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*Comment Received From: Robert Raymer
Submitted On: 9/2/2020
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**Industry Coalition Comments Opposing All-Electric Baseline for
2022 Energy Code**

Additional submitted attachment is included below.



International Council of Shopping Centers



CALIFORNIA
ASSOCIATION
OF REALTORS®



Date: August 31, 2020

To: California Energy Commission
1516 Ninth Street, Docket Office, MS-4
Sacramento, CA. 95814
docket@energy.ca.gov

From: California Building Industry Association
California Business Properties Association
Building Owners and Managers Association
International Council of Shopping Centers
NAIOP of California, the Commercial Real Estate Development Association
California Apartment Association
California Association of Realtors

**Re: Docket Number 19-BSTD-03
Recent Requests to switch to an All-Electric Baseline in the 2022 Energy Code**

The groups cited above, hereafter referred to as the Industry Coalition, respectfully submit these comments in response to numerous parties' requests for the Commission to adopt a single, all-electric baseline for all buildings in the 2022 Building Energy Efficiency Standards (effective 1/1/23).

In support of changing the standards to an all-electric baseline, participants at the CEC's August 12th Business Meeting made several assertions:

- California homes must go all-electric to meet climate goals
- Going all-electric makes housing cheaper to build
- All-electric homes are cheaper to operate
- Going all-electric speeds up housing construction
- Californian's want all-electric homes – many jurisdictions have already adopted mandates
- Disadvantaged communities are negatively impacted by health issues associated with gas use

California homes must go all-electric to meet climate goals

The Industry Coalition does not take issue with California's decarbonization goals. However, we support proceeding to this goal in a balanced and thoughtful manner, as evidenced by the provisions we so strongly supported in AB 3232 (Friedman). We would respectfully draw the Commission's attention to the written testimony we provided dated January 6, 2020 (Docket number 19-DECARB-01).

As part of the assessment required by AB 3232, the Commission must consider, among other things, “*The potential impacts of emission reduction strategies on ratepayers, construction costs, and grid reliability.*” For example, as we make the shift towards electrification and replace gas water-heating and gas stoves with those powered by electricity, how is that “fuel switch” going to impact the typical peak-load electrical energy use? And how is that going to affect the average monthly utility bill now that California has moved to Time-of-Use rates? After all, while electric induction stoves are efficient, they are also power-intensive, and cooking dinner on such an appliance will represent an increased electrical load during peak-load hours that would not otherwise exist with the use of a gas stove.

More importantly, is California’s existing electrical grid ready to handle this significant and ever-growing increase in electrical load? In today’s mixed-fuel home, roughly 40% of the energy used is related to gas-powered appliances. **Has the CEC analyzed the impact of significantly increasing the electrical load on our aging electrical grid, and the reliability of California’s increasingly renewable electric portfolio, particularly considering the recent rolling blackouts?**

Will this additional stress on the grid increase California’s existing fire safety concerns? And what is the impact on greenhouse gas emissions from fires resulting from electrical grid malfunctions? Climate change has roughly doubled the length of California’s summer period, and this is having a significantly negative impact on our fire season and our electrical grid.

These are tough questions, but they need to be addressed as the State moves towards a decarbonized future, and the Energy Commission has shown its ability to answer the tough questions. The Industry Coalition stands ready to assist the CEC and other stakeholders in addressing these questions.

Simply put, the industry understands California is heading towards a decarbonized future. The Industry Coalition does not take issue with that. **However, it is industry’s position that these critical issues be addressed prior to moving to an all-electric baseline.** And given recent events, this seems to be a very reasonable request.

Going all-electric makes housing cheaper to build

While this may (or may not) be the case for certain custom homes, it is not the case for production-style residential construction. Working with builder-members, CBIA staff has found the average cost to connect gas natural of \$1,424 per-home, far less than the \$5,750 per-home savings indicated in the cost-effectiveness analysis being used by many of the local jurisdictions adopting all-electric ordinances. The \$1,424 figure is not a theoretical estimate; it is the average cost per home across numerous production-housing developments from actual infrastructure contracts and interviews with utility infrastructure consultants and contractors. This figure represents the costs up to and including the meter; it does not include plumbing in the home, or other “behind the meter” costs.

