



environment ★ advocacy

HERS Provider

training ★ certification

Report On Whole House Ratings 2010-2013

Compiled October 10, 2013

by
Michael E. Bachand
President, CalCERTS, Inc.

EnergyStar



Title 24



USNRG



C.E.C

www.calcerts.com

• 31 Natoma Street, Suite 120 • Folsom, CA • 916.985.3400 • info@calcerts.com •

Executive Summary

There is some discussion in certain stakeholder sectors regarding the relevance and volume of California Whole House Home Energy Ratings (WHR's) as a useful tool to employ in home energy retrofits. The data indicates both increasing usage and relevance to the market. Data acquired during the ARRA funding period also showed that WHR's will be used more when directly supported by programs. The data also shows that due to the collection of data itself, we have a much clearer picture of the WHR market than the uninformed opinions of those who oppose the ratings based on supposition. And finally, there are enough data points from current usage to cull further useful information about current savings being achieved in dollars, kW, and carbon emissions. Further analysis of this data would be useful for determining if and how to directly and indirectly support more WHR's.

Data Analysis

Chart 1

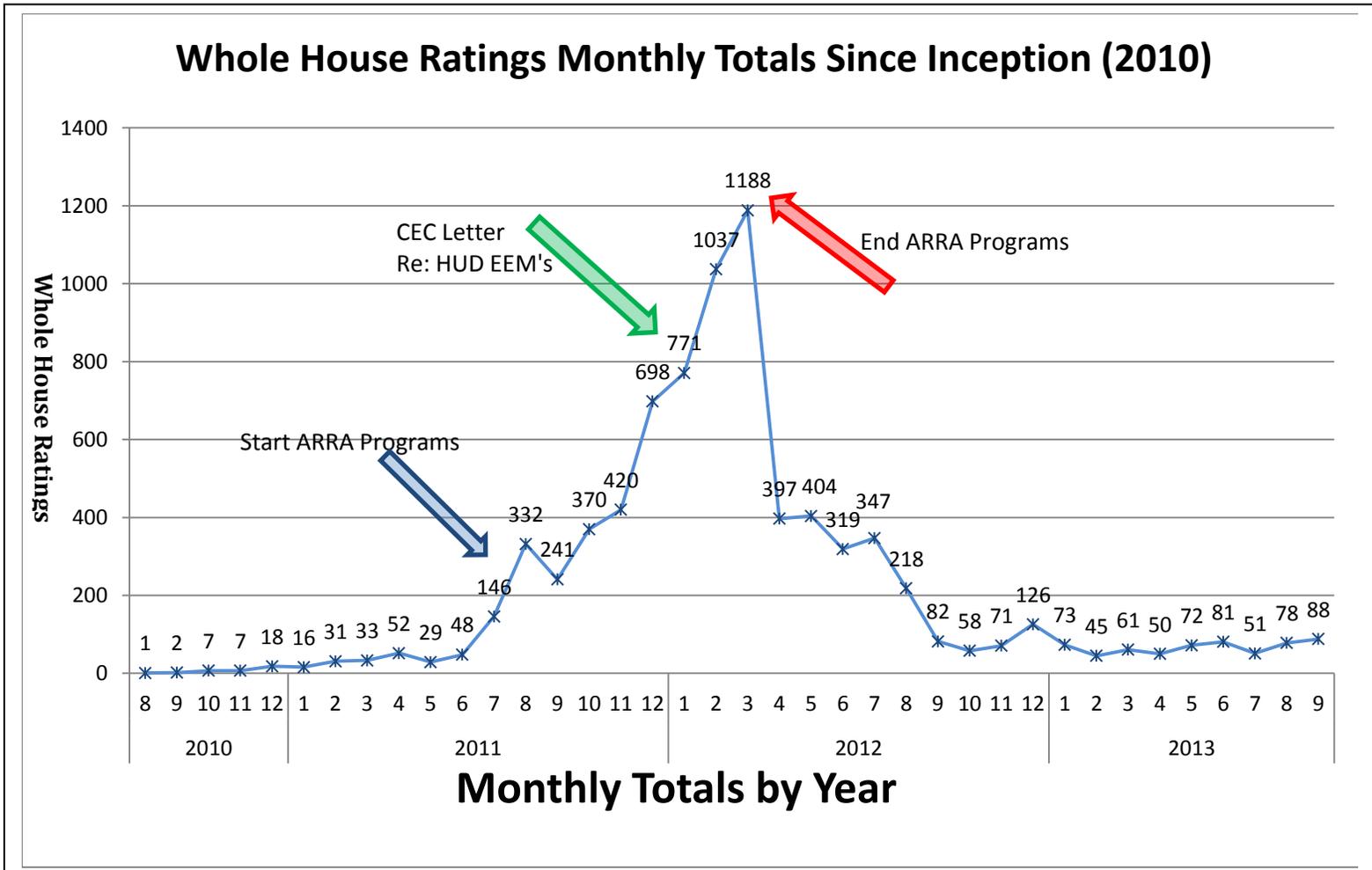


Chart 2

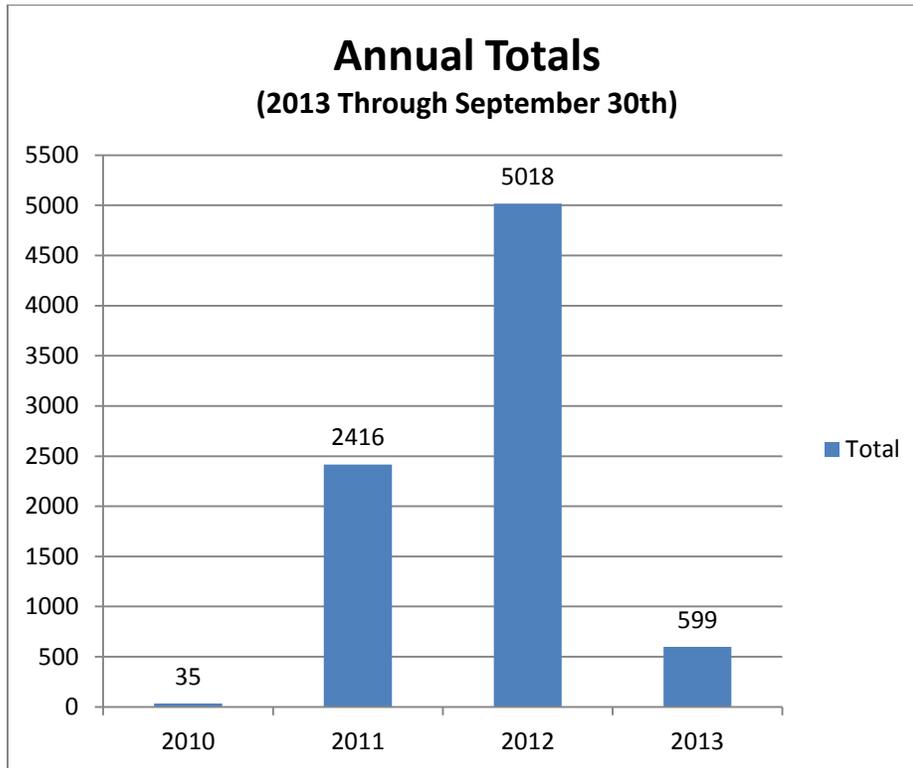


Chart #1 shows the monthly totals of Whole House Ratings registered statewide from all participating and non-participating programs and market sectors. Market sectors not in the ARRA programs were private retrofits not done through a program (very small amount), and a larger segment of Energy Efficient Mortgages (EEM's). The blue arrow indicates the approximate roll-out date for the IOU ARRA-supported programs, generally termed Energy Upgrade California. Then in early January of 2012 (green arrow, Chart 1), following conversations with Wayne Waite, HUD Regional Manager, Commissioner Karen Douglas issued a letter from the CEC stating that HUD's fact sheet states clearly that in California, an EEM must use the services of a certified HERS Rater (See Attachment 1). The ARRA funds ran out as of March 31, 2012 (red arrow, Chart 1), after which there was a significant reduction in WHR's to a baseline average of 72 WHR's per month for the last 12 months.

