



Tub/Shower Technologies

Auto-Diverting Tub Spout Systems

Core Product Lines



ShowerStart TSV

- Reduces showerhead flow to trickle once bathing temp water arrives (95F)
- Auto-reset for next shower
- Universal showerhead compatibility
- Solid brass construction
- Easy installation
- UPC certification
- For use with water pressures > 30 psi



ShowerStart Showerheads

- ShowerStart TSV
- 2.0, 1.75 and 1.5 gpm models available
- Full body spray pattern
- Multifunction models also available
- Rub clean spray nozzles
- Pressure compensating flow regulation
- Solid brass fittings
- WaterSense & cUPC certification
- For use with water pressures > 30 psi



ShowerStart Handshowers

- ShowerStart TSV
- 2.0, 1.75 and 1.5 gpm models available
- Full body spray pattern
- Multifunction models also available
- Rub clean spray nozzles
- Pressure compensating flow regulation
- 59" stainless steel hose with solid brass fittings
- Shower arm mount with solid brass fitting
- WaterSense & cUPC certification
- For use with water pressures > 30 psi

Standard Showerheads Also Available

Single & Multi Function Showerheads

- 2.0, 1.75 and 1.5 gpm models available
- Full body spray pattern
- Multifunction models also available
- Rub clean spray nozzles
- Pressure compensating flow regulation



Single & Multi Function Handshowers

- 2.0, 1.75 and 1.5 gpm models available
- Full body spray pattern
- Multifunction models also available
- Rub clean spray nozzles
- Pressure compensating flow regulation
- 59" stainless steel hose and shower arm mount



Understanding Behavioral Waste

Behavioral waste occurs when bathers use their time comfortably and efficiently while waiting for hot water to reach the shower. Instead of patiently waiting for cold water to exit the showerhead most people leave to do something else.

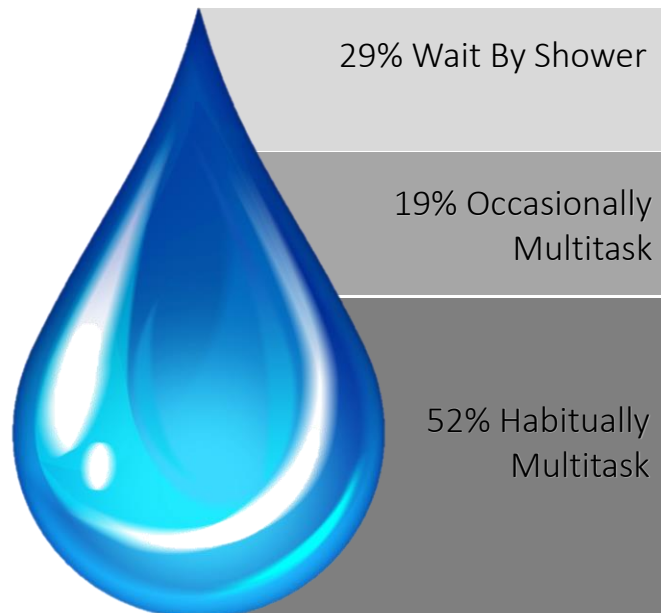
SHOWER WARM-UP WASTE

STRUCTURAL WASTE

“COOLED-OFF WATER TO CLEAR FROM THE PIPE”

BEHAVIORAL WASTE

“WATER THAT IS HOT ENOUGH, BUT RUNS DOWN DRAIN”



