

August 1, 2013

California Energy Commission  
Dockets Office, MS-4  
1516 Ninth Street  
Sacramento, California 95814-5512

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RE: Docket number 13-IEP-1F | 2013 IEPR Zero Net Energy Definition Comments

Members of the Commission:

On behalf of New Buildings Institute, I am writing to provide comments on the definition of Zero Net Energy Buildings currently under consideration for the 2013 Integrated Energy Policy Report.

New Buildings Institute (NBI) is a nonprofit organization working to improve the energy performance of commercial buildings. We work collaboratively with commercial building market actors – governments, utilities, energy efficiency advocates and building professionals - to remove barriers to energy efficiency. We promote advanced design practices, improved technologies, public policies and programs that improve energy efficiency. NBI also develops and offers guidance to individuals and organizations on designing and constructing energy efficient buildings through our research, tools and resources.

NBI is deeply involved in net zero energy work both in the state of California and nationwide and are keenly interested in fostering consistent and appropriate definitions of Zero Net Energy Buildings to reduce confusion in the marketplace and the policy arena. To that end NBI has set forth the following criteria for defining ZNE building characteristics:

- Ensure a very high level of energy efficiency before PV or other strategies are applied.
- Clearly define thresholds for buildings that reach a ZNE level of efficiency, whether they have installed onsite renewables, are capable of installing onsite renewables or cannot install onsite renewables.
- Verification of ZNE levels of efficiency must include no less than 12 months of continuous post-occupancy energy usage (metered) data.
- A minimum occupant load percentage should be defined.
- Process loads, for specific services such as manufacturing or data centers, if separately metered, and over 5% of the total property energy use (on a BTU basis), should be subject to a ZNE target separate from the building. This category should not include standard plug loads.
- Definitions of ZNE and ZNE-efficient should focus on the characterization of very efficient buildings with or without onsite renewables.
- Although different jurisdictions and organizations may have different working definitions of ZNE, terminology and calculation protocols should be similar among jurisdictions and in all cases should relate to one another in such a way that the relationships can be clearly illustrated to reduce confusion for users.

While NBI has not settled on a single definition, a modification of the proposed California definition that maintains consistency and appropriateness to uses within NBI programs and for our constituents is as follows:

*A **Zero Net Energy (ZNE) Building** is one where the amount of energy (kBTU) provided by onsite renewable energy sources is equal to the amount of energy consumed by the building at the level of a single “building site” (IECC) accounted for on an average annual basis. A ZNE Building meets Energy Use Intensity (EUI) targets by building type and climate zone that reflect best practices for highly efficient buildings. This is demonstrated by 12 months or longer of continuous metered or measured consumption data.*

*A **Zero Net Energy Efficient (ZNE-Efficient) Building** is one that meets the same highly efficient EUIs as a ZNE Buildings but lacks onsite renewables.*

With California’s global leadership role in developing practices and policies for ZNE buildings, we believe this IEPR should result in clear definitions of ZNE and the energy consumption levels associated with ZNE. The definition effort should be supported by ongoing work, such as the development and publication of ZNE-level EUI targets.

We appreciate the opportunity to comment and look forward to cooperating with and contributing to this effort.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ralph DiNola', written in a cursive style.

Ralph DiNola, Assoc. AIA, LEED Fellow  
NBI Executive Director