CBIA received estimates that all-electric homes will cost an additional \$1,500 compared to a mixed fuel home in terms of required energy efficiency features, appliance cost differences, and other behind-the-meter costs. These estimates varied according to the local market, the climate zone efficiency requirements, and the market segment the homes were being built for. This data indicates that there is no significant difference in cost between building mixed-fuel or all-electric homes in most cases.

All-electric homes are cheaper to operate

ConSol has conducted a thorough annual operating cost-analysis comparing new, minimally compliant all-electric and mixed-fuel homes. Using current utility rates, this analysis has found that all-electric homes are more expensive to operate in almost all cases. In the Central Valley, from Sacramento to Bakersfield, new home buyers should expect to pay \$250 more per year to operate an all-electric home. This estimate is based only on current electric rates. With California utilities (e.g.: SCE, PG&E and LADWP) poised to raise rates 30% or more in the coming years, the cost of operating an all-electric home will disproportionately rise compared to a mixed-fuel home.

Going all-electric speeds up housing construction

Building an all-electric home does not speed up construction time. This argument relies in part on the same error that suggests natural gas infrastructure costs some \$5,750 because natural gas piping is done in isolation. For production-style housing development, the reality is that energy utilities are installed together via the widespread practice known as “joint-trenching.” Unfortunately, builders often spend weeks longer waiting for infrastructure inspections and final meter sets to occur than it takes to install the infrastructure itself. However, the presence of a gas line-extension by itself does not add time to the overall development schedule because the energy infrastructure inspections can be done concurrently.

Californians want all-electric homes – many jurisdictions have already adopted mandates

Most Californians do not demand all-electric homes, at least not at the present time. Yes, there is currently a niche market for all-electric homes. And that can be expected to grow. However, in a survey conducted just two years ago, over 70% of the respondents indicated they would NOT want a home with an electric stove. While it is unknown how many of those respondents have personal experience using the newer, induction-style electric stoves, one thing seems very clear: one of the biggest hurdles to consumer acceptance of all-electric homes is the large-scale lack of familiarity with electric induction stoves.

Regarding local mandates: Currently, the jurisdictions that have adopted all-electric reach codes represent less than 1.5% of the new single-family homes market (*based on 2019 CIRB Annual Report for Single Family Housing*). In the coming years, this number can be expected to rise. However, there is often a lengthy period between the first local mandate of something and the time it becomes a statewide mandate, and with good reason. Residential fire sprinklers and rooftop solar are good examples. These were well-intended (albeit very costly) changes to our state code. Manufacturers, industry, installers, and local governments needed time to “work the bugs out.” While decarbonization of new housing should not be as difficult as the two previous examples, the State of California needs to work the bugs out before moving forward, not after.

Disadvantaged communities are negatively impacted by health issues associated with gas use

This is a very challenging observation by the environmental community for several reasons. First, this CEC proceeding seeks to inform the Commission on how best to modify, if at all, the energy efficiency building standards for **new** homes (emphasis). In comparison to the existing housing stock, new single-family homes generally represent some of the most expensive housing coming onto the market. **And during the past decade, changes adopted by the CEC have added over \$20,000 in cost to a new home.** The question should be asked: If the environmental community is concerned with the health needs of California’s disadvantaged communities, why are they seeking changes to building standards applicable to some of California’s most expensive housing stock? The additional cost of electrification and other building code mandates negatively impacts new housing affordability and thus negatively impacts disadvantaged communities.

Second, health concerns should be put in proper context with regards to construction standards. For over a decade, the CEC has required new homes to meet ASHRAE’s indoor air quality (IAQ) mitigation measure requiring continuous ventilation of indoor air to the outside (ASHRAE Std. 62.2 *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*). Put differently, at the time this new IAQ mitigation measure took effect; there were already over 13,000,000 homes and apartments in California which did not provide this IAQ mitigation measure. As such, shouldn’t efforts aimed at improving residential IAQ levels be more appropriately focused on California’s existing housing stock of 13 million dwellings that do not contain this critical IAQ mitigation measure?