2008 Shower Behavior Survey 153 Respondents

71% multitask

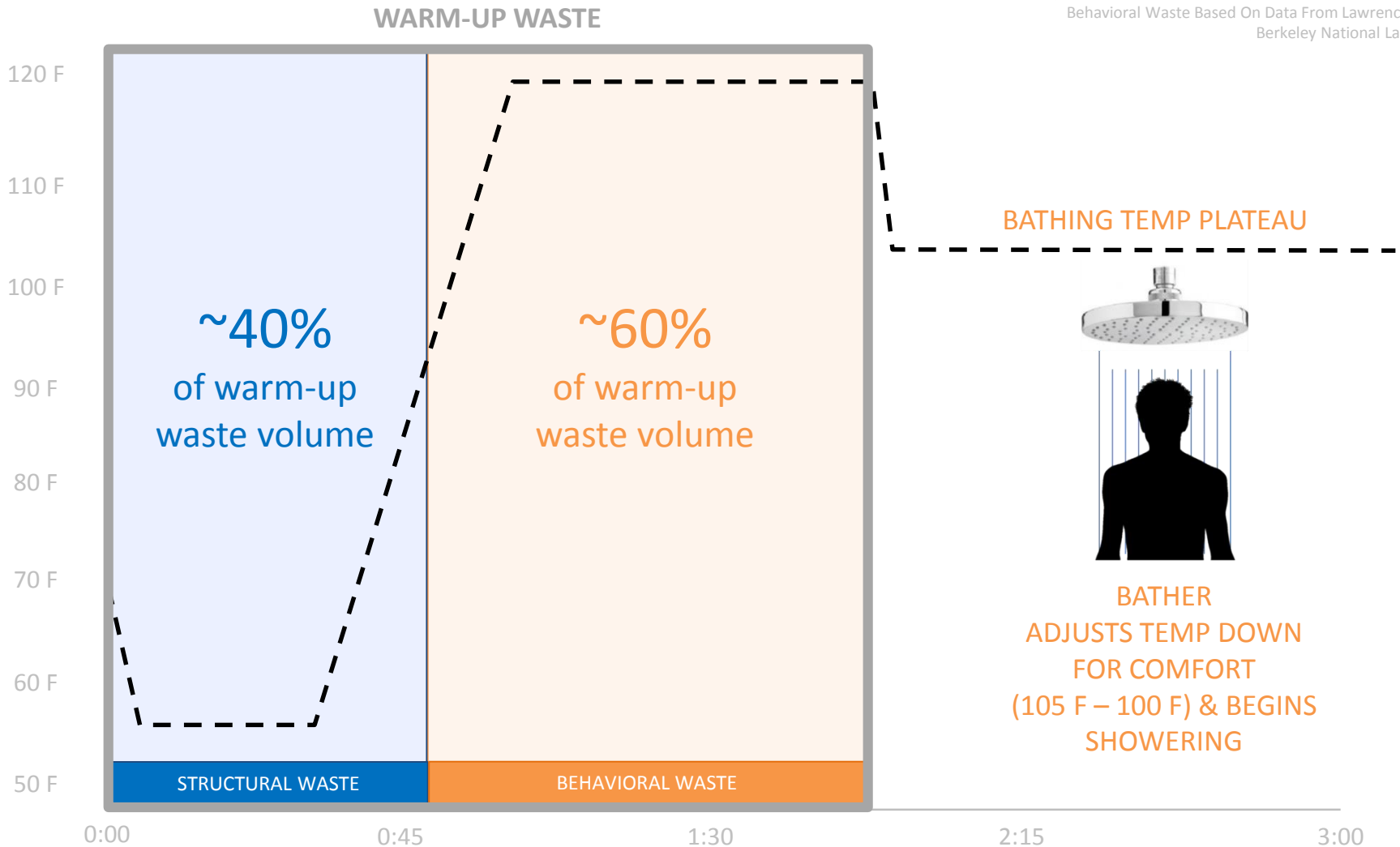
52 % perform multiple activities

60% only return after activities are completed



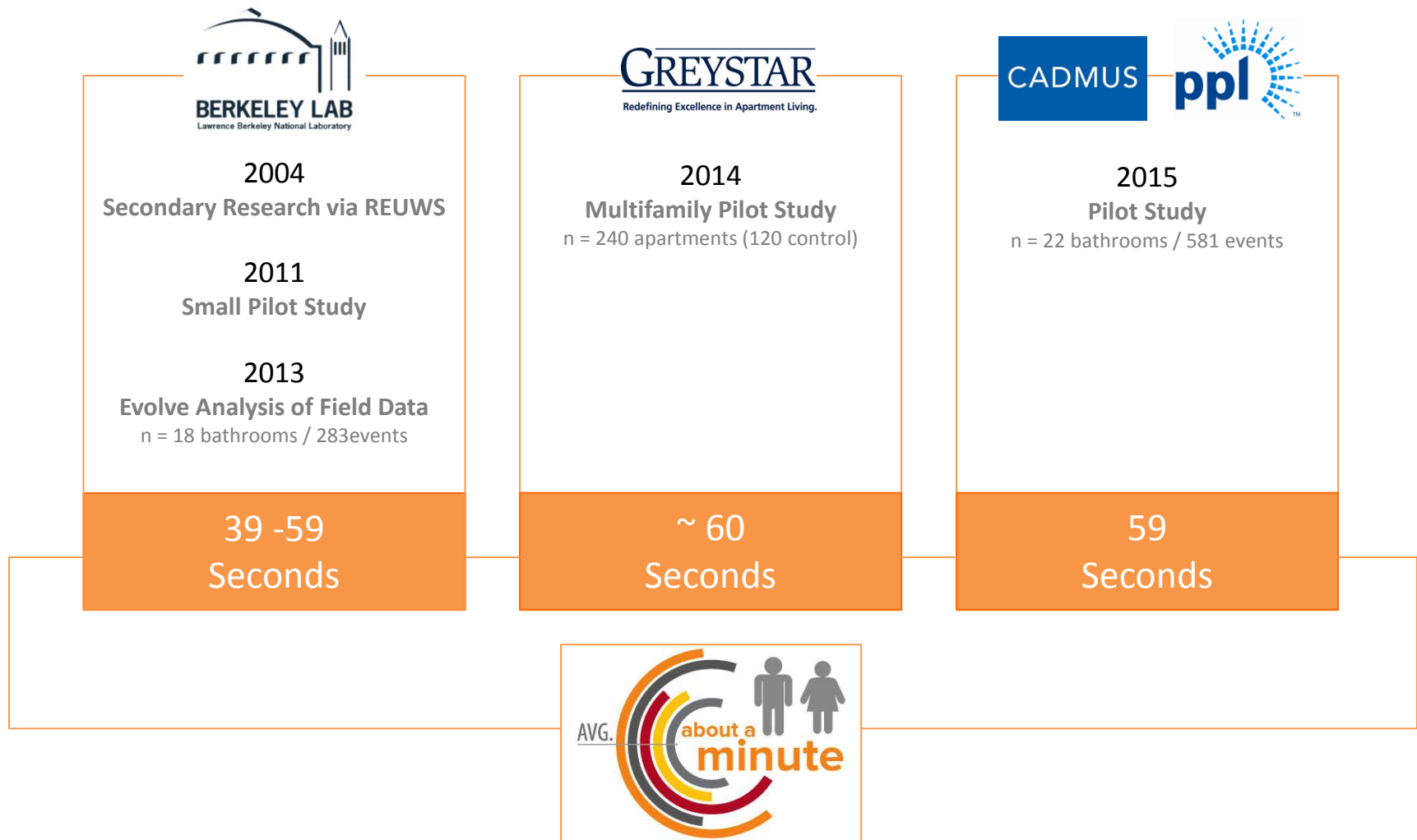
Anatomy Of A Shower Warm-Up – Lawrence Berkley National Lab Data Analysis

SOURCE: 2014 Disaggregating Residential Shower Warm-Up Waste – An Understanding and Quantification of Behavioral Waste Based On Data From Lawrence Berkeley National Lab



Behavioral Waste Estimates From Field Research

Based on primary and secondary research from LBNL as well as 3rd party pilot studies Behavioral Waste is approximately 1 minute per shower taken.



What If Californian's Eliminated Behavioral Waste?

26 Billion
Gallons Water/Year
in California



11.5 years
of drinking water for
everyone in CA
(58 gallons person/year)

+

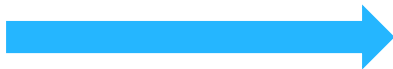
100 Million
Therms/Year
in California



185k cars
gasoline fueled
for a year
(13K miles per year)

