

look for



# Advanced Water Efficiency: What's in the Pipeline?



Jonah Schein, WaterSense- US EPA  
October, 2017



# Agenda



- Innovation in Water
  - Why do we move so slow sometimes?
- The Net Blue Initiative
- Water Ratings, What we Can Do With a Little Data!
- The EPA Water Score for Multifamily Properties
- Questions



# A Brief History of the Toilet



John  
Harrington  
Invents the  
flushing toilet

1596

Plumbing codes  
mostly  
standardize flush  
volumes around  
3.5 GPF

1860s

1980

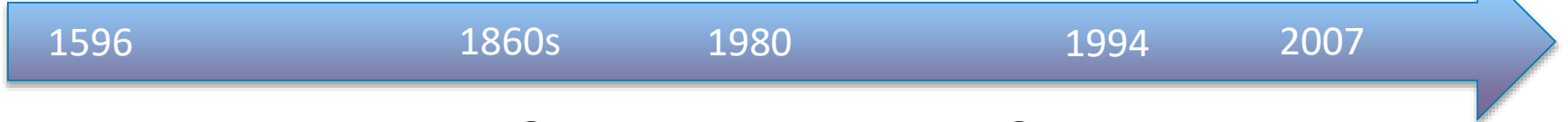
Thomas Crapper  
modernizes the  
plumbing fixture  
industry

Congress  
sets max  
flush volume  
at 1.6 GPF

1994

WaterSense  
begins labelling  
toilets at 1.28  
GPF

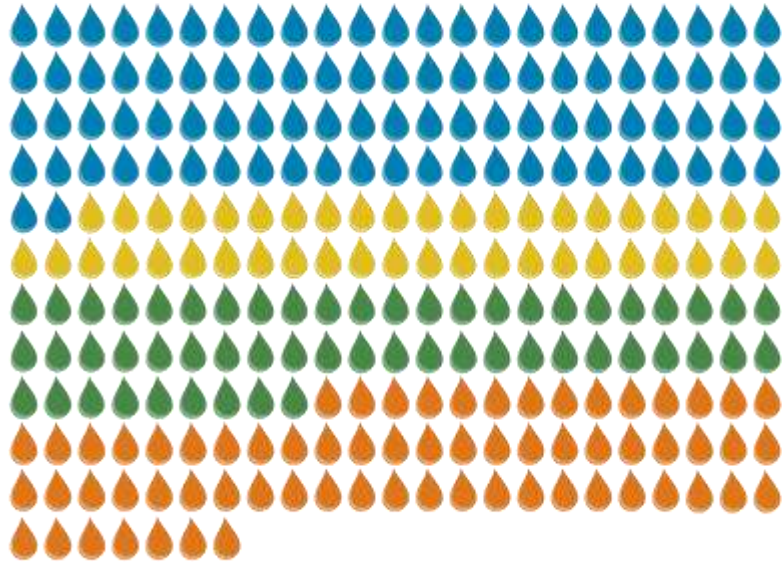
2007





# WaterSense Savings

**2.1 trillion** gallons of water saved since 2006!



2007 - 2013  
2014  
2015  
2016

**534 billion** gallons saved in 2016

**WaterSense** has helped **reduce** the amount of **energy needed** to heat, pump, and treat water by

**284 billion**

**kilowatt hours,**

enough to supply a year's worth of power to more than



**...consumers save**

**\$43.6 billion**

in water and energy bills

# What's the Average Efficiency of Toilets Today?



- 2.5 gallons per flush (GPF)
  - In the second Residential End Uses of Water Study (REUWS) published in 2016, the average toilet in use was about 2.5 GPF
- Even in states with histories of extensive retrofit projects, it's estimated that 20% of toilets in use are inefficient (more than 3.5 GPD)

# Water Provides the Classic Paradox

Innovation requires market drivers, and the “market” for water is complicated.

Diamonds are functionally worthless, but extremely valuable.



Adam Smith

Water is invaluable, but sometimes treated as if it's worthless.





# Costs & Benefits

Implementing an efficiency program has both costs and benefits for all parties involved.

## For water providers:

### Costs

- Program costs
- Foregone revenue

### Benefits

- Avoided costs (operating and even long-term capital)

## For customers:

### Costs

- Customer costs (passed on from provider)

### Benefits

- Reduced bills

# Costs & Benefits

	Providers		Customers		Total
Costs	<ul style="list-style-type: none"> <li>Program costs</li> <li>Foregone revenue</li> </ul>	-15 -40	<ul style="list-style-type: none"> <li>Customer costs</li> </ul>	-10	-65
Benefits	<ul style="list-style-type: none"> <li>Avoided costs</li> </ul>	+50	<ul style="list-style-type: none"> <li>Reduced bills</li> </ul>	+40	+90
Net benefit		-5		+30	+25

- This yields an inefficient solution
- Eventually this inefficiency becomes difficult for our communities to bear





# THE NET BLUE INITIATIVE



# Net Blue: Water Neutral Growth

look for



- 3-year project to create a national model ordinance that can be tailored to create a customized water demand offset approach
- Partners: AWE, Environmental Law Institute, and River Network
- Funders: Scherman Foundation, Paul Johanson Foundation, and the Metropolitan Water District of Southern California
- Working with 7 partner cities to pilot approach



