not be met without major changes to their construction methods—most notably a shift to 2x6 construction. The CBIA encourages the Commission to support this transition with increased funding for training, assistance with compliance, and again, by ensuring flexibility through support for simple and accurate modeling of wall systems within CBECC performance software.

CBIA would be happy to serve as a liaison between the Commission, member-companies, and partners such as the APA to identify and overcome perceived and actual obstacles to broader market acceptance of advance framing techniques.

### ***Lighting***

The CBIA is strongly supportive of the direction the Commission took with respect to lighting in the 2016 Standards. The decision to focus on the quality and efficacy of the light source itself rather than using complicated strategies to regulate lighting controls and lamp mounts-types will simplify code compliance while improving efficiency and customer satisfaction.

The CBIA appreciates the opportunities to meet with CEC, industry, and experts to better understand the proposed lighting requirements during pre-rulemaking time period. We would like to encourage continued dialogue on this and other topics between code cycles in order to create a feedback loop between the building industry, product manufacturers, experts/academics, and regulators. This process can help assure that no one party operates in a vacuum by developing products that will not meet the needs of the market, regulations that cannot be met with existing products, or designing homes that will be unable to comply with future regulations.

### ***Water Heating***

The CBIA supports the CEC's proposal to use instantaneous (tankless) water heaters as the prescriptive baseline for Title 24, but encourages the CEC to maintain the maximum possible flexibility with respect to the performance approach. Although tankless technology has fallen in cost and increased in reliability in the last few years, some builders may still prefer to offer conventional water heaters to meet customer preference or reliability concerns. In order to ensure that builders still have the flexibility meet these preferences or concerns, the CBIA would again like to stress the importance of accuracy within the performance software in allowing builders to tradeoff water heating budgets against other measures.

### ***Rooftop Solar Option***

The CBIA strongly supports the CEC's decision to increase the amount of compliance credit that can be gained through the use of rooftop solar PV. However, we would like to encourage the CEC to consider increasing the flexibility and geographic range of the proposal.

A key motivation for allowing PV credit within Title 24 was to help ease the transition to High Performance Attics and High Performance Walls in those climate zones where one or both of these new measures will be required under the 2016 Code. The proposal will accomplish this objective by allowing compliance credit up to the amount of energy that would be saved by the HPA and/or HPW. This will give builders struggling to integrate the changes to attics and walls an interim option to use PV.

However, there are other important reasons to allow credit for PV systems; including supporting the PV market at a time when Federal and State incentive dollars are disappearing, and easing the transition to ZNE on a statewide basis by making PV part of the Title 24 compliance package.

The way the current proposal is structured either completely excludes or severely limits the amount of PV compliance credit that can be taken in climate zones without one or more of the HPA and HPW requirements. The CBIA recommends revising the proposal to allow credit in all sixteen climate zones, thereby beginning to develop the infrastructure and understanding that will be needed to transition to ZNE in 2019/2020.