In the matter of:	)	**Docket No. 13-IEP-1A**
	)	
2013 Integrated Energy Policy	)	California Energy Commission
Report (2013 IEPR Update)	)	Dockets Office, MS-4
Lead Commissioner Workshop	)	1516 Ninth Street
RE: **DRAFT 2013 IEPR**	)	Sacramento, CA 95814-5512

Comments submitted on behalf of:

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Introduction:

The California Building Industry Association (CBIA) and the California Business Properties Association (CBPA), hereafter referred to as "Industry", welcome the opportunity to provide these comments to the California Energy Commission.

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The serious need for code-compliance education:

As indicated in our testimony at the October 15th Workshop, there is a critical need for on-going field-training and education efforts aimed at the tens of thousands of individuals who are expected to implement these technically complex building standards. This includes local government (plan checkers, building officials and field inspectors) and industry (designers, consultants, builders, sub-contractors, site-superintendents, purchasing agents and sales staff). All of these individuals are expected to fully understand and implement these regulations when each new update takes effect.

Whether the code-changes relate to new construction or to existing construction, there has been an unfortunate lack of adequate compliance training for over a decade. At present, the CEC focuses primarily on development and adoption of new standards. This is highlighted by the fact that the CEC has already begun serious work on the 2016 Update of the Energy Efficiency Standards even though the 2013 Update has yet to take effect.

Industry would strongly urge the CEC to focus the same level of resources on compliance training and education as it does on code-development and adoption. As indicated at the Workshop, the California Building Officials already have the training infrastructure in place for this. However, CALBO only conduct two "Ed Weeks" each year. In order to meet the needs of the state, he CEC may want to partner with CALBO and seek a considerable "ramping up" of their existing CALBO training efforts.

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The need for simplicity:

Industry also joins with the California Building Officials in seeking simplicity in both the standards and the compliance documentation. The 2013 Update of the Building Energy Efficiency Standards contains over 200 pages of the most technically complex building codes in the country. The compliance manual for residential buildings exceeds 1,100 pages in length. While very useful, it is difficult to imagine tens of thousands of code-users becoming technically proficient with these standards in their entirety.

Industry strongly urges the CEC to consider development and adoption of "marketable prescriptive packages" for each of the sixteen climate zones during the 2016 Update of the energy efficiency standards. At a minimum, this would provide an easy-to-understand example of what will be needed in terms of general compliance starting in January of 2017. In addition, this level of simplicity would go a long way to re-engaging the builders and site-superintendents in the compliance decision-making process that has been almost entirely handed off to energy consultants over the past two decades.

Availability of Compliance Tools
Industry continues to seek access to "certified compliance tools" at least 9-12 months in advance of the effective date of new standards. In addition to being needed for future design preparation, having access to certified software would also help facilitate "early adopters" of the new regulations.

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California vs National Home Energy Rating Systems
While industry understands and appreciates the time and resources that the CEC has put into the development of California's home energy rating system (CA HERS), industry would strongly urge the CEC to consider using the national HERS (RESNET) program as the basis for our California HERS. Most of California's large home builders have operations in multiple states. Attempting to use CA HERS and RESNET simultaneously creates serious marketing issues and is clearly confusing the home-buying public. In addition, the CA HERS rating cannot be used when submitting the paperwork for federal energy efficiency incentive funding.

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The Definition of "Zero Net Energy"
With regards to the inclusion of the term "societal value of energy" in the definition for "Zero Net Energy":

It has been our understanding in discussions with staff that, as with past updates to the energy efficiency building standards, all future changes to CEC's building standards relative to energy efficiency and photovoltaic energy systems will continue to meet the longstanding definition of "cost effective" wherein the up-front increases in compliance cost borne by the homebuyer or building owner will be offset by reduced utility bills over the 30-year life of the building.

We would respectfully request the CEC consider including language within the IEPR that clearly indicates that the homeowner/building owner will "get their money back". This is extremely important to industry as we will be expected to market these changes to prospective buyers in the coming years.

