

DOCKETED

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Comment Received From: Emily Withers

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Energy Proposals In CALGreen

Additional submitted attachment is included below.

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF CODES AND STANDARDS
STATE HOUSING LAW PROGRAM**

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March 5, 2018

VIA email [https://efiling.energy.ca.gov/
EComment/EComment.aspx?docketnumber=17-BSTD-03](https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=17-BSTD-03)
California Energy Commission
Building Energy Efficiency Program
1516 Ninth Street
Sacramento, CA

Dear Energy Commission:

RE: Title 24, Part 11, Docket 17-BSTD-03

Thank you for the presentations on February 6, 2018, for the 2019 California Green Building Standards (CALGreen) Code.

The Department of Housing and Community Development (HCD) is responsible for reviewing proposals for the adoption of building standards, including CALGreen, for residential structures. As part of the scope of CALGreen, this includes low-rise residential, high-rise residential, and hotel/motel buildings.

HCD has reviewed the PowerPoint presentation from the February 6, 2018, meeting and has the following comments and recommendations, most of which were included in HCD's September 6, 2017, comment letter during the prerulemaking:

1. References to Energy Design Rating (EDR)

The 2016 CALGreen Code includes a requirement for an EDR, but does not specify a threshold value. The 2016 CALGreen also includes a definition for EDR; however, this definition may need further modification to explain the threshold numbers (e.g., 0, 100, numbers greater than 100) to be referenced in CALGreen. For example, "EDR is typically expressed as a number between 0 and 100. The number 0 indicates the home is XXX; the number 100 means the reference home is a 2006 International Energy Conservation Code compliant home."

2. EDR vs. current 2016 CALGreen references to "percent better than..."

The Initial Statement of Reasons (ISOR) for the proposed change in text for the Tier 1 and Tier 2 references to EDR should provide the reader with an indication of

whether the proposed requirement is more stringent than the 2016 Tier 1 and Tier 2 15% or greater reduction in Energy Budget than the Standard Design Building (30% reduction for Tier 2). The ISOR should also provide the degree to which the proposed requirement is more restrictive from the 2016 Standard Design Building; i.e., would the 2019 Tier 1 requirement be 20% more than the 2016 Tier 1 requirement.

3. Required study or analysis showing expected energy savings and cost effectiveness for adoption of more restrictive (e.g., Tier 1/Tier 2) building standards

Although this requirement for local jurisdictions is in statute [Public Resources Code Section 25402.1(H)(2)], the 2019 CALGreen proposals should identify typical energy savings or costs for implementing the proposed Tier 1/Tier 2 measures for a typical structure.

As part of HCD's mission to provide leadership, policies, and programs to preserve and expand safe and affordable housing opportunities and promote strong communities, it is important that building standards provide for resource conservation and safety, but also keep homes affordable. For future homeowners, the initial cost of a residence may put it out of the reach of ownership. Although energy upgrades may help in reducing utility costs from heating and cooling over a longer time period (e.g., 30 years), this cost savings does not help if a person is not able to finance the initial purchase of a home due to its unaffordability.

4. Tier 1 EDR values

The proposal that the Tier 1 compliance values be "X points lower" than the 2019 Part 6 Energy Code values seems appropriate. However, it should reference the Figure/Chart in the Energy Code or provide a separate CALGreen Tier 1 chart.

Is a photovoltaic (PV) system needed to meet Tier 1 EDR values? If so, Tier 1 may be infeasible for projects with the conditions proposed as exceptions for Part 6. These include external barriers (trees, hills, adjacent structures) and larger single-family homes with smaller roof areas (3-plus stories). A consideration of areas with estimated poor performance for PV systems (e.g., foggy, rainy) should also be considered as exceptions.

5. Requirement for battery for energy storage

The ISOR addressing the proposed requirement for battery storage should also include information on related cost factors. This would include costs of the battery and related hardware, permits, installation and maintenance. Information should also be provided on expected life span of the batteries since the batteries would need replacement and reinstallation, possibly several times, over the lifetime of the home.

Does the battery have cost-benefits to the homeowner who cannot take advantage of reduced time-of-use rates or does not have a need for extended heating/cooling?