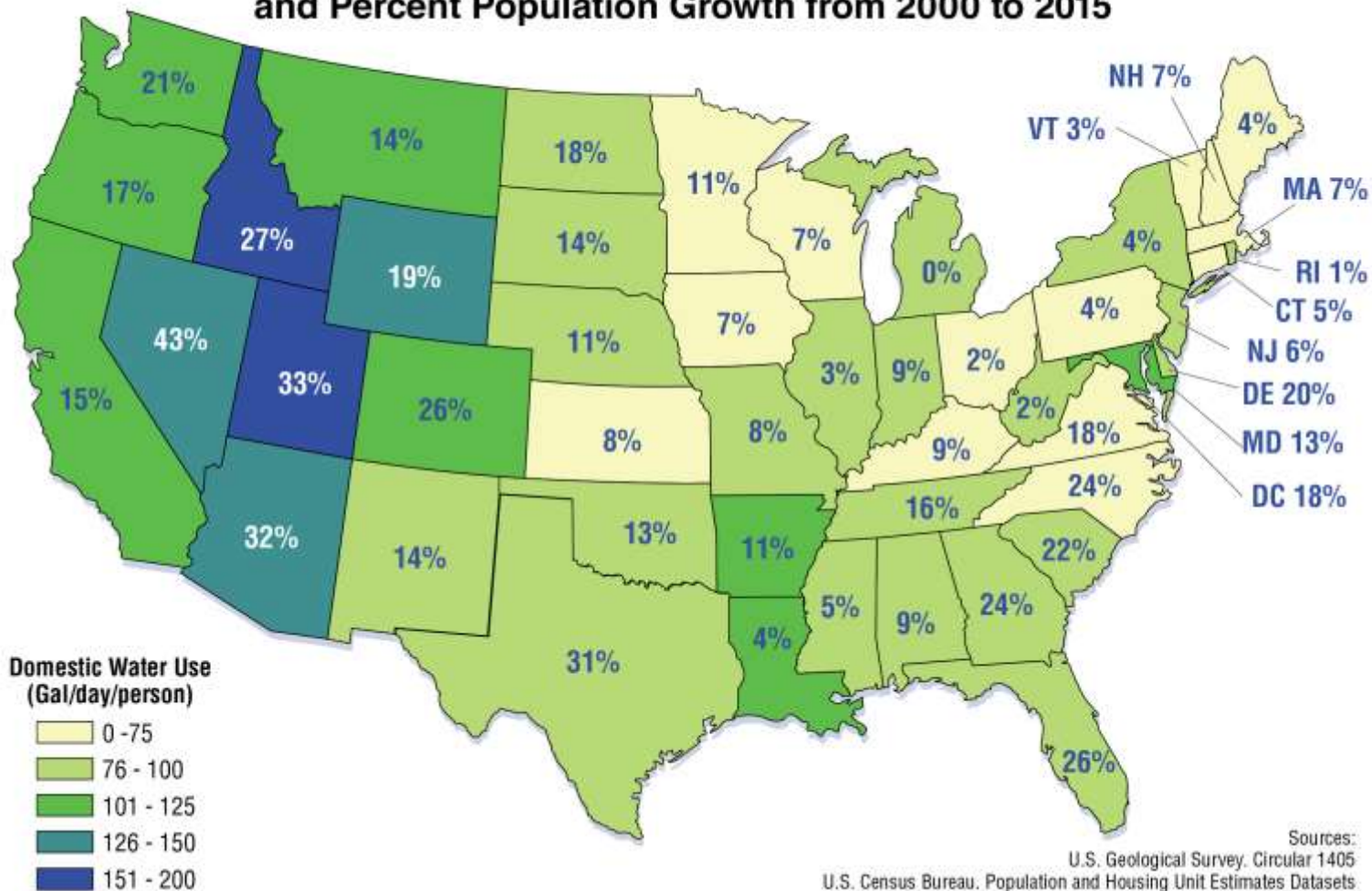
# The Problem

- Many cities in North America are already challenged to meet their customer demands for water
- Growing population and certain economic growth will place even more pressure in arid and water short areas
- As drought and water shortages occur, residents raise the issue about available water for new development when they are being restricted



# The Problem

**Domestic Water Use in Gallons per Day per Person and Percent Population Growth from 2000 to 2015**



Sources:  
 U.S. Geological Survey, Circular 1405  
 U.S. Census Bureau, Population and Housing Unit Estimates Datasets



# The Net Blue Solution



- Communities can't grow without available water resource
- Can allow growth by neutralizing the impact across the system
  - Avoids increasing system-wide water consumption across a community or a water supply service area
- Can be a combination of on-site water efficiency and off-site water efficiency
- Can reduce or completely eliminate impact of new development on water supply
- Can help avoid building moratoriums in resource constrained communities
- Not a new concept



# Net Blue Toolkit

1. Model Ordinance
2. Model Ordinance User Guide
3. Three Ordinance Examples
4. Offset Methodology Workbook
5. Offset Methodology User Guide
6. Three Offset Examples matching the ordinance examples
7. Outreach Materials

[www.net-blue.org](http://www.net-blue.org)



**MORE TOOLS, MORE DATA,  
MORE POSSIBILITIES**



# We Are Rich With Data & Tools for Energy



- National level consumption, building, and end-use data
  - Residential Energy Consumption Survey (RECS)
  - Commercial Building Energy Consumption Survey (CBECS)
  - Short Term Energy Outlook (STEO)
  - American Housing Survey (AHS)
- Building level modeling tools
  - Commercial energy audit standards (ASHRAE)
  - Energy modelling tools
    - Home Energy Rating System (HERS)
    - Energy Rating Index
    - BPI
    - Title 24 modelling



# What If?

What if we began to achieve parity between tools that help us understand and manage energy and water use in homes and buildings?