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Liability for the builder and the building owner:
Industry agrees with the CEC that there may well be the need for a variety of zero-net energy (ZNE) definitions, depending on the target audience.
It is one thing to have one or more definitions for ZNE for those involved in the development of regulations, building standards or utility programs. However, there is deep concern by industry that the use of the term in the public sector will be misunderstood; most notably the ZNE homebuyer is going to be VERY upset when the start receiving a monthly utility bill.

Industry strongly recommends the CEC take serious and ongoing steps to insure the public knows ZNE does not mean a $0 utility bill.

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Loading Order:
A rigid interpretation of the loading order could become very problematic from both a design and cost perspective. Given the huge increases in stringency adopted into the standards over the past 12 years, getting that next increment of energy efficiency is going to be a lot tougher from a design, installation and cost perspective. As we approach the 2016 Update of the Building Energy Efficiency Standards, it is highly probable that the installation of some amount of solar may make more sense than the inclusion of one or more advanced building techniques that are not well understood or represent a major departure from common practice.

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Gas-powered appliances:
How will "gas" usage be considered within a new definition/model of "zero net energy"? Some gas appliances will fit well into CEC's TDV methodology (ie: gas dryer, gas stove). However, what about gas water heating (DHW and pool) and gas heating?

Will the ZNE definition inadvertently create an incentive to replace some gas appliances with electric? This will be of critical interest for those high-density, single-family home projects that are moving to two- and three-story design will increasing limited rooftop clear space for the application of solar. Application of highly efficient gas-powered appliances can significantly reduce the size of the rooftop PV system needed to offset the remaining electrical supply load of the home or commercial building. This is especially critical given the direction recently announced by the Department of Housing and Community Development to pursue the adoption of mandatory regulations requiring electric vehicle charging "readiness standards" in the garages of all new homes starting in July of 2015.

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Planning and Land-Use Issues:
How will ZNE impact planning and land use issues? High density, two- and three-story single-family homes are becoming the norm. This creates a significant physical constraint:

- Will there be adequate rooftop area for both PV and venting (and potentially solar water)?

- Does ZNE apply to 100% of the **homes in the project or the project**? If it applies to each home, how do we deal with the 25%-40% that do not have proper solar alignment? Aligning residential streets for longer east-west stretches creates potential health and safety issues (car speed). **Will offsite PV be allowed?** If so, will the related PV system be allowed anywhere within the same CZ or restricted to adjacent property? Industry supports maximizing design flexibility. And with regards to commercial building design, it is hard to envision a ZNE building that is three or more stories in height that could reach ZNE without the ability to utilize off-site solar or other renewable energy sources.

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Building Standards Commission's Nine Point Criteria:
Signed into law by Governor Brown in 1978, SB 331 amended Health and Safety Code 18930 to require all building standards adopted or approved by the Building Standards Commission to meet a set of nine specific criteria. As such, there needs to be a level of clarity and precision in each and every building standard such that an architect can "design" and a building inspector can "inspect" the building **prior to occupancy**.
A few of these "Nine Point Criteria" pose significant challenges to the development and adoption of Zero Net Energy building standards.

For example, consider:
Criteria #4: ***The proposed building standard is not unreasonable, arbitrary, unfair, or capricious, in whole or in part.***

Criteria #6: ***The proposed building standard is not unnecessarily ambiguous or vague, in whole or in part.***

While these two criteria can (and do) allow for both prescriptive and performance-based building standards, a ZNE performance-based building standard must still be able to meet Criteria #4 and Criteria #6.

How will ZNE building standard account for the huge variation in plug load (55%) of the homes energy? Stated differently, two identical homes located immediately adjacent to each other could have vastly different monthly utility bills.

How does an architect effectively design to ZNE with no knowledge of who will be occupying the building? And how can the CEC establish a building standard that deals with this huge "post-occupancy" variation in a manner that will not be a violation of Criteria #4 and/or #6?

And once again, will "gas" appliances be treated fairly by the definition?

In another example, consider:
Criteria #3: ***The public interest requires the adoption of the building standards.***

Criteria #5: ***The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.***
How will ZNE impact farm-worker housing, low- income housing and entry-level housing?

Will third-party PPA's be considered acceptable for ZNE? Put differently, is the ZNE defined for the grid or the consumer? If a homeowner buys a ZNE home, will they still pay a bill? How much? Will they sue?

Should the word "Zero" be eliminated from this discussion?