

# Are Showerhead and Aerator Savings Tapped Out?

## *The Current and Future Market for High-Efficiency Fixtures*

ACEEE 2019 Hot Water Forum

Nashville, TN

# Background for the Session

- Can think about hot water consumption in two ways: water heater efficiency and **hot water use**
- Showerheads and faucets are biggest consumers (83%)

## Hot Water

In a sub-sample of 94 homes, the average household hot water use was 45.5 gphd, which accounted for 33.2% of total indoor water use. Showers and faucets each consumed substantially more hot water than all the other end uses combined. For showers, the average daily household hot water use was 17.8 gallons, and for faucets, 15.4 gallons.

Table 1. Average daily hot water use per household

Shower	39.1%	<b>17.8 gphd</b>
Faucet	33.8%	<b>15.4 gphd</b>
Clothes washer	9.7%	<b>4.4 gphd</b>
Bath	5.7%	<b>2.6 gphd</b>
Dishwasher	4.8%	<b>2.2 gphd</b>
Leak	4.6%	<b>2.1 gphd</b>
Other	2.0%	<b>0.9 gphd</b>
Toilet	0%	<b>0.0 gphd</b>
<b>Total</b>		<b>45.5 gphd</b>

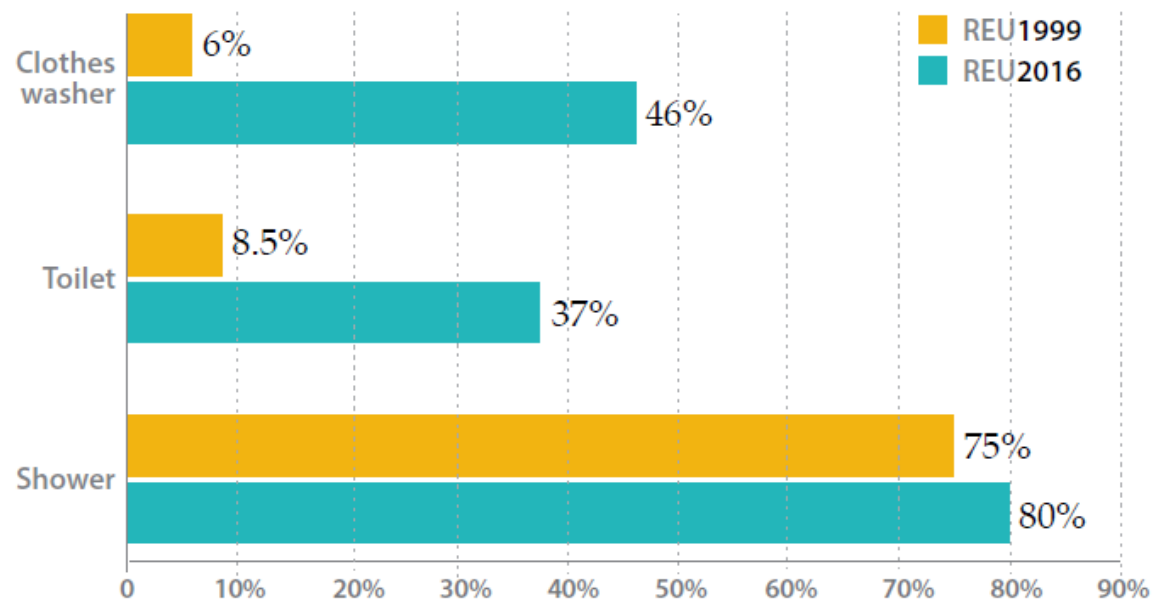
<sup>2</sup>Nearly 100 percent of the 25 new homes studied in DeOreo et al. 2011 met the following efficiency criteria: clothes washers with capacities of  $\leq 30$  gallons per load (gpl), shower flow rates  $\leq 2.5$  gallons per minute (gpm), and toilet flushes  $\leq 2.0$  gallons per flush (gpf).