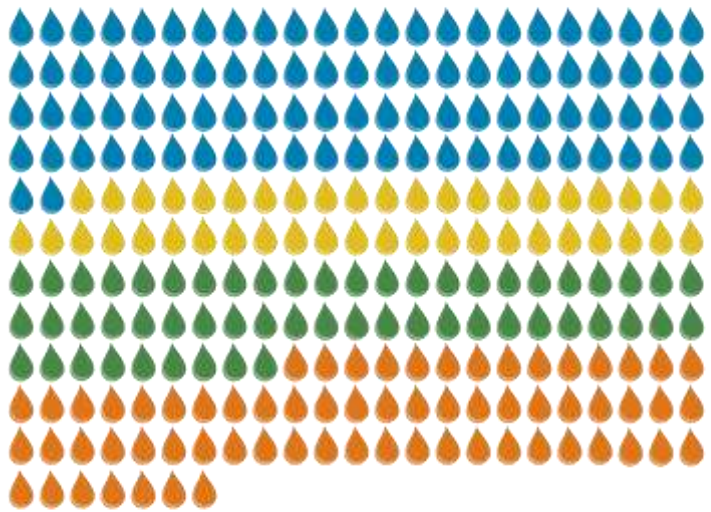




# We Know Saving Water Saves Energy



**2.1 trillion** gallons of water saved since 2006!



2007 - 2013  
2014  
2015  
2016

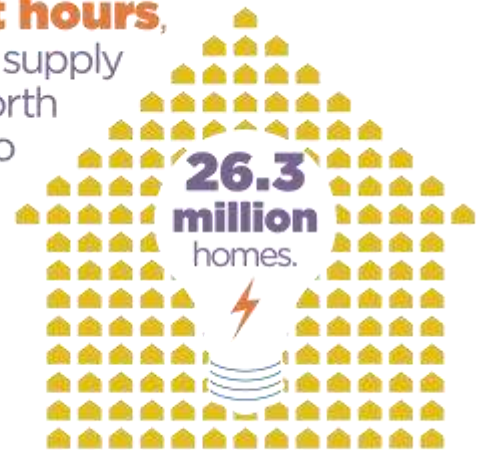
**534 billion** gallons saved in 2016

That's **more than** the amount of water used by **all** U.S. households **for 75 days!**

**WaterSense** has helped **reduce** the amount of **energy needed** to heat, pump, and treat water by

**284 billion kilowatt hours,**

enough to supply a year's worth of power to more than



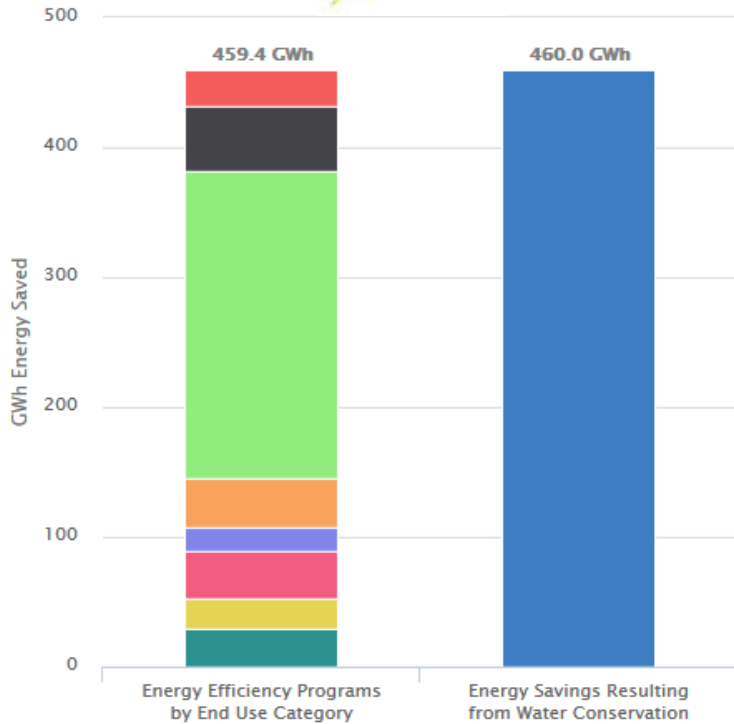
**26.3 million** homes.

# How Do We Talk About Water and Energy?

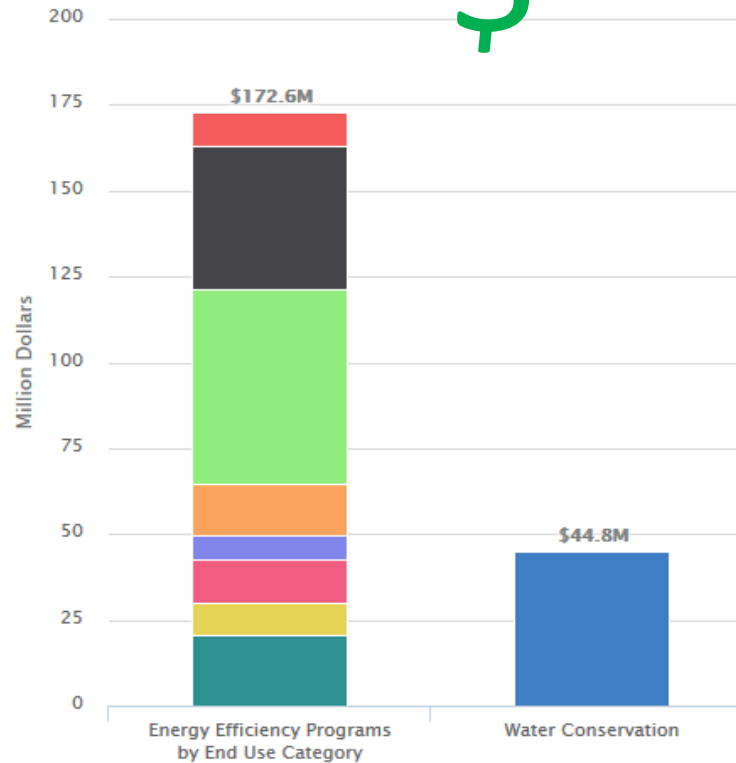
- Every gallon of water has an energy “footprint”
- Moving, treating, and heating water uses energy
- Energy used by the Water sector
  - Nationally – almost 70 billion kWh/ year
- California - 19% of electricity and more than 30% of non-power generation natural gas use is for water sector activities
  - Most of this occurs at the point of end-use



# UC Davis Analysis of California EO B-29-15



- Appliance
- HVAC
- Indoor Lighting
- Other
- Outdoor Lighting
- Process
- Refrigeration
- Whole Building
- Water Conservation



