

DOCKETED

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*Comment Received From: Russell King, ME
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Comments regarding April 30, 2024 Home Energy Rating and Labeling Pre-rulemaking Workshop

Additional submitted attachment is included below.



Coded Energy, Inc.
Developers of Kwik Model 3D Software
Building Science Consulting and Training



To: Cheng Moua, California Energy Commission (Docket 23-HERS-02)
From: Russell King, ME, Coded Energy, Inc.
RE: Comment regarding 4/30/24 Workshop on Home Energy Rating and Labeling
Pre-rulemaking Workshop

Dear Cheng:

Thanks to you and the CEC for hosting the workshop. I think this is a very good beginning to an important process. I look forward to many more informative communications.

An interesting point came up during the presentation by Kaj Isaksen. He said that heat pumps are fairly common in residential buildings in Denmark, but AC is virtually non-existent in residential (he said “only used in commercial buildings”). Sizing heat pumps to a heating-only situation is relatively easy.

In California, we obviously have a large majority of homes that require air conditioning. Heat pumps, as you know, provide both heating and cooling. This is both a benefit and a potential downfall. Because they provide both heating and cooling, we are limited to a single piece of equipment that must do both well. This means that we need a “one size fits two purposes” piece of equipment. Unfortunately, the heating capacity/cooling capacity ratio of heat pumps is fairly fixed.

We have a wide variety of climate conditions in our state. Some houses will have much higher heating loads than cooling loads and vice-versa. It will be rare that a heat pump’s heating capacity and cooling capacity will be just right for a home’s heating and cooling loads. We must prioritize heating or cooling for any given home and minimize the negative impacts of oversizing or undersizing the other. The new (2023) version of

ACCA Manual S provides good guidance and many options on how to do this, but it all hinges on one critical piece of information: the home's heating and cooling loads. Without that information, proper sizing of a heat pump is a shot in the dark, which many HVAC installers are perfectly willing to take. In fact, I would be willing to say that there is a substantial percentage of HVAC contractors that would love to see heat pumps be a public relations failure.

If we want the new HERS program to facilitate (better yet, encourage) heat pumps, we must require load calculations on every single house that gets rated.

The very same data that is collected to perform a basic HERS rating is almost exactly the same data that is needed to perform a load calculation. New technology is available that makes this very easy to do. I use it every day.

My strong recommendation is that heating and cooling load calculations are an integral and mandatory part of any Home Energy Rating and Labeling program.

I'm happy to answer any questions and look forward to working with you and CEC staff on this important program.

Best Regards,



Russell King, ME
CEO
Coded Energy, Inc.