# Showerheads and faucets are getting more efficient

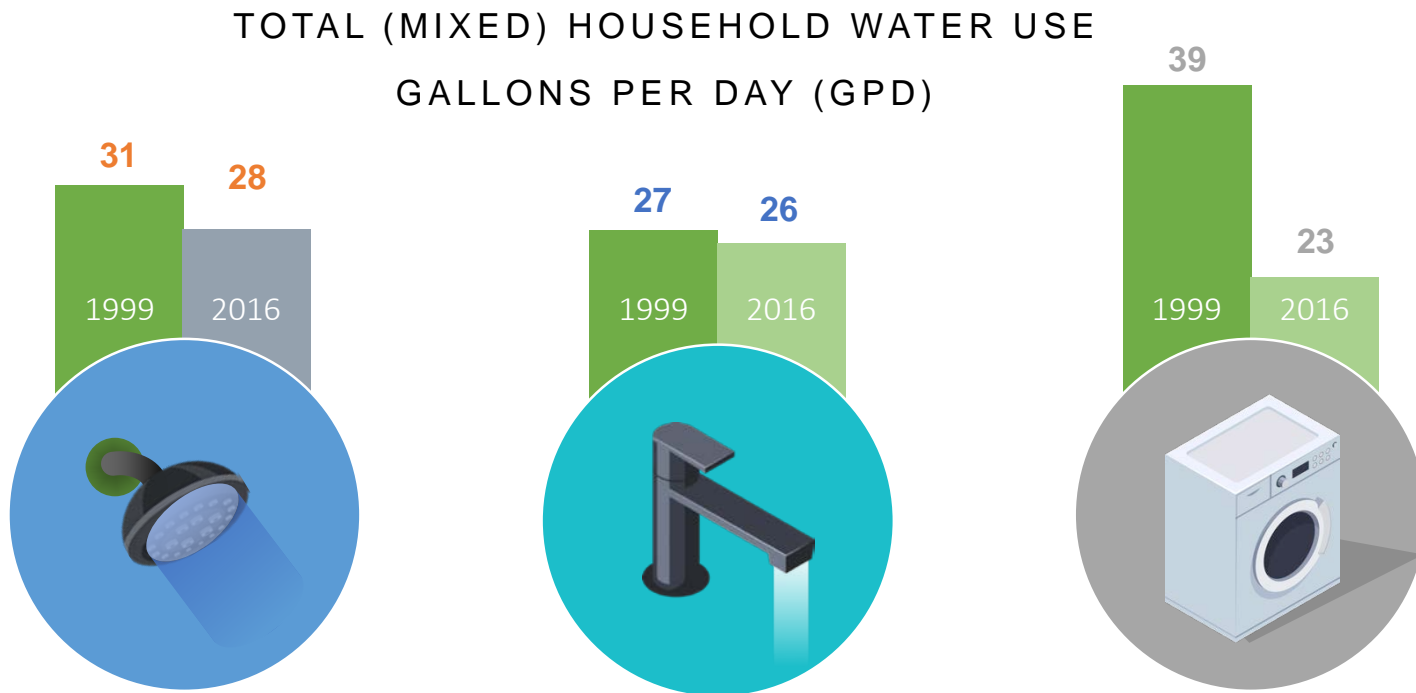
More efficient appliances and fixtures have contributed to significant reductions in residential indoor water use, but there remains much potential for additional savings. In REU2016, more than half of residences did not meet the study's efficiency criteria for clothes washers and toilets, and 20 percent did not meet those standards for showers (see Figure 6). In addition, households that currently over-irrigate could change their habits and substantially reduce their outdoor use.

Figure 6. Percent of homes meeting efficiency criteria, REU1999 and REU2016

Efficiency criteria include: clothes washers <30 gal/load, toilets <2.0 gal/flush, showers <2.5 gal/minute.



# But questions remain about energy savings



# Key Questions

- What is the current market like in terms of water efficiency and how is it likely to change in the future?
- Do low flow fixtures save hot water (and water heater energy)? What are the issues that affect hot water reduction?
- How low can we go in terms of flow rate and what are the barriers in different applications?

# Presenters



**Bretnie Eschenbach  
& Jonah Hessels**

CADEO GROUP

*The Future of Showerhead  
and Aerator Savings*



**Gary Klein**

GARY KLEIN  
ASSOCIATES

*Flow Rates for Faucets,  
Showers and  
Tub/Shower Valves*



**Olga Cano**

U.S. ENVIRONMENTAL  
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*WaterSense labeled  
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