Additional Issues for Consideration

Electric Rates

Returning to the requirements of AB 3232, the Industry Coalition is urgently awaiting the CEC's analysis regarding the impact decarbonization will have on ratepayer utility bills. Southern California Gas noted in their August 7, 2020 letter to the CEC that:

*“In their 2019 study on Building Electrification, E3 indicates electric rates will increase by 2% above inflation each year. By contrast, we see that Southern California Edison is making a request for an increase that is more than three times higher than the estimate used in the E3 analysis. On August 6, 2020, Southern California Edison (SCE) amended their GRC testimony requesting a **34% cumulative rate increase through 2023**. Similarly, the Los Angeles Department of Water and Power (LADWP) projected a **30% rate increase by 2024**.”*

The COVID crisis has added to this problem by presenting the utilities with an unexpected revenue-loss, and efforts are understandably being made to recover those losses.

In short, it seems clear that a 2% annual rate increase is unrealistically low. This, in turn, will have a serious impact on the cost-effectiveness analysis, especially for items that increase electrical energy consumption during peak load periods. This helps to make the case for the CEC to complete the required investigations required by AB 3232 **prior to considering a switch to an all-electric baseline for the energy standards.** This is a critical issue, and the Industry Coalition feels it deserves an appropriate level of analysis with public review and comment. Whether they reside in new or existing dwellings, ratepayers need to have a clearer understanding of what their monthly electric bill is going to look like down the road.

The request for the CEC to switch to an all-electric baseline for the 2022 Update

The Industry Coalition does not support a switch to an all-electric baseline as part of the 2022 update of the Title 24 Building Energy Efficiency Standards for several reasons.

First, this will (understandably) result in a need to make major modifications to the CEC's CBECC compliance software. This has never gone well. When looking at the four updates to the Standards that the CEC has adopted over the past decade, each of the related updates to the compliance software was associated with significant “bugs” which had to be addressed in the years after the updates took effect. This is both frustrating and costly for builders who must change their product design one or more times after the effective date of a new set of standards. And a switch to an all-electric baseline will be every bit as problematic as the move into a Time-Dependent Valuation (TDV) base in 2014 and the Energy Design Rating (EDR) base in 2020. Such considerable change to the Standards every three years may be great for energy consultants, but it makes understanding and implementing each new update very difficult for builders and building officials.

To be fair, the industry is fully aware and appreciates the substantial amount of technical work the CEC puts into each update. The development and adoption of the recent updates take a full three years of effort by the CEC and interested parties. However, once the standards are adopted, the CEC moves almost immediately to the pre-development proceedings related to the next update of the standards. This means CEC staff is spread too thin from the demands of a new proceeding when the focus should be placed on the education and implementation of the Standards that were just adopted.

After a decade of implementation issues, it seems clear the CEC is trying to accomplish too much within a 3-year period. Given the magnitude of technical changes being made in a given update, a strong case can be made for the CEC to spend at least 12-18 months focusing on the implementation of the newly adopted standards instead of moving immediately into the development of the next update to the Standards. Since California updates its building standards every 18 months, the CEC may want to consider moving to a 4½-year adoption cycle instead of the 3-year cycle it has been using.

Secondly, when the industry agreed to support the solar mandate and efficiency provisions that took effect on January 1, 2020, the CEC agreed not to increase the cost or stringency of the standards for low-rise residential dwellings as part of the 2022 Update. How can the CEC keep that commitment to industry if a switch to an all-electric baseline is made in the 2022 standards?

Given past practice, we will not have an accurate understanding of the impact of such a major change to the standards until the updated compliance software is certified and put into widespread application, something that happens 12-18 months after the adoption of new standards. This is precisely why the industry asked the CEC to make this commitment. Implementing the solar mandate represents the single most significant change to residential building standards in decades. And in May of 2018, both the CEC and industry agreed that we needed six years to focus on such a quantum change to our building code.

Lastly, if the CEC switches to an all-electric baseline for the 2022 update, will traditional gas-use be penalized? Put differently, will the same, conventional mixed-fuel home built to the 2019 Standards still comply under a new set of standards that uses an all-electric baseline? If it does, wouldn't that represent a clear violation of the CEC's commitment to not increase stringency or cost?

Closing Comment

As stated at the beginning of this letter, the Industry Coalition does not take issue with California's decarbonization goals. However, California's housing crisis is getting worse, not better. Housing production in California has stalled at 50% of normal. We respectfully request the CEC to forgo switching to an all-electric baseline in the 2022 update of the Standards. Industry needs time to implement California's solar mandate while it attempts to recover from the COVID crisis. And the CEC needs time to gain a full and realistic understanding of how our future move to a decarbonized grid will impact all ratepayers, California's economy, and the building industry.