or

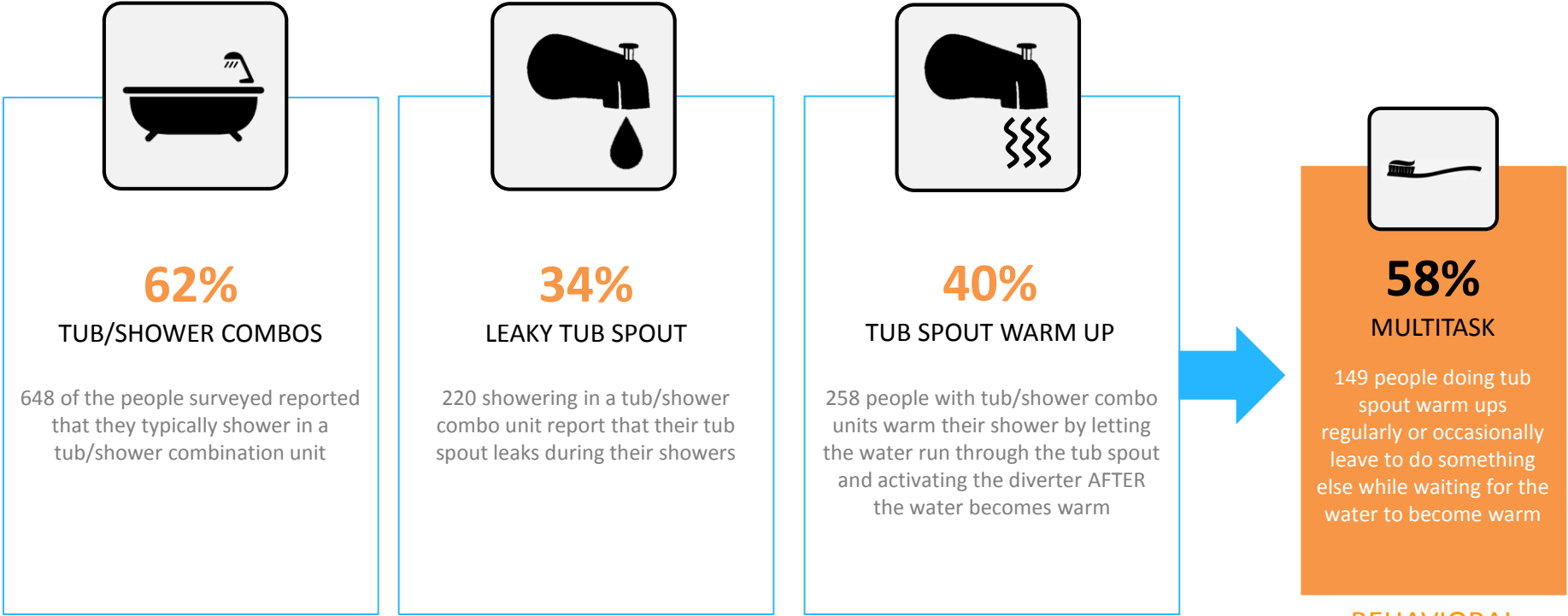
3 Billion
kWh/Year
in California



260K homes
electricity consumption
for a year
(11,320 kWh home/year)

Shower Warm-Up Research - Survey Results

The majority of bathrooms have tub/shower combos, the tub spouts leak and multitasking while water is running out of the tub spout is common place.



multitasking during tub spout warm up causes significant waste
Tub Spouts Flow At 4 to 7 Gallons Per Minute

