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September 13, 2013

Via E-mail

Dave Ashuckian
Deputy Director
California Energy Commission
Docket Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512



docket@energy.ca.gov

Re: Docket No. 12-EBP-1 – *Comprehensive Energy Efficiency Program for Existing Buildings Draft Action Plan* Staff Workshop

Dear Mr. Ashuckian:

The Association of Home Appliance Manufacturers (AHAM) would like to comment on the *Comprehensive Energy Efficiency Program for Existing Buildings Draft Action Plan* (Docket 12-EBP-1). AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people and produce more than 95% of the household appliances shipped for sale. The factory shipment value of these products is more than \$30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

The Draft Action Plan suggests specific strategies to “support growth in the energy efficiency market.” Two of the strategies are “Improving the economic performance and comfort of California’s buildings” and “Promoting innovation and cost-effective solutions.” Smart appliances and early replacement of older, inefficient appliances with newer, more efficient appliances in residential buildings would greatly achieve the objectives of these two strategies.

Energy Savings

Home appliances have achieved significant improvements in energy efficiencies over the years. For example, since 1990 clothes washers use 74% less energy, refrigerators use 50% less energy,

and dishwashers use 51% less energy. The industry and efficiency advocates have also negotiated further increases in efficiency standards, which are leading to diminishing returns as another iteration of a percentage increase in plug load efficiencies are analyzed. For example, if we were to increase the efficiency standard another 10% after the newest minimum energy standard goes into effect, the consumer would see, on average, approximately \$1.40/year savings on their electric bill, or about 10 cents/month (see Figure 1).



Figure 1

Therefore, the next big gains in energy efficiency for appliances will be obtained through smart appliances and the early replacement of older appliances. ENERGY STAR has recognized the benefits of connected capabilities in smart appliances, and this will help educate consumers of the benefits and savings on their electric bills that can be achieved through the purchase of a smart appliance.

Research conducted for AHAM by Bellamy Research shows an opportunity for energy savings through early replacement. This research finds that households disposing of working refrigerators are often likely to keep the old unit and keep using it (see Figure 2), that the highest percentage of households replacing a working clothes washer gave their previous appliance away (see Figure 3), and the second most common methods of dishwasher disposal are leaving the unit in a previous home, keeping the old unit and continuing to use it, or giving it away (see Figure 4).

Disposal of Working Refrigerators-Top Freezer

Action	Total	True Homeowners	Energy Conscious	Years Appliance Owned	
				≤5	>5
<i>Base</i>	333	111	93	137	196
Kept it, still using it	21%	18%	17%	21%	21%
Kept it, not using it	2%	2%	1%	4%	1%
Took to recycling center, did not pay and received a payment	4%	2%	4%	7%	2%
Took to a recycling center, did not pay and did not receive payment	5%	3%	6%	6%	5%
Took to a recycling center, paid and did not receive payment	-	-	-	-	-
Placed on curb for recycling for free	5%	-	-	-	5%
Placed on curb for recycling for a fee	-	-	-	-	1%
Left with previous home	12%	17%	-	5%	17%
Sold it	6%	9%	6%	7%	5%
Gave it away	15%	9%	16%	17%	13%
Traded it for credit toward new appliance	2%	3%	3%	2%	2%
Store took the old one but I did not receive credit	20%	28%	33%	22%	18%
Store took the old one and charged a disposal fee	2%	3%	2%	1%	2%
Disposed of it in the trash or garbage	5%	2%	8%	3%	6%
Other	1%	-	-	-	1%

42% Could Stay on Grid!

Figure 2

Disposal of Working Top Load Clothes Washer

Action	Total	True Homeowners	Energy Conscious	Years Appliance Owned	
				≤5	>5
<i>Base</i>	255	65	45	111	144
Kept it, still using it	16%	18%	10%	16%	16%
Kept it, not using it	3%	3%	1%	2%	4%
Took to recycling center, did not pay and received a payment	6%	3%	3%	9%	3%
Took to a recycling center, did not pay and did not receive payment	3%	1%	11%	6%	1%
Took to a recycling center, paid and did not receive payment	1%	-	-	-	-
Placed on curb for recycling for free	5%	-	-	-	4%
Placed on curb for recycling for a fee	-	-	-	-	-
Left with previous home	16%	14%	5%	12%	19%
Sold it	11%	13%	8%	14%	9%
Gave it away	22%	22%	17%	21%	22%
Traded it for credit toward new appliance	4%	1%	14%	4%	4%
Store took the old one but I did not receive credit	10%	20%	19%	9%	11%
Store took the old one and charged a disposal fee	1%	-	3%	-	1%
Disposed of it in the trash or garbage	3%	1%	1%	-	5%
Other	1%	1%	2%	1%	1%

49% Could Stay on Grid!

