

DOCKETED

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Health and Climate Adaption/Mitigation Needs

NOTE: Presentation files are too big: available on request.

Additional submitted attachment is included below.

To: California Energy Commission

Date: June 13, 2018

Subject: Health Comments on Clean Energy on Low Income MultiFamily Buildings

Thank your for hosting the May 30 workshop on this very important topic. Existing buildings are a major source of potential carbon emission reductions and other Non-Energy Benefits such as health, safety, and human productivity.

I have worked on healthy, sustainable buildings and communities at CARB and CEC for over 30 years, and worked with various NGOs and local governments. I now do pro-bono work on climate adaptation and mitigation for healthy buildings and communities. Please consider my comments below (some of these I also raised in my oral and online comments during the workshop):

1. Building energy programs should factor in climate change impacts such as extreme heat, flooding and wildfires.

This has been done elsewhere by conducting a full life cycle analysis over 60-100 years using future climate modeling results. Otherwise, major opportunities to capture energy and carbon reductions and other non-energy benefits will be lost, and liability risk for poor energy and comfort performance will not be avoided.

2. Thermal comfort and overheating criteria should be included in retrofit programs in order to minimize the potential for overheating, and the subsequent complaints and lawsuits by occupants.

For example, a multimillion dollar settlement has been reached in the case of multifamily building in San Francisco. Ongoing research on low-income single-family buildings in the southeast U.S., including areas with mixed heating and cooling climates, has confirmed previous studies that energy burden, thermal comfort, and other IEQ problems are common and can be reduced by weatherization programs (Tonn et al., BECC 2017 presentation, <http://www.evidenceforaction.org/sites/default/files/Tonn-Oct2017.pdf>). Contact Bruce Tonn at threecubed.org for more information.

3. California should build on the experience of rapid, large scale retrofits of multifamily buidlings in Europe, Australia etc.

See the presentations from May 2017 by me and Marco Arnesano. Some of these programs can achieve very high efficiency levels, e.g., Passive House criteria and improved indoor environmental quality (IEQ).

4. Efforts to combine public health programs with energy, housing, and other programs are very effective in capturing the Non-Energy Benefits of energy

efficiency programs and should be expanded.

This is consistent with California's Health In All Programs policy. A task force is trying to implement this policy at the state and local level

(<http://www.phi.org/resources/?resource=hiapguide>).

The City of Richmond, CA currently has such a policy

(<http://www.ci.richmond.ca.us/2575/Health-in-All-Policies-HiAP>). Contact Linda Rudolph at the Public Health Institute for more information.

The Weatherization Plus Health program is a good example of combining energy efficiency and healthy home measures. **The State of Washington is currently funding its Weatherization Plus Health program, and California should fund one as well.**

Including healthy home workers from the local community is a key factor in getting participant cooperation, as shown by the Seattle Healthy Home project by Jim Krieger, Tim Takaro, et al.

Yours truly,

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