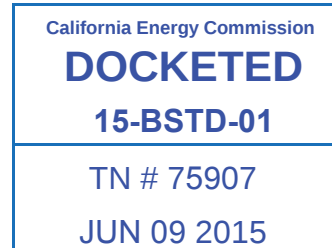




Maziar Shirakh
High Performance Buildings Office
California Energy Commission
Sacramento, California 95814



June 5, 2015

Subject: Docket Number Re: 15-DSTD-01- 2016 15-day Draft Building Energy Efficiency Standards

Dear Maziar Shirakh:

On behalf of Sierra Club and its more than 380,000 members and supporters in California, I submit the following comments on the 2016 15-day Draft Building Energy Efficiency Standards posted on May 26, 2015.

Overall, the Sierra Club California is supportive of the 15-day draft proposal on efficiency standards for new residential and commercial buildings. It should be noted that our comments mirror many of those put forth by the Natural Resources Defense Council.

Compliance is one of the biggest obstacles in meeting energy savings and greenhouse gas emission reductions for the state. The proposal will incentivize compliance by simplifying the requirements for ducts in attic space, lighting and water heating residential:

1. Building Design for Attics:

Section 150.0(m) 1: Current standards allow for most of the heating, ventilation and air conditioning or HVAC ducting to be placed in the uninsulated attic space. Sierra Club California understands this design cuts back on the potential energy savings in a home due to the extreme temperature fluctuations in the attic space.

The Club strongly supports the requirement that allows for the choice between the higher performance attics, where the attic is insulated much like any other room in the home, and placing ducts in conditioned space, meaning any space in the home that is properly insulated- usually below the attic and above the basement. Providing builders and contractors choice provides flexibility and increases compliance. Greater compliance means greater savings and will bring us one step closer to reaching our zero net energy goals.

In the previous version of the draft, the language did not appropriately clarify that ducts are only allowed in conditioned spaces. The ambiguity would allow for placing ducts in the basements, crawl space and other spaces in the home that are not insulated. As we mentioned earlier this design cuts back on the



potential energy savings in a home due to the extreme temperature fluctuations in the attic space. We see that it has been amended in the 15-day language to improve clarity and the Club thanks the staff for the changes.

2.Lighting:

Section 150.0 (k) 1A: Current standards identify certain types of lighting as high efficacy lighting and require that a specific amount of lighting be high efficacy lighting. We support the CEC's proposed changes to the standards, which include requiring that all lighting in newly constructed residential buildings be high efficacy lighting. This simplifies compliance by eliminating the need to calculate how to meet the percentage requirement for high efficacy lighting in the current standards and puts an end to the use of low efficacy lighting in the home.

We support NRDC's request to change the proposed CRI requirements in Title 24 to align with what is proposed in the Title 20 standards for lighting. Increasing the CRI value 84 improves efficacy with little impact to cost. Increasing the CRI value to 90, as some stakeholders have suggested, may provide some improvement in efficacy, but cost of manufacturing lighting with higher CRI values interferes with willingness to purchase these technologies. As NRDC has noted there is no data showing that consumers are not satisfied with CRI's in low 80s. Therefore we feel there isn't a need at the moment to push the price of the product up to meet the desires of the consumer if the desire isn't there.

The changes to residential lighting standards are estimated to have the largest projected energy savings of all the residential building efficiency standard changes, which is estimated as having the potential of reducing the home's annual lighting energy use by an average greater than 50%.

3.Water Heating:

Section 150.1(c)8Ai and ii: In our last comments, we supported the new amendments to the standards for water heating in the draft proposal to provide the option of installing a gas instantaneous water heater or a gas storage water heater with either a compact hot water distribution system or Home Energy Rates System (HERS)verified piping insulation on all hot water piping in the home as a part of the prescriptive path.

However, as we look deeper into the measures, it would be more beneficial to the state if these installations were a part of the mandatory requirements for new residential construction. As a requirement, these installations would result in less water down the drain while flow heats up and less



energy used to heat the water in the plumbing infrastructure of the home. In a state experiencing an unprecedented drought, this is significant.

“Section 150.1(c)8Aiv:” Though we support these changes to the standards, it is particularly important to Sierra Club California that we continue to transition from natural gas on all fronts, including in the home (demand-side). Reductions in the demand for natural gas reduces the need for extraction and infrastructure investment; it results in the reduction of greenhouse gas emissions and improves air quality, especially in disadvantaged communities, which are disproportionately impacted by climate disruption.

It would be in the best interest of the state, if staff included electric or solar powered water heater options in the prescriptive path as well. Technology is available on the market that is cost-effective and will result in reductions in demand for natural gas, greenhouse gas emissions and improve air quality. Additionally, more options for installation provide more pathways to meet the ultimate goal of ZNE.

For example, heat pump water heaters utilize technology that steals heat from the environment to heat the water in the home, but it also has control panels that you to select from different operating modes to further improve efficiency and efficacy. Solar water heaters in conjunction electric water heaters can further increase the energy efficiency and cost-effectiveness in generating hot water for the home. We would like to see these two options included in the prescriptive pathway to incentivize the installation of non-gas fueled water heaters and to increase the flexibility to reach ZNE.

Since the building efficiency program’s inception, the state has enjoyed substantial energy and monetary savings and a significant reduction in greenhouse gas emissions. Addressing consumer satisfaction and providing choice for energy savings in the home is sure to incentivize compliance with residential building standards and lead to observable energy savings and therefore even greater greenhouse gas emission reductions.

Thank you for the opportunity to provide comments.

Sincerely,

Edward Moreno
Policy Advocate