

## Projected Savings from Kitchen Faucet Aerator Retrofit

### Kitchen Faucet Aerator retrofit inputs and assumptions:

Average household size:	4.67	people <sup>1</sup>
% of homes with a dishwasher:	77.10%	<sup>1</sup>
% of homes without a dishwasher:	22.90%	<sup>1</sup>
% of water heated by gas:	37.28%	<sup>1</sup>
% of water heated by electricity:	46.52%	<sup>1</sup>
Installation / participation rate of:	34.96%	<sup>1</sup>
Number of participants:	1,202	<sup>1</sup>
Average Kitchen Faucet Aerator has a flow rate of:	2.50	gallons per minute <sup>2</sup>
Retrofit Kitchen Faucet Aerator has flow rate of:	1.50	gallons per minute <sup>3</sup>
Product life:	5.00	years <sup>3</sup>
Length of use without dishwasher:	15.00	minutes per day <sup>4</sup>
Length of use without dishwasher (each family member):	1.00	minute per day <sup>4</sup>
Length of use with dishwasher:	3.00	minutes per day <sup>4</sup>
Length of use with dishwasher (each family member):	0.50	minutes per day <sup>4</sup>

### Projected Water Savings:

Kitchen Faucet Aerator retrofit projects an <b>annual</b> reduction of:	1,322,073	gallons <sup>5</sup>
Kitchen Faucet Aerator retrofit projects a <b>lifetime</b> reduction of:	6,610,363	gallons <sup>6</sup>

### Projected Electricity Savings:

Kitchen Faucet Aerator retrofit projects an <b>annual</b> reduction of:	58,370	kWh <sup>4,7</sup>
Kitchen Faucet Aerator retrofit projects a <b>lifetime</b> reduction of:	291,848	kWh <sup>4,8</sup>

### Projected Natural Gas Savings:

Kitchen Faucet Aerator retrofit projects an <b>annual</b> reduction of:	2,395	therms <sup>4,9</sup>
Kitchen Faucet Aerator retrofit projects a <b>lifetime</b> reduction of:	11,974	therms <sup>4,10</sup>

<sup>1</sup> Data Reported by Program Participants.

<sup>2</sup> Vickers, Amy (2002). *Water Use and Conservation*. Amherst, MA: WaterPlow Press.

<sup>3</sup> Provided by manufacturer.

<sup>4</sup> Quantec, LLC. (2008). *Impact of Flipping the Switch: Evaluating the Effectiveness of Low Income Residential Energy Education Programs*. Portland: Drakos, Jamie et al.

<sup>5</sup>  $\{ \text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}] \} \times \% \text{ of homes without dishwasher} + \{ \text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}] \} \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days}$

<sup>6</sup>  $\{ \text{Length of use without dishwasher} + [\text{Average household size} \times \text{Length of use without dishwasher (each family member)}] \} \times \% \text{ of homes without dishwasher} + \{ \text{Length of use with dishwasher} + [\text{Average household size} \times \text{Length of use with dishwasher (each family member)}] \} \times \% \text{ of homes with dishwasher} \times [\text{Average Kitchen Aerator flow rate} - \text{Retrofit Kitchen Aerator flow rate}] \times \text{Number of participants} \times \text{Installation rate} \times 365 \text{ days} \times \text{Product Life}$

<sup>7</sup> Projected Annual Water Savings  $\times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

<sup>8</sup> Projected Lifetime Water Savings  $\times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (3413 \times \text{water heater efficiency (0.90)})] \times \% \text{ of Water Heated by Electricity}$

<sup>9</sup> Projected Annual Water Savings  $\times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$

<sup>10</sup> Projected Lifetime Water Savings  $\times [(8.33\text{lbs.} / \text{gallon} \times 35^\circ\text{F}\Delta\text{T}) \div (100,000 \times \text{water heater efficiency (0.60)})] \times \% \text{ of Water Heated by Natural Gas}$