Figure 3

Disposal of Working Dishwasher

Action	Total	True Homeowners	Energy Conscious	Years Appliance Owned	
				≤5	>5
<i>Base</i>	185	96	50	103	81
Kept it, still using it	12%	8%	10%	11%	12%
Kept it, not using it	5%	2%	1%	5%	4%
Took to recycling center, did not pay and received a payment	4%	5%	4%	4%	4%
Took to a recycling center, did not pay and did not receive payment	7%	5%	11%	10%	3%
Took to a recycling center, paid and did not receive payment	1%				-
Placed on curb for recycling for free	5%				7%
Placed on curb for recycling for a fee	1%				2%
Left with previous home	15%	21%	-	9%	22%
Sold it	4%	4%	7%	7%	2%
Gave it away	10%	11%	10%	10%	11%
Traded it for credit toward new appliance	2%	2%	4%	2%	2%
Store took the old one but I did not receive credit	22%	20%	36%	24%	18%
Store took the old one and charged a disposal fee	4%	5%	2%	5%	1%
Disposed of it in the trash or garbage	8%	7%	8%	6%	11%
Other	1%	1%	-	-	2%

26% Could Stay on Grid!

Figure 4

The energy savings from early replacement are quite substantial. AHAM undertook an in-depth analysis of what energy savings could be captured by replacing an appliance early. Using AHAM historical data, which is a credible, unbiased source of appliance industry data, and also using Department of Energy data, we were able to estimate how much energy refrigerators are using in the US based on their age. This analysis revealed that almost 40% of the refrigerators in the US today are manufactured when the 1993 Department of Energy standard existed or even before that time (see Figure 5).