- Appliance
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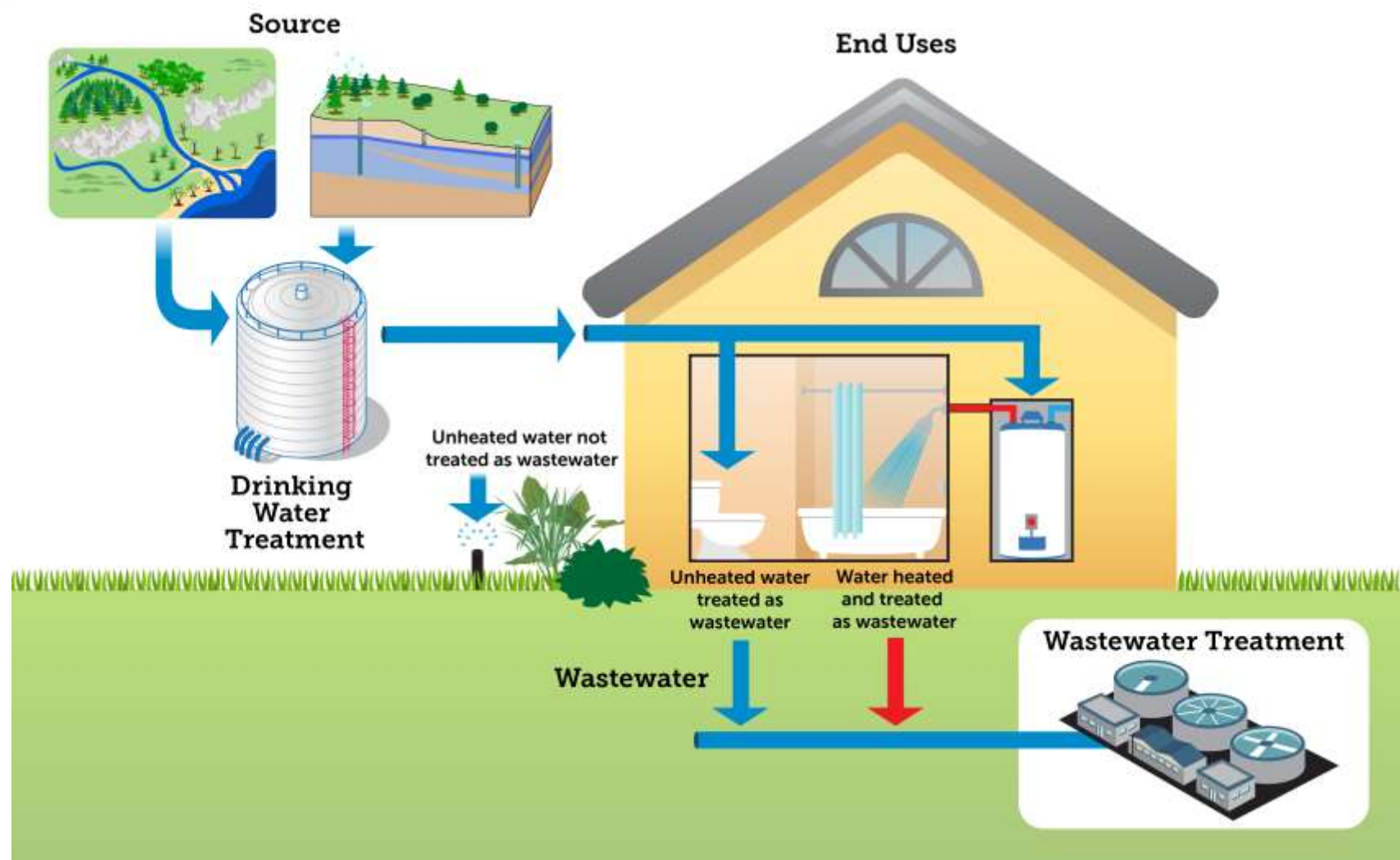
# Cadanera Case Study

- Cadanera is the community that saves 1.4 million gallons of energy a year
- Located in West Covina, CA





# What Influences the Energy Profile of Water?





# Key Data Points: Supply

## Energy Used to Deliver a Specific Source of Water

The California Public Utility Commission (CPUC) reports the energy intensity of different water supply sources in the state

- Tells us how energy intensive water from different sources is

## Where the Water Used in a Specific Location Comes From

The California Department of Water Resources (DWR) requires water providers to report their sources as part of an Urban Water Management Plan (UWMP)

- Tells us what portion of a community's water comes from different locations/source



# Local Water Use Profile



Energy used for various sources of water used locally (kWh/AF)

Source	Extraction/ Conveyance	Treatment	Distribution	Total Energy
Groundwater	576	3	163	<b>742</b>
Recycled	0	521	163	<b>684</b>
Colorado River Aqueduct	2,500	144	163	<b>2,807</b>
State Water Project	3,214	144	163	<b>3,521</b>





# Local Water Use Profile



Source	Volume (AF/year)	Energy (total kWh/AF Delivered)
Groundwater	19,146	334
Recycled	743	12
Colorado River Aqueduct	9,831	649
State Water Project	12,823	1,061
<b>Total</b>	<b>42,500 AF/Year</b>	<b>2,050 Average kWh/AF Delivered</b>



# Water Rating Systems

Energy ratings are common in the market place:

- More than 200,000 homes a year receive a HERS rating
- Title 24 performance modelling

The building industry shows a strong preference for performance modelling over prescriptive requirements

- Title 24 compliance
- ENERGY STAR Certified Homes performance vs. prescriptive paths

Homes have not been rated for water due to:

- Lack of available data, tools, and resources
- WaterSense labeled homes were launched in 2009 using a combination of prescriptive, performance, and professional requirements



# Water Rating Systems



## Water Efficiency Rating System (WERS)

- Developed originally by the Sante Fe Home Builders Associations
- Being implemented by the Green Building Coalition