Is there consideration for installing PV systems that may be retrofitted in the future for individual battery storage?

6. Prerequisites for Tiers 1 and 2

The proposal for CALGreen Tiers 1 and 2 includes consideration of the following prerequisites that are proposed as prescriptive requirements in the 2019 Energy Code:

- A4.203.1.1.1 Quality Insulation Installation (QII) (required for 2016 Tiers 1/2)
- A4.203.1.1.2 High Performance Walls (HPW)
- A4.203.1.1.3 High Performance Attics (HPA)

The proposal for CALGreen Tiers 1 and 2 includes consideration of the following additional prerequisites:

- A4.203.1.1.4 (CHWDS-H) HERS-Verified Compact Hot Water Distribution System
- A4.203.1.1.5 (DWHR-H) HERS-Verified Drain Water Heat Recovery

The development and adoption of voluntary measures, including Tiers 1 and 2, were for purposes of providing enhanced levels of green building construction and sustainability that are not mandatory statewide, but were developed as a consistent set of standards available for adoption by local government. In addition, these measures, especially Tier 1, should be attainable with effort and commitment by local enforcing agencies. The adoption of Tier 2 will be more difficult; therefore, local enforcing agencies will need to carefully evaluate the feasibility of implementation prior to adoption. Over the evolution of CALGreen, HCD has recognized the possibility of practical difficulties in complying with the threshold levels of a Tier and has adopted a provision in Section 304.1, in which provisions of a Tier may be modified. This allows local agencies to adopt CALGreen's Tier 1 or Tier 2 with slight modifications as needed where a Tier measure may be unattainable. It is not HCD's intent to discourage local adoption of enhanced green building measures and hopes that local agencies continue to adopt measures exceeding the statewide mandatory measures of CALGreen.

Unfortunately, the proposal for four additional energy-related prerequisites to Tier 1 and Tier 2 may discourage adoption of these sections of the Tiers or the entire Tier itself. The Energy Commission's Building Standards Office may want to conduct a study of the degree to which energy components of Tier 1 and Tier 2 have been adopted for the 2016 code and evaluate the readiness of local agencies to adopt more stringent Tier requirements.

HCD also recommends that these proposals discuss the cost impacts of including the four new prerequisites for these Tiers, especially Tier 1.

7. Additional incentives and/or requirements for utilities

It is apparent that the increase of power produced by private photovoltaic (PV) systems do not correlate with the utilities' obligation and effort to balance the electrical grid. However, with the new mandates for envelope efficiency and new residential PV systems, it seems questionable whether homeowners should also be required to bear the cost for grid harmonization, which includes appropriately-sized PVs (sized to serve the grid, not the homeowners using it). The utilities should also take some extra effort to meet their responsibilities to balance the grid; the Energy Commission may be able to provide additional incentives and/or implement new mandates for the utilities in order to share the cost.

8. Clarify the scoping and justify the benefits

Based on the feedback HCD staff receives from stakeholders and code users, it is difficult for the general public to understand how the Energy Commission calculates the fiscal impact and the benefits for compliance with CALGreen Tier 1 and Tier 2 requirements, and the logic behind these requirements. It appears that to meet the requirements in the California Energy Code (CEC), a standard building may not be able to rely on electricity for heating, cooling, water heating, and appliances (such as clothes washers and dryers). At the same time, for Tier 1 and Tier 2 compliance in CALGreen, which is intended to be a step or two above the mandates in the CEC, the Energy Commission encourages the use of mixed-use homes and all electric homes. It seems that there are inconsistencies between the approaches for compliance in the CEC and CALGreen, or that the Energy Commission needs to provide more explanation regarding the technical criteria necessary for compliance with the CEC and CALGreen, and to justify the benefits if Tier 1 and Tier 2 are adopted on a local level. If there are difficulties with understanding compliance and enforcement, no local jurisdiction would adopt these Tiers.

Please contact Emily Withers, Codes and Administrator II, at (916) 263-2998 or at Emily.Withers@hcd.ca.gov if you have any questions related to our comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Weinert", with a long horizontal flourish extending to the right.

Richard Weinert
Deputy Director