US Energy Use of Refrigerators by Age

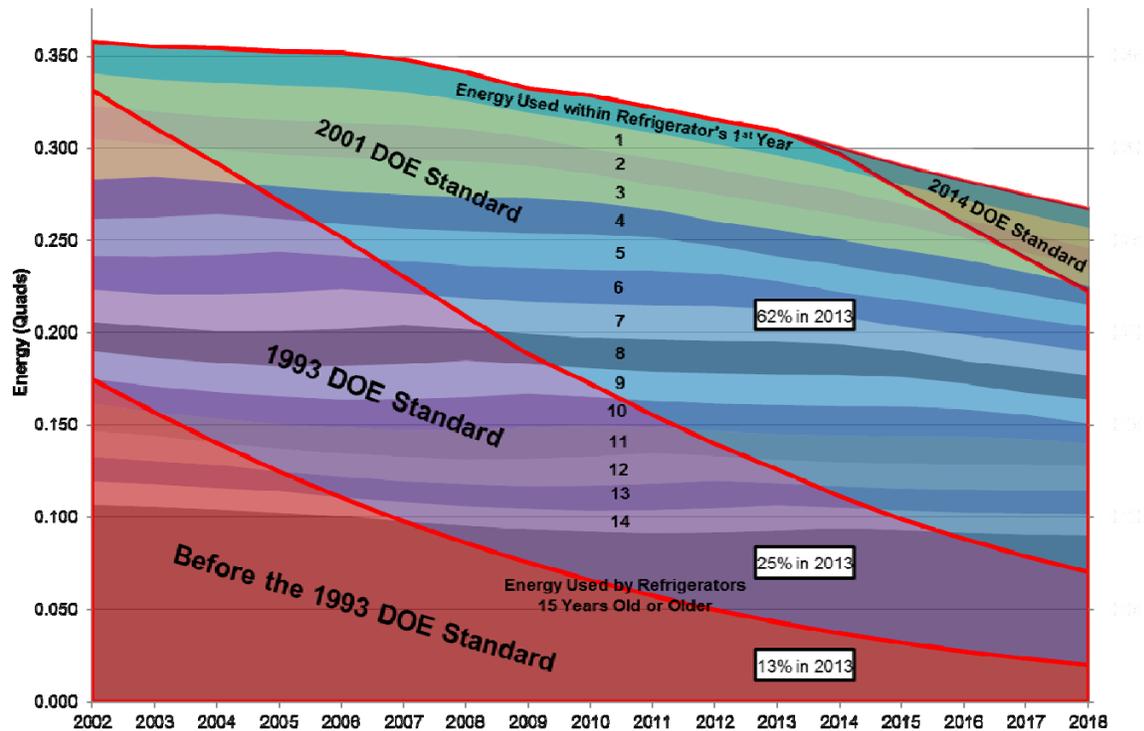


Figure 5

This shows the amount of energy savings potential that exists in the US today. If we are able to replace just half of the refrigerators that are 15 years or older with a new refrigerator that has just an average efficiency level by 2018, we would see 0.21 quads of energy saved in 2018. Interestingly, the amount of energy savings under the same analysis that would be achieved by the ENERGY STAR program, which is a very successful program, would be almost identical – 0.020 quads, but that will have taken more than 10 years to achieve (see Figure 6).

Energy Saved Replacing Refrigerator that are 15+ Years Old

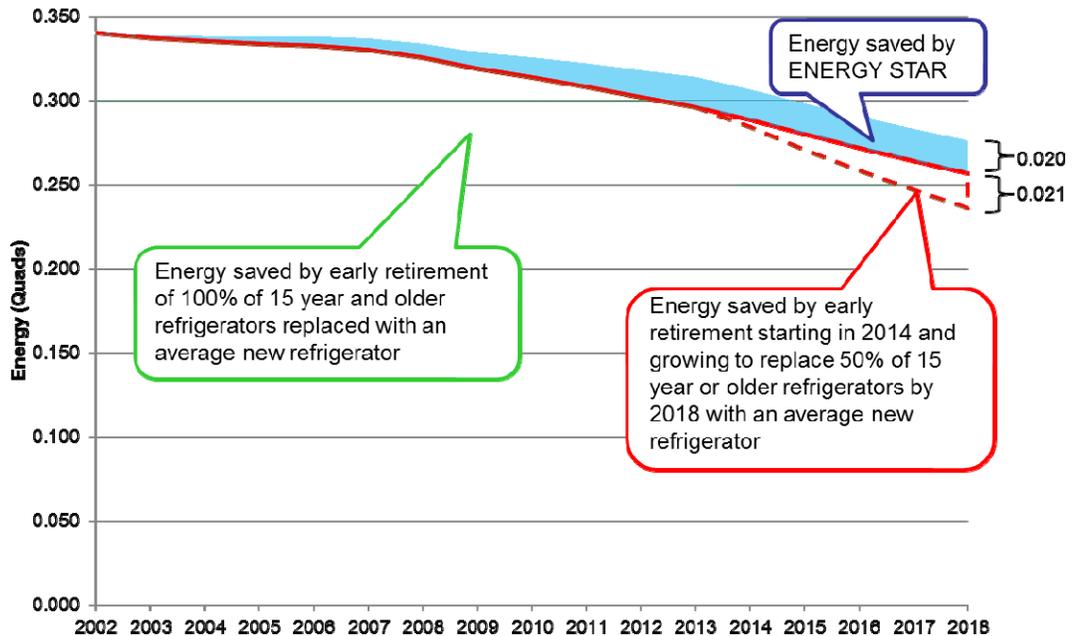


Figure 6

Energy Use Transparency

The Draft Action plan should also recognize the opportunities that exist with smart appliances and their ability to provide the consumer and building owners in residential buildings with transparency into the energy use at the appliance level. Newer appliances are more efficient and also could be “smart,” in that they can adjust how they run automatically based on signals from the electric grid to reduce the need for peaker power plants. The ENERGY STAR program is leading in this innovative area. They have recently finalized the new refrigerator specification that recognizes the benefits and value of an appliance being “connected.”

AHAM appreciates the opportunity to comment on CEC’s draft Action Plan and would be glad to further discuss these matters with the Commission.

Sincerely,

Kevin Messner
Vice President, State Government Affairs