## RESNET's Water Efficiency Rating Index (WERI)

- Developed by RESNET
- Designed to leverage the existing HERS infrastructure
- Currently being proposed as an American National Standard (ANSI standard)

look for



# Cadanera Community

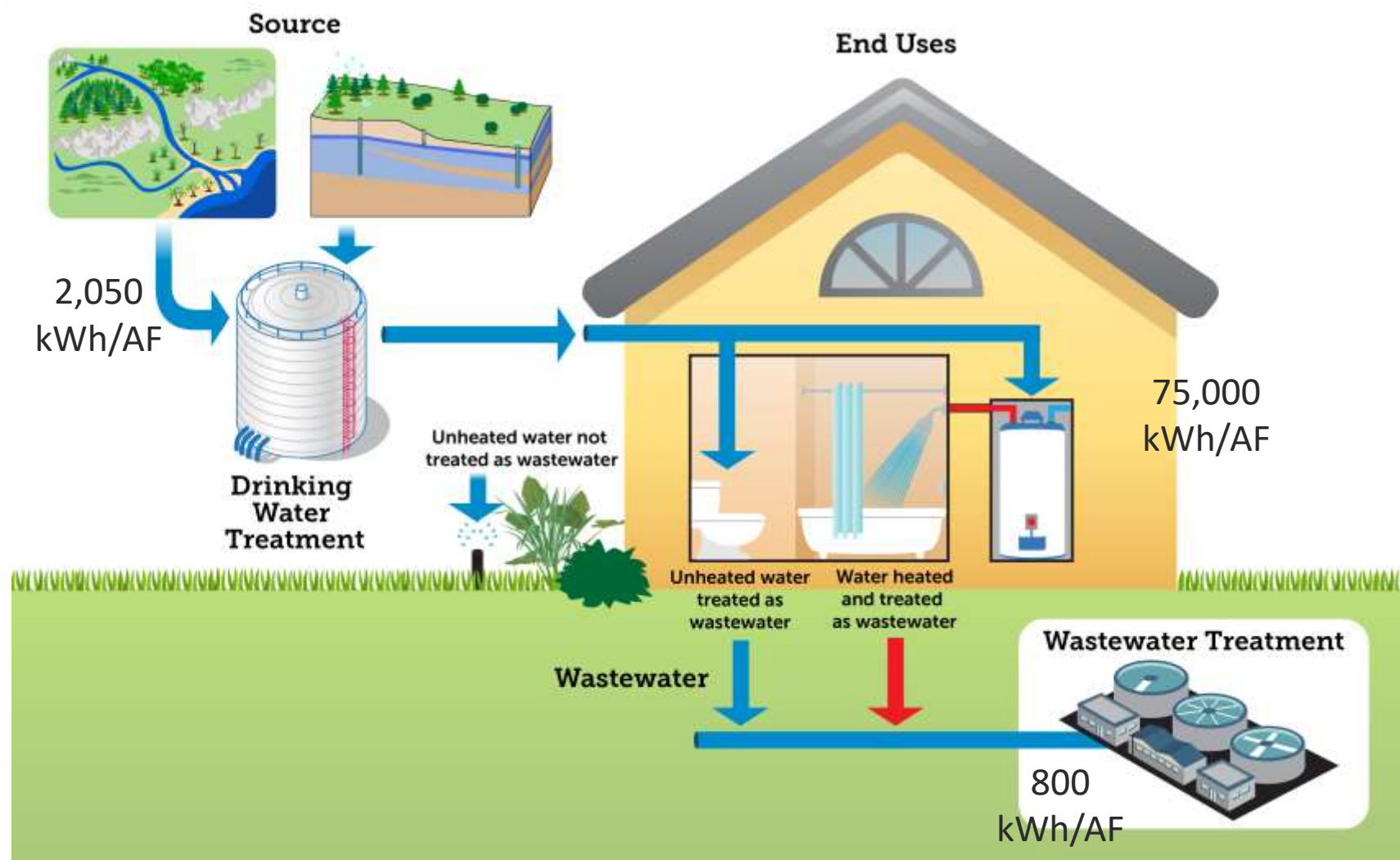


- Infill community built by KB Home
- Located in West Covina, CA
  - LA county
- 45 WaterSense labeled/ENERGY STAR Certified homes built in 2015
- Instantaneous gas water heater (.67 EF)
- Typical home includes
  - 3 to 4 bedrooms
  - 2,000 to 2,500 ft<sup>2</sup>
  - 2 floors
  - WaterSense labeled products
  - High efficiency appliances
  - Roughly 4,500 ft<sup>2</sup> lots with efficient irrigation and drought tolerant landscaping





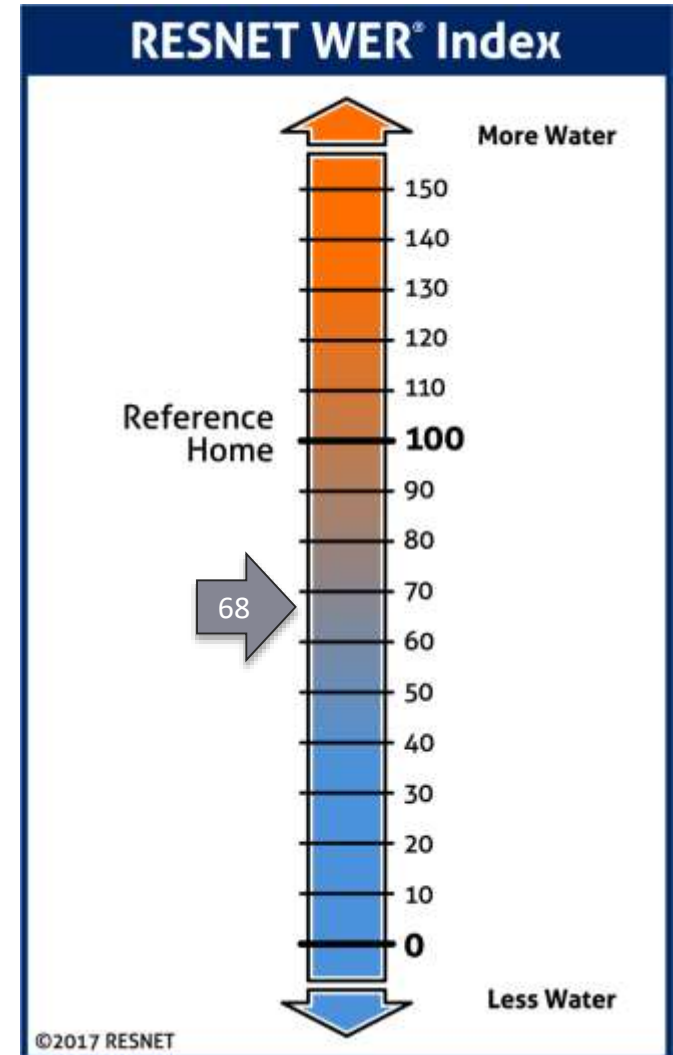
# What Influences the Energy Profile of Water?