Solution – Employ A Systematic Approach

enjoy more

PROMOTE CONVENIENCE

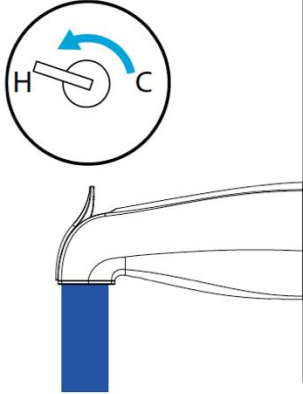
GAIN EFFICIENCY

use less™



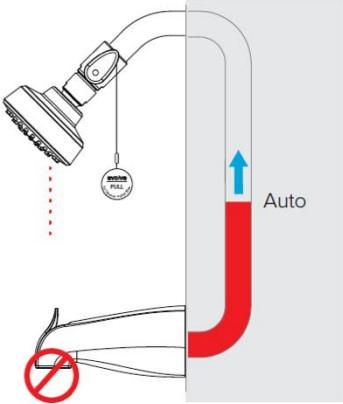
Auto-Diverting Tub Spout System

Auto-Diverting Tub Spout System – How It Works



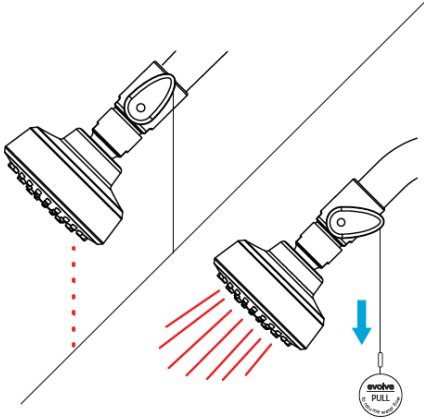
1 Turn on water
Cold water exits spout

Continue with your typical routine - the things you do while waiting for the shower to become warm.



2 Auto diverts when hot water arrives

Upon reaching 95°F, ShowerStart Technology automatically diverts flow. Showerhead trickles - saving hot water until you get in.



3 Pull cord when ready to get in

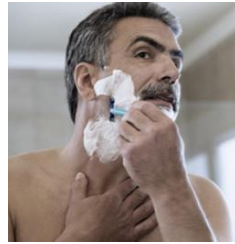
Pull the cord to activate normal flow and begin showering.

4 Key Hot Water Wastes In Tub/Shower System



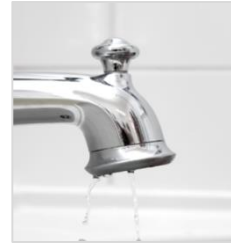
STRUCTURAL WASTE

residual cold water
in line that must be
purged before hot
water can arrive



BEHAVIORAL WASTE

hot water running
down shower drain
before bather
begins showering



TUB SPOUT LEAK

water exiting tub
spout while
bather is
showering



HIGH-EFFICIENCY SHOWER

water used
after bather
enters and is
showering

DURING WARM-UP

WHILE SHOWERING

Auto-Diverting Tub Spout System – Thermal Imaging



TTS Thermal Imaging.mov

Enjoy More ...

Wait Less / Waste Less

Because the system warms your shower by first running water through the tub spout, you'll greatly reduce warm-up waits.

Not only will your hot water arrive up to 2X faster, but the increased velocity actually decreases the volume of cold water that must be purged before hot water arrives.