Chart #2 shows that the first 5 months of 2010 were a slow period in which there no direct fund-supported programs operating in the market, and the market was just getting used to the WHR concept and how to successfully employ it. Around June of 2011 (dates varied) the EUC programs and some other ARRA programs were rolled out and had reasonably fast uptake of the

use of WHR's. The 2013 data is only through September 30, but at the same pace, would equal 798 WHR's for the whole year.

What is most significant in Chart 2 is that January-September of 2013 represents a new baseline average of 72 per month, compared to a baseline average of 22 per month prior to ARRA. This is almost entirely due Energy Efficient Mortgages, which must include the use of a HERS II rater.

General Discussion

In 2010 WHR's were a new step for California and data shows it has continued to grow in usage and popularity. While the direct support from EUC and ARRA funding may have accelerated the market transformation, the market is still growing even without the ARRA money. The data obviates stakeholder concerns about the pace of market transformation and the overall value of WHR's by showing growth beyond ARRA support and growth in markets such as the EEM market that are supported by WHR's. The amount of data available from over 8,000 WHR's to date clearly demonstrates that there is sufficient information available to help make decisions going forward.

There are some concerns about Whole House Ratings amongst various stakeholders. One concern is that a rating costs too much, and does not itself provide any actual energy efficiency. While the data shows a marked increase in WHR's during periods where funding is available, the data also shows that even unsubsidized WHR's have increased in a steady and sustainable manner since the onset of the program. Although it's true that a WHR does not necessarily provide any energy efficiency, the value obtained from the program is clear: at the cost of a small fraction of what is required for a new power plant, thousands of retrofits have been completed, and the WHR market has driven the creation of a new workforce, educated occupants, supported home retrofits, and, crucially, gathered reliable information about homes in California that can be combined with Smart Grid data to enhance future program design.

A second concern is that the software may be over estimating savings achieved. Naturally, if this is the case, the software should be reevaluated and fixed or even replaced, if better software is available. In either event, the data collection must remain in order to provide meaningful information, and it is only to be expected that the software will become simpler, more accurate and more robust as the WHR program continues to evolve.

Part of the market transformation difficulty discovered during the EUC programs was that Contractors had a hard time selling retrofit jobs. The data provides significant evidence that the EEM market is strong (even within the parameters of the currently difficult real estate market). EEM are one of the major vehicles for paying for retrofits, and they also are a leg into tying real estate transactions to energy ratings and point-of-sale energy upgrades. This could be a rich data source since, as stated above, an EEM requires a Whole House Rating.

Another concern is that as soon as an occupant gets a retrofit, their bill actually goes up due to increased usage. While this again may be true, there is no evidence as to how prevalent this is, so its actual impact has not been evaluated. When the WHR estimates savings, it presumes the same behavior as prior to the installation. The use of the WHR to educate the consumer is arguably one of the best ways to modify occupant behavior.

Conclusions

The data gathered prior to the ARRA period, during the ARRA period, and after the ARRA period show a definite upward and sustainable trend in the use of WHR's. The data also clearly shows that the Energy Efficient Mortgage market is part of the sustainability that needs the WHR to meet its requirements. EEM's are a "close touch" to the real estate and mortgage industries, so this could arguably be an entry point into point-of-sale energy upgrades. And finally, at the "Thought Leaders Speaker Series" in September 2013, there were compelling statements about the necessity, value and relevancy of data that could be garnered from smart meters, and the smart grid in general. In the proper circles, the value of data as one of a suite of design tools needed to build better energy efficiency programs in the future is well recognized. Data is not free, but lack of data can be very costly in terms of lost opportunity, misguided progress and inability to understand where we have gone and where we need to go.