# Water Efficiency Rating Index

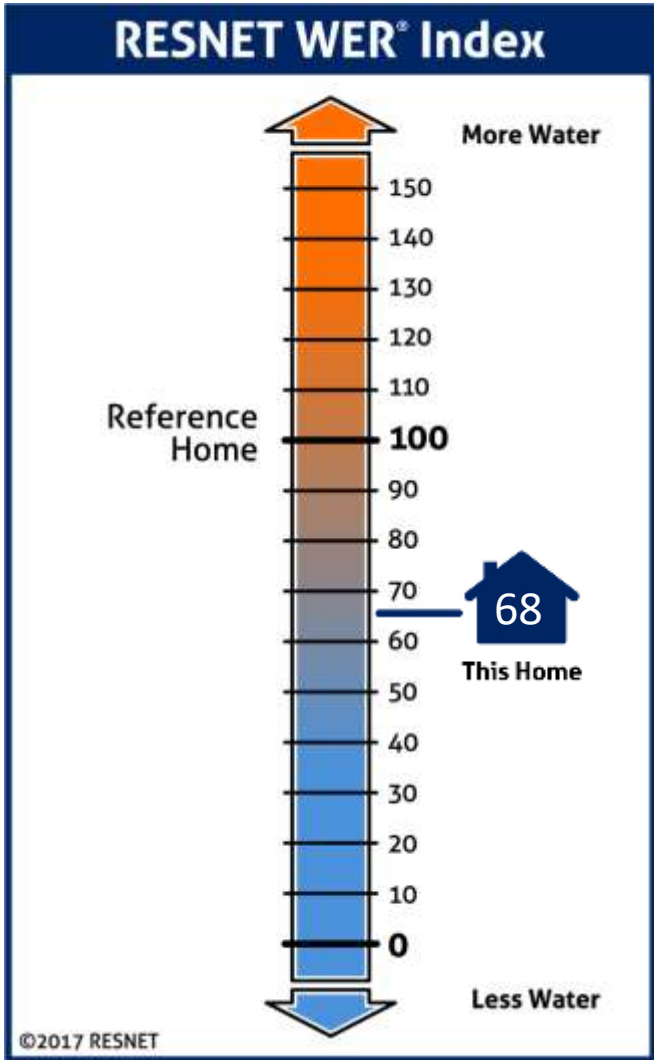
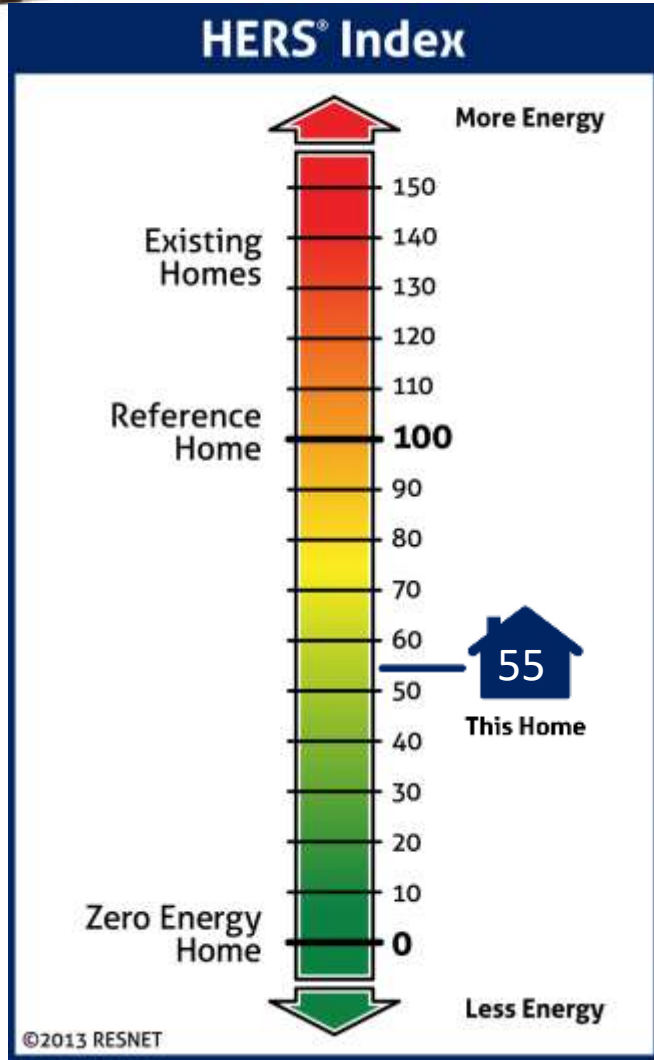
The Water Efficiency Rating Index (WERI)

- Similar to the widely used HERS index
- Predicts water use in homes under standard operating conditions
  - Quantifies impact of different water efficiency measures indoors and outdoors
  - Isolates values for specific end uses
- The WER Index is currently in draft and has just finished a public comment period