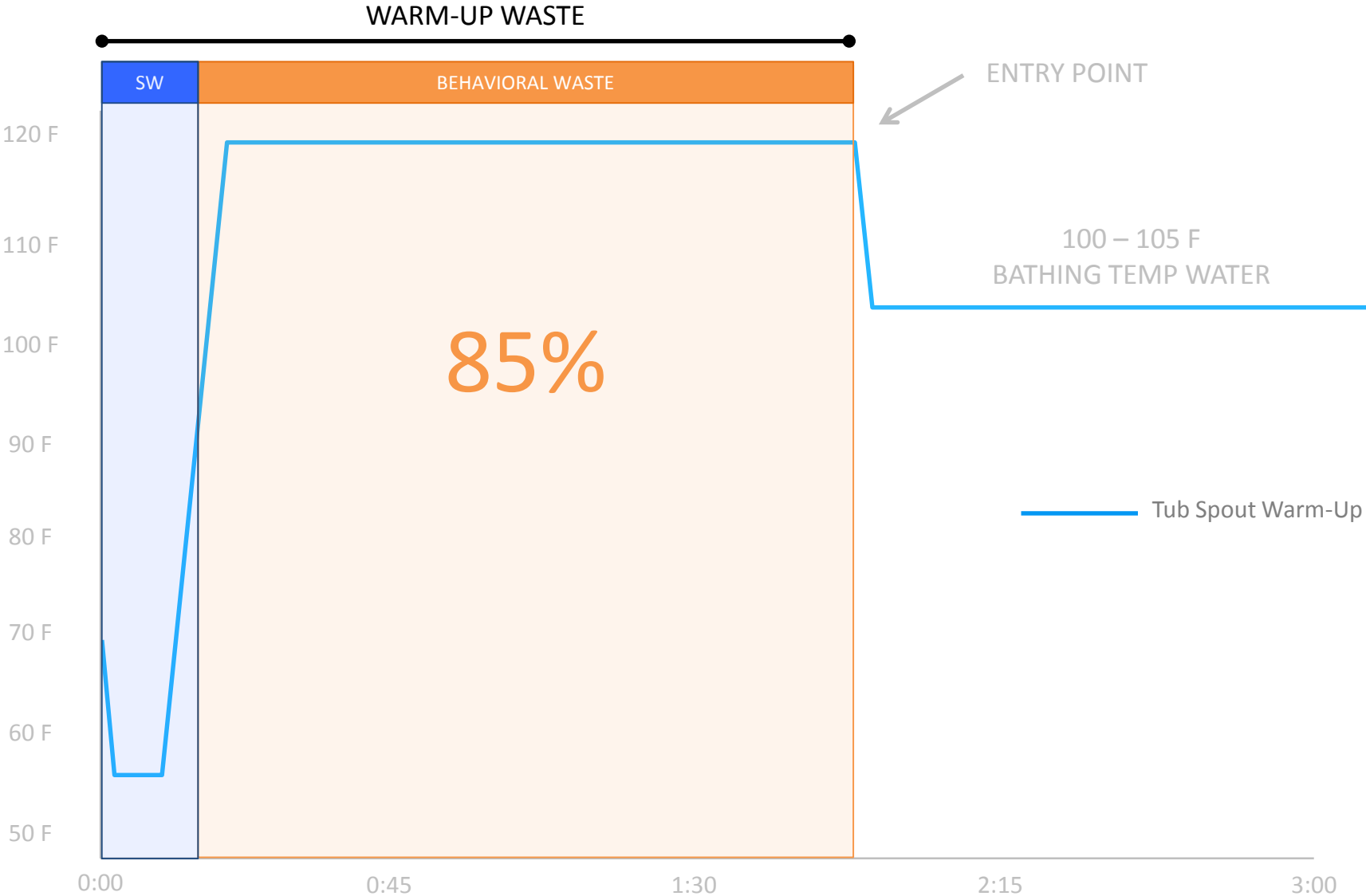
2X
faster
hot water delivery

- ✓ Less Waiting
- ✓ Saves Water
- ✓ More Convenient

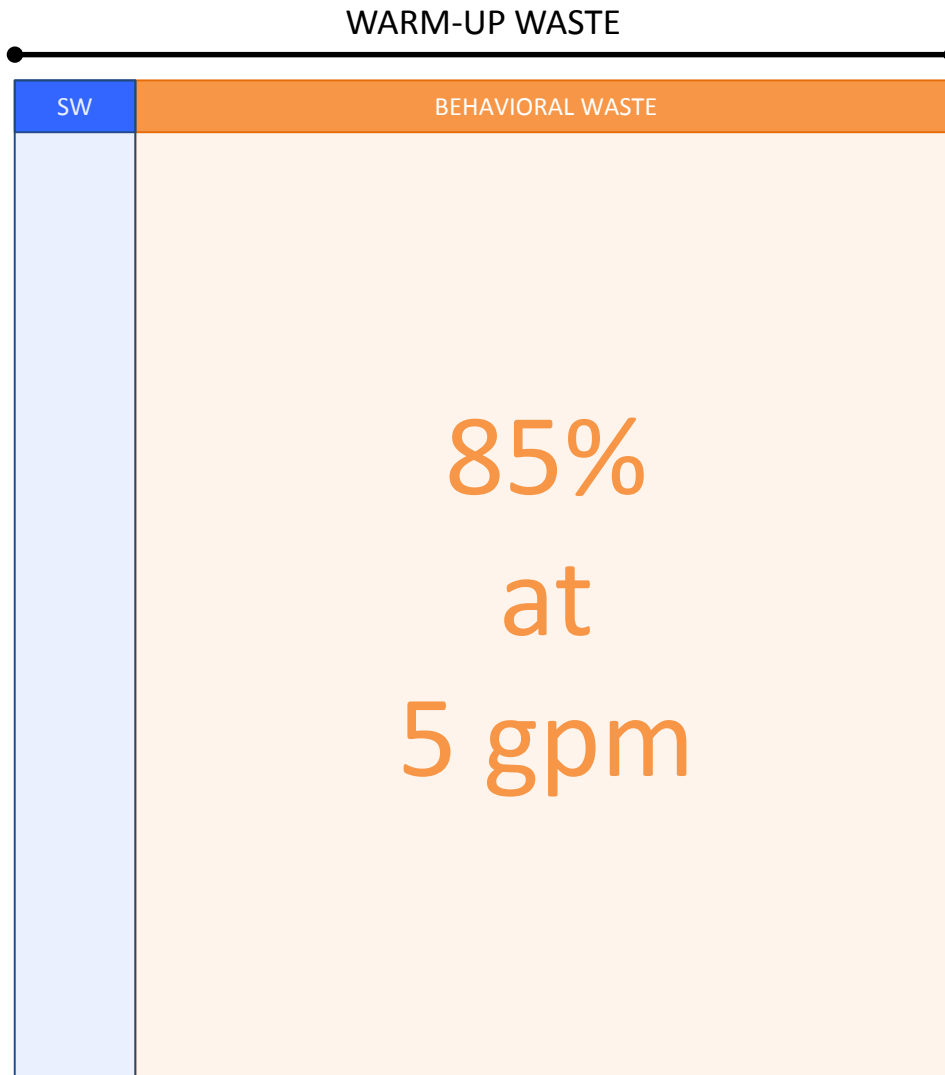


— typical warmup time
— Auto-Diverting Tub Spout System warmup time

Anatomy Of A Tub Spout Warm-Up - Example



A Dramatic Impact On Eliminating Warm-Up Waste



Eliminates A Much Larger
Percentage of
Warm-Up Waste
At A Much Higher Flow Rate

5 gpm vs. 2.5 gpm

Enjoy More ...



A Welcome Diversion

By automatically sending hot water to the showerhead once it arrives the system eliminates waiting, waiting, waiting for the right time to pull the diverter pin. This tub spout has the clout to know when the water's hot and magically sends it on its way.

Enjoy More ...

Stop Looking At Leaks

Ever look down while showering and see water running out of the tub spout? That's a leak and, on average, it wastes nearly a gallon of hot water per minute. Our tub spout's design prevents tub spout leaks and directs hot water where you'll want it most – your showerhead.



Tub Spouts Frequently Leak – And Waste A Lot Of Hot Water



- Surveyed approximately 130 apartments and houses, with a total of 120 combination bath/shower units with diverters
- Found 34% of the diverters leaked more than 0.1 gpm.
- Average of those leaks was .8 gpm.



