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California Energy Commission
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**RE: Docket No. 11-IEP-1F
CBIA & CBPA Comments on Draft Staff Report:
“Achieving Energy Savings in California Buildings”**

The California Building Industry Association is a statewide trade association with over 5,000 member-companies involved in residential and light-commercial construction. CBIA-member companies produce over 90% of the new residential dwellings constructed in California on an annual basis.

CBPA serves as the California legislative and regulatory advocate for individual companies as well as the International Council of Shopping Centers (ICSC), the California Chapters of the Commercial Real Estate Development Association (NAIOP), the Building Owners and Managers Association (BOMA) California, the Institute of Real Estate Management (IREM), the California Downtown Association (CDA), the Retail Industry Leaders Association (RILA), CCIM of Northern California, and ACRE of Southern California making CBPA the recognized voice of the commercial, industrial, and retail real estate industries in California representing over 11,000 companies.

The following comments are submitted on behalf of CBIA and CBPA in response to the California Energy Commission Staff Report entitled “Achieving Energy Savings in California Buildings”.

Plug Load:

Industry agrees with the CEC that addressing “plug load” is absolutely critical in the effort to reach zero net energy. While a buildings total “plug load” is dependant on a great many variables, it is generally assumed that “plug load” accounts for approximately 40%-50% of a homes total electrical load. Given the substantial increase in stringency of the energy efficiency standards over the past decade, the greatest potential for reducing the size (and related cost) of the PV system needed to bring a home to ZNE will come from focusing on “plug load” issues. This issue is even more critical for medium- and high-rise commercial buildings.

As such, industry would strongly encourage the CEC to consider incorporating “plug load” reduction features/strategies as compliance options in the 2013 Update of the Residential and Non-Residential Building Energy Efficiency Standards. This would provide numerous benefits for both the state and industry. Since the CEC is proposing to move many of the currently used (and popular) “compliance options” over to “prescriptive measures”, industry will be looking for new design options for use as new compliance options. This would serve as a strong incentive for industry to include plug load strategies in the design of new homes. And, as with other compliance options used over the years, allowing the use of “plug load strategies” as a design option allows industry to become familiar with these features on a voluntary basis, long before they become a mandatory measure.

Lastly, allowing the use of “plug load reduction strategies” **on a voluntary basis** would not be a violation of federal preemption of many appliance efficiency standards. After all, the CEC would not be specifically requiring the use of a particular standard that is more stringent than that required at the federal level. Instead, the CEC would simply be encouraging the use of certain items/designs on a voluntary basis.

Improving Compliance and Enforcement:

While CBIA agrees with the Energy Commission’s desire to significantly improve and maintain a high level of compliance with the energy code (and all building codes for that matter), industry does have a difference in opinion on how best to accomplish that goal.

Background: The CEC energy efficiency building standards for new construction are quite possibly the most technically complex set of statewide building standards in the country and, unlike other code-related issues, these CEC standards change substantially **every three years**. Between the actual standards and the compliance manuals for residential and commercial buildings, there are over 1,200 pages of content one must learn in order to effectively understand and implement the standards.

Instead of providing new (quasi-judicial) enforcement authority to the Energy Commission, industry suggests the following priorities be implemented:

- **For new construction**, establish an on-going field compliance training and education program (the carrot) prior to consideration of any rigorous enforcement penalties (the stick). Over the past 7-8 years, CEC field-compliance training and education efforts have been steadily reduced. Understandably, field compliance has seen a related drop as well. Ongoing compliance training and education deserves just as much (or more) focus by the CEC as it does on its regulatory development and adoption efforts.
- **For existing buildings**, as proposed by SB 454, require proof of appropriate building permits as a prerequisite to getting incentive funding. In addition, the CEC should work with CSLB and industry in effort to target unlicensed contractors who are not pulling permits (underground economy). We understand this is easier said than done due to the limited time the contractor is “on-site”. However, the CEC could effectively work with the CSLB’s on-going sting operations.
- **General:** CBIA strongly supports the suggestion from the California Building Officials (CALBO) for the CEC to focus on simplifying compliance with the standards. This would include the development of “marketable prescriptive packages” as well as efforts to reduce/simplify compliance documentation.

Existing Homes:

- At the start of 2011, California had a total housing stock of 13,433,728 units (single-family and multifamily combined). For the past four years, new residential construction has been adding only **1/3 of 1%** to the total housing stock on an annual basis, **not 1%-2%**. I do not think industry has ever added 2% to the total housing stock in a given year. The last time we added **1%** to the total housing stock in one year was back in 2006.
- On Page 4 of the Report, CEC Staff indicates that *“Improving the energy efficiency of existing residential and commercial buildings is the single most important activity to reduce greenhouse gas emissions in the electricity and natural gas sectors.”* Industry strongly agrees with this comment. However, assuming that this is the case, why is such a disproportionate amount of the CEC’s regulatory resources focused on the development of energy efficiency standards for **new** residential and commercial construction?