# Water Efficiency Rating Index





# WaterSense Labeled Homes



All homes in Cadanera are WaterSense Labeled and include:

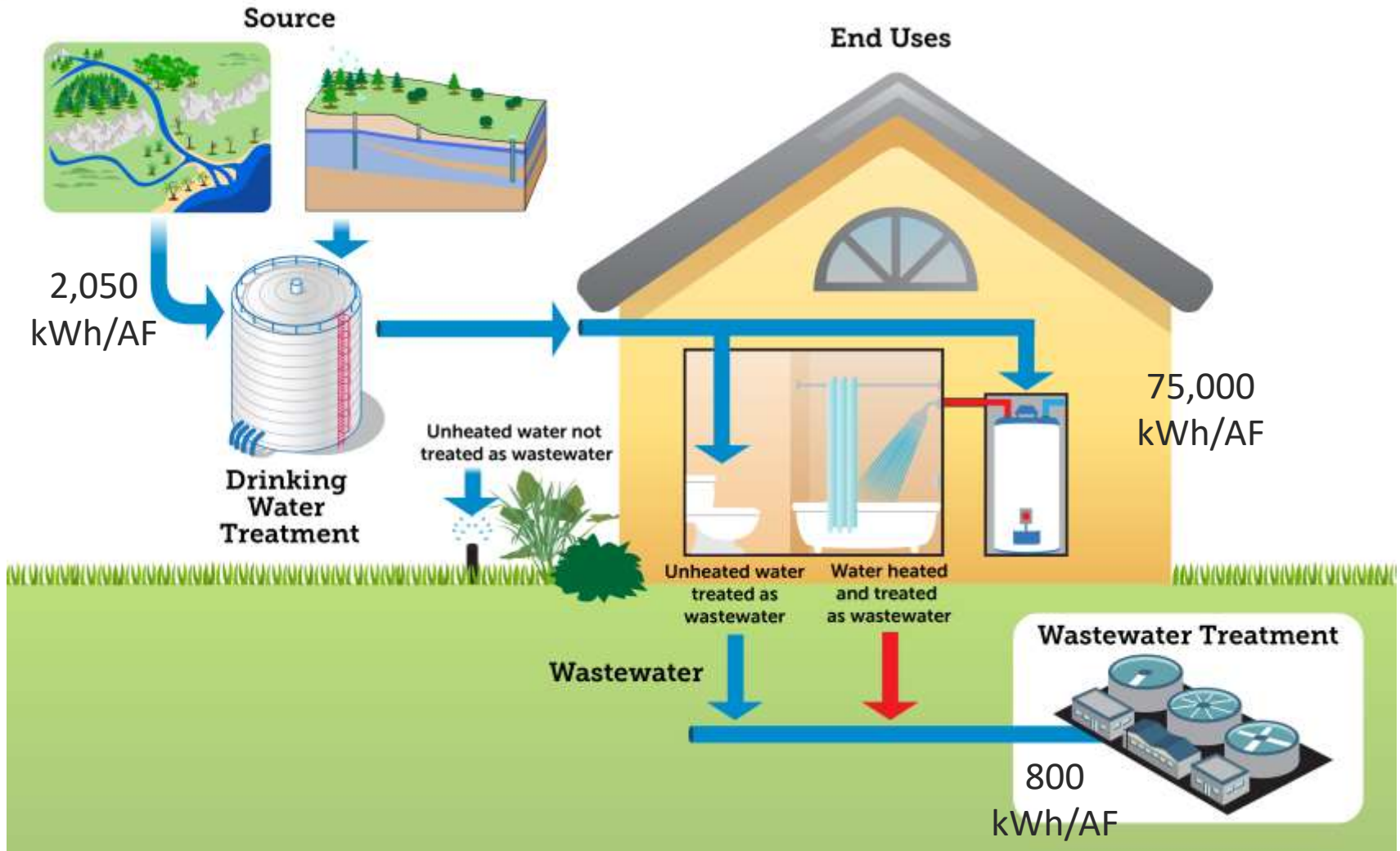
- WaterSense Labeled products
- High efficiency appliances
- Efficient hot water distribution
- Advanced irrigation technology
- Third party certification





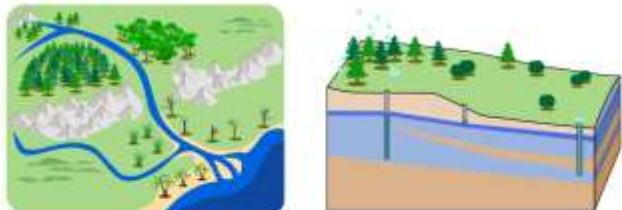


# What Influences the Energy Profile of Water?



# What Influences the Energy Profile of Water?

## Source



## End Uses

### Indoor Hot Water Use

Deliver & Treatment: 2,050 kWh/AF +  
 Heating: 75,000 kWh/AF +  
 Wastewater Treatment: 800 kWh/AF  
**=77,050 kWh/AF Total**



Drinking  
Water  
Treatment

Unheated water not  
treated as wastewater

### Indoor Cold Water Use

Deliver & Treatment: 2,050  
kWh/AF +  
 Wastewater Treatment: 800  
kWh/AF  
**= 2,850 kWh/AF Total**

