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HCD Comment on proposals related to 2019 CALGreen

Additional submitted attachment is included below.

STATE OF CALIFORNIA - BUSINESS, CONSUMER SERVICES AND HOUSING AGENCY EDMUND G. BROWN JR., *Governor*

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September 6, 2017

VIA email https://efiling.energy.ca.gov/
EComment/EComment.aspx?docketnumber=17-BSTD-01
California Energy Commission
Building Energy Efficiency Program
1516 Ninth Street
Sacramento, CA

Dear Energy Commission:

Re: Title 24, Part 11, Docket 17-BSTD-01

Thank you for the prerulemaking presentations on August 30, 2017, and the introduction to the California Energy Commission's proposed building standards 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 August 30, 2017, meeting and has the following comments and recommendations:

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 end of 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), 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 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 need for extended heating/cooling?

Is there consideration for installing PV systems which may be retrofitted for battery storage in the future when the need to 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 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 provides 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 include information on the cost impacts of including the four new prerequisites for these tiers, especially Tier 1.

7. Performance Approach for Additions

The CALGreen proposal indicates that additions meet a target EDR to be determined based on whether light and/or mechanical systems are included.

HCD needs further information on this proposal for informed comment. The ISOR should provide information on the possible range of costs to a small addition with or without mechanical systems. This is especially important if the EDR standards will necessitate a new mechanical system for both the new and addition areas of the home.

Recent statutory changes have provided for the use of accessory dwelling units (ADUs) which may be detached from, added to, or constructed within existing dwelling units. The legislative intent for allowing ADUS was for purposes of mitigating California's shortage of affordable housing units by avoiding costs for additional land, major new infrastructure, parking or elevators. A definition for ADU, per Government Code Section 65852.1(i)(4), follows for reference:

"Accessory dwelling unit" means an attached or a detached residential dwelling unit which provides complete independent living facilities for one or more persons. It shall include permanent provisions for living, sleeping, eating, cooking, and sanitation on the same parcel as the single-family dwelling is situated. An accessory dwelling unit also includes the following:

(A) An efficiency unit, as defined in Section 17958.1 of Health and Safety Code.
(B) A manufactured home, as defined in Section 18007 of the Health and Safety Code.

8. 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 envelop 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.

9. Clarify the scoping and justify the benefits

   Based on the feedback HCD staff receives from stakeholders and code users, it is difficult for a lay person 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 do a better job in explaining 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 me at (916) 263-4715 or at Stoyan.Bumbalov@hcd.ca.gov if you have any questions related to our comments.

Sincerely,

Stoyan Bumbalov
Codes and Standards Administrator I