

CALIFORNIA ENERGY COMMISSION

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July 24, 2014

To: Researchers and Other Interested Parties:

This is not a solicitation for funding.

The California Energy Commission is seeking input on potential research areas that will help California achieve its Zero Net Energy (ZNE) building goals. Your input will help the Energy Commission better target research for upcoming solicitations that will overcome barriers and increase the penetration and acceptance of ZNE buildings in California. Potential research areas include:

- Pilot tests of unique building approaches that integrate advanced energy efficiency technologies and “right sizing” renewable energy systems for residential, multifamily, and commercial buildings. Target construction **cost within 10 percent of the cost of conventional construction.**
- Technological and non-technological strategies to achieve ZNE for different building types and climate zones-including acceptance by builders, developers, the real estate community (including appraisers) and consumers.
- Analysis of the cost effectiveness of achieving ZNE versus achieving highly efficient buildings. Where is the cut-off between achieving maximum cost effective energy efficiency and zero net energy by climate zone and by building type?
- Analysis of the persistence of achieving and continuing to achieve ZNE by building owners
- Large scale ZNE demonstration/deployment in a community/subdivision setting of the most technically feasible and cost effective energy efficiency packages for specific building types and climate zones. The demonstrations must be **at least 30 percent better than the 2013 California Title 24 Building Energy Efficiency Standards Code.** Additionally, **target costs to be within 10 percent of conventional construction costs** with a goal of achieving an **internal rate of return of 5 percent within 10 years.**

To provide research input, please complete Attachment 1. All input will be posted at: www.energy.ca.gov/research/notices/index.html.

Please email your input by August 13, 2014, to Felix Villanueva at Felix.Villanueva@energy.ca.gov with the subject line, “Input for ZNE Buildings and Communities.”

Sincerely,

Mike Gravely
Deputy Division Chief
Energy Research and Development Division

Attachment 1
Research Input for EPIC Focus Areas

Thank you for taking the time to answer the questions below. Your input will help the California Energy Commission better target research for upcoming solicitations related to achieving ZNE buildings in the residential and commercial sectors.

Instructions:

- Please limit each response to only one of the focus areas listed below.
- You can comment on the staff examples in the cover letter or suggest other initiatives.
- Do not identify your organization.
- When providing input, please focus on advancements (rather than already established practices) that will help achieve ZNE buildings in California.

Focus Area (Select only one and double click on the box to select the focus area):

- Pilot Tests of ZNE building approaches**
- Non-technological approaches to achieve ZNE buildings**
- Large scale demonstration and deployment**
- Other:** Specify: _____

Based on the Focus Area checked, please answer the following questions:

1. Provide comments on the staff examples in the cover letter, including how they can be improved. If you have no comment, proceed to question 2.
2. Describe your research initiative that will result in the greatest potential for electricity savings and help achieve cost-effective and replicable ZNE buildings and why.
3. If you responded to question 2, please respond to the following:
 - a) What are the goals of this initiative?
 - b) What are the targeted areas and building types and applicable climate zones?
 - c) Who else is involved in this research/initiative?
 - d) Is this applicable to the existing buildings market or the new construction market?
 - e) What are the potential electricity savings and other benefits associated with this initiative?
 - f) What are the challenges or barriers facing this initiative? [*For example, technical, market, cost, behavior/education/awareness, regulatory*]
 - g) How can these barriers be overcome or solved with research?
4. Is there anything else you would like the Energy Commission to be aware of when developing its priorities for future ZNE research needs?