> 5 gal

WASTED
if tub spout is leaking

> 2 gal

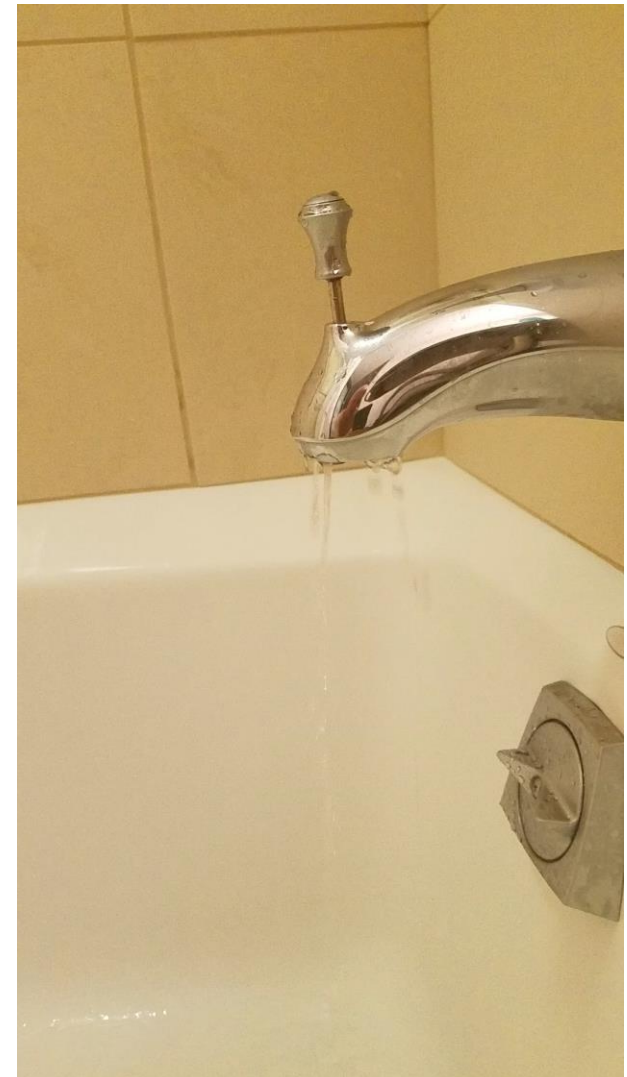
WASTED
overall average



AVG.
SAVINGS

1,500 gallons per household / year

Tub Spouts Frequently Leak – And Waste A Lot Of Hot Water



Benefits – The Trickle Tells



The Trickle Tells

Because it trickles by default, the system's showerhead lets you know the moment your shower's warm – without wasting hot water while you're away. When you're ready to step into the shower, simply pull the showerhead's cord to begin normal flow and start showering.

Unique Water & Energy Savings Opportunities



.4 GALLONS
SAVED

Structural Waste



5.1 GALLONS
SAVED

Behavioral Waste



4.5
GALLONS
SAVED

Anti-Leak Tub Spout



UP TO 5.0
GALLONS
SAVED

High-efficiency
Shower head

SAVE UP TO 15 GALLONS SAVED PER SHOWER

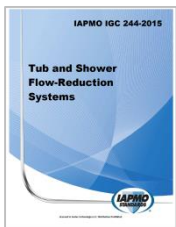
SOURCE: Calculating Savings For Auto-Diverting Tub Spout System With ShowerStart TSV, December 2015

WaterSense & Uniform Plumbing Code Compliant



EPA
WaterSense

SYSTEM LEVEL



IAPMO IGC 244-X
Uniform Plumbing Code

SHOWERHEAD

Tub Spout Leaks



WHY DOES MY

TUB

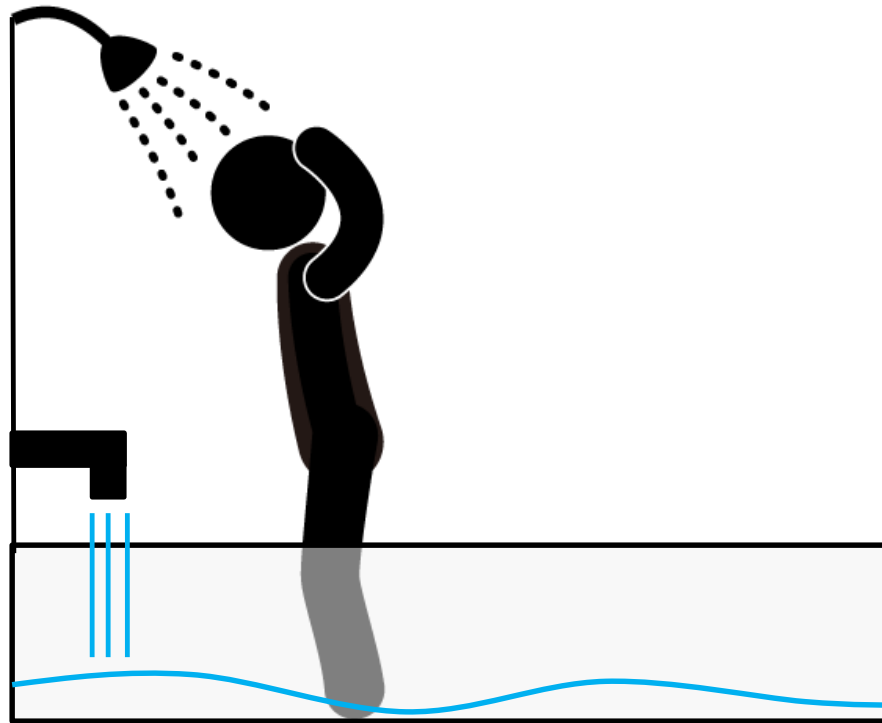
KEEP RUNNING

— WHEN I —

TURN ON MY

SHOWER?

WaterSense Is Creating A Tub spout Standard But It's A Problem That's Hard To Message & A Problem Consumers Don't Readily Recognize



How do you know when your feet are too wet
when you're showering?

Thank You

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