- Depending on construction type and year-of-construction, industry studies project 5-8 times the energy savings on efforts focused on existing structures versus similar expenditures on new construction. The high level of required energy efficiency in new construction has created a clear pattern of diminishing returns on energy efficiency investment compared with that associated with the existing residential and commercial stock.

Energy Efficiency Goals:

- **Long-term goals:** Policy papers issued by the Public Utilities Commission and the Air Resources Board indicated the assumption that the CEC would be increasing the stringency of their energy efficiency standards by 15% each of the four times it updated their regulations starting with the regulations adopted in 2008. As recently as September of 2010, the CEC had indicated to industry that a 15% increase was planned for the next update of the standards. However, this projected goal has increased substantially over the past nine months. In November of 2010, a figure of 20% was suggested and in this CEC Staff Report, we now see a projected goal of +20%-30% (Page 5-6). From a cost-effective perspective, wouldn't it make more sense to focus on promoting plug-load strategies in new construction and place very serious focus on the existing housing stock, especially those dwellings constructed prior to 1992? Given that the CEC has tightened the stringency of their standards by approximately 50% over the last three updates (15% in 2002, 15% in 2005 and 20% in 2008), it is becoming clear that attempting to get that next incremental increase in energy efficiency from the items that the CEC has been so heavily regulating over the past decade is getting far more expensive.

Zero Net Energy:

- **Definition of "Zero Net Energy":** The State of California needs a reasonable and clear definition from which to work. The PUC has had a Task Force working on this issue for over 6 months and there are still significant differences of opinion on key points. More importantly, the work that the PUC has done to date does not seem to compare well with what CEC Staff seems to be proposing (Page 5). Of particular note is the staff reference to "societal value of energy", "long-term project cost", "value of associated carbon emissions" and "externalized costs". All of these terms can have differing meanings to different individuals. However, the effective development, adoption and (most importantly) implementation require a high degree of clarity, especially with regards to building standards and design.
- Industry would not support the inclusion of embedded costs related to construction of the home or building, transportation/infrastructure and /or the assumption that the home will have two fully-electric vehicles.
- **Physical constraints: Residential:** (industry moving to 2- and 3-story) which does not allow for 600-700 sq ft of clear space on roof (especially in the limited southerly orientation needed)...allowance of off-site solar essential
- **Physical constraints: Commercial:** For mid-and high-rise commercial: "you can't get there from here". Oakland example: 15-story building with substantial energy retrofit within last 3 years needs more than nine acres of PV to be ZNE but the entire rooftop of that structure has less than 0.3 acres of total area.
- **Costs:** Estimated compliance cost for new home (using typical home built to the energy regs that took effect on 1/1/10): **\$20-\$24 per square foot**
The \$2-\$4 per square foot associated with new sprinkler mandate is already creating noticeable slowdown in construction (Sacto-Fresno and Riverside) (*see attachment*)

- **“Societal Value” vs. “Cost Effective” as defined by PRC 25402(b)(3):** Industry must be able to market their product, including the increased cost associated with new EE (and ZNE) measures. Over the past 30+ years, the CEC has been using the very standard definition of “cost effective” wherein the increased up-front cost of a new set of regulations is more than offset by the resulting reduction in monthly utility bills over the life of the structure. Simply put, “You Get Your Money Back”. The vast majority of homebuyers will not understand (or agree with) the concept of “societal value” when it comes time to writing a check.

- **Industry Request:** From a policy perspective, the quantification of benefits versus cost is an extremely important to industry (as it is for many other groups). Industry feels this specific issue should be the singular focus of one or more workshops wherein interested parties, including members of the Legislature could participate and provide the CEC with input.

Definition of “Cost Effective”:

When developing updated energy efficiency standards, the following PRC section applies:

***PRC 25402 (b)(3):** The standards adopted or revised pursuant to subdivisions (a) and (b) shall be cost-effective when taken in their entirety and when amortized over the economic life of the structure compared with historic practice. When determining cost-effectiveness, the commission shall consider the value of the water or energy saved, impact on product efficacy for the consumer, and the life cycle cost of complying with the standard. The commission shall consider other relevant factors, as required by Sections 18930 and 18935 of the Health and Safety Code, including, but not limited to, **the impact on housing costs**, the total statewide costs and benefits of the standard over its lifetime, economic impact on California businesses, and alternative approaches and their associated costs.*

CEC application of PRC 25402(b)(3): For the past 35 years, a change to the standards is considered “cost effective” if the up-front cost increase of the change is more than offset by reduced utility bills over the life of the structure (residential “life” is 30 years).

Simply put: **The homebuyer will get their money back.**

Industry is deeply concerned that the vast majority of homebuyers will have no understanding/appreciation of “societal benefits” in the context of strict economic decision-making....especially in today’s depressed housing market.

This will create a huge marketing issue for new home sales that could inadvertently enhance the marketability of far less efficient existing homes.