### Outdoor Water Use

Deliver & Treatment:  
 2,050 kWh/AF  
**= 2,050 kWh/AF Total**

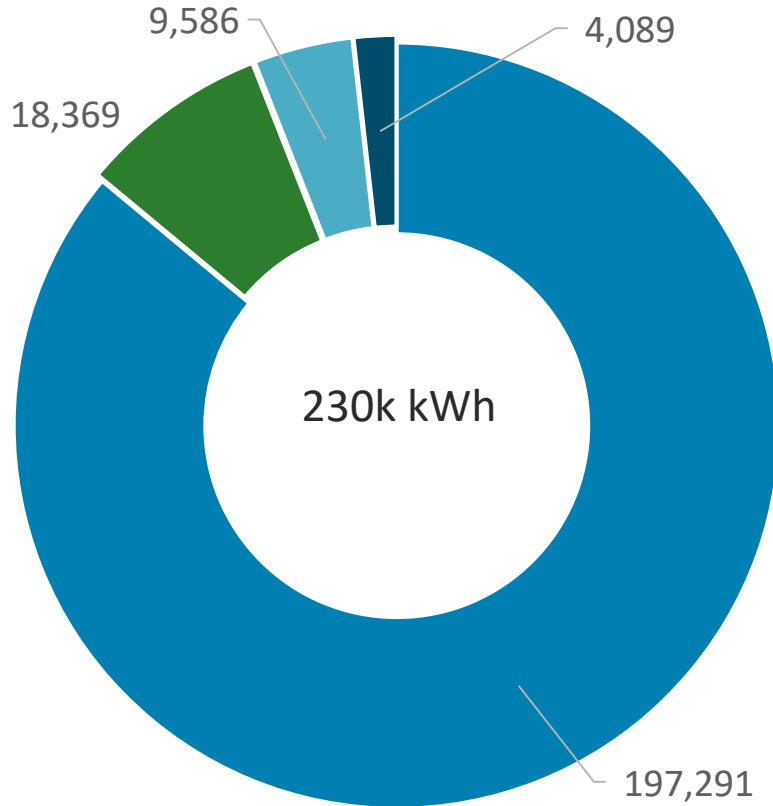
### Water Treatment



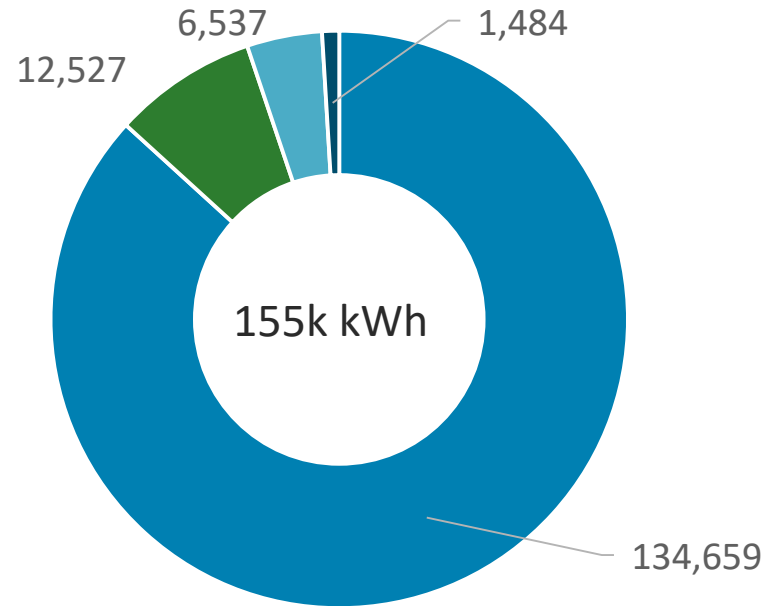
# Annual Energy Used for Water by Cadanera



Typical



Cadanera



■ End User

■ State/Federal Projects

■ Local IOUs

■ Wastewater

# Toilets

## Key facts:

- WaterSense labeled toilets
  - Use 1.28 gpf
  - Are third-party certified for efficiency and performance
- Assumes an average occupancy of close to 3



## Where do we use energy?



Treatment, conveyance

Water heating

Wastewater



# Showerheads

## Key facts:

- WaterSense labeled showerheads
  - Use 1.75 gpm
  - Are third-party certified for efficiency and performance
- Assumes an average occupancy of close to 3
- Based on Southern California climate



## Where do we use energy?

- Treatment, conveyance
- Water heating
- Wastewater





# Why Showers Matter?

- Large user of water and energy in a home
- As much as 25% of a typical shower event is wasted through the warm up process
  - Humans are unlikely to get into a shower until it's at temperature
- Faucets on the other hand, are routinely used for draws that can't possibly result in hot water
  - In this sense we've wasted hot water in as much as we've heated water that hasn't resulted in used hot water
  - If the system is fixed though, it won't result in lower usage, just better performance

# Lavatory Faucets

## Key facts:

- WaterSense Certified
  - Maximum flowrate of 1.2
- Assumes an average occupancy of close to 3
- Based on Southern California climate



## Where do we use energy?

- Treatment, conveyance
- Water heating
- Wastewater



# Kitchen Faucets

Key facts:

- Maximum flowrate of 1.75 gpm
- Based on Southern California climate



Where do we use energy?

- Treatment, conveyance
- Water heating
- Wastewater

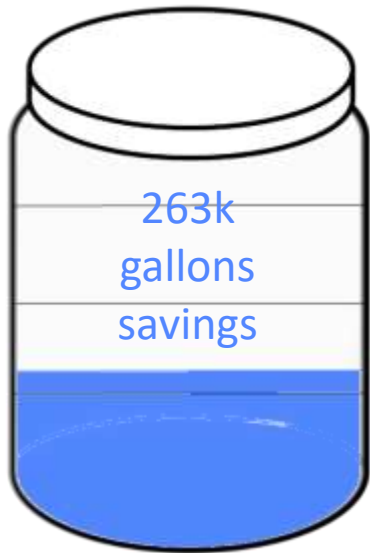




# Clotheswashers

Key facts:

- ENERGY STAR Certified
  - WF of 3.5
- Assumes an average occupancy of close to 3



Where do we use energy?

- Treatment, conveyance
- Water heating
- Wastewater



# Outdoor Water Use

## Key facts:

- Drought tolerant landscaping
  - Maximum flowrate of 1.2
- Efficient irrigation
  - WaterSense labeled Weather Based Irrigation Controller
  - Surface and sub-surface drip
- Based on Southern California climate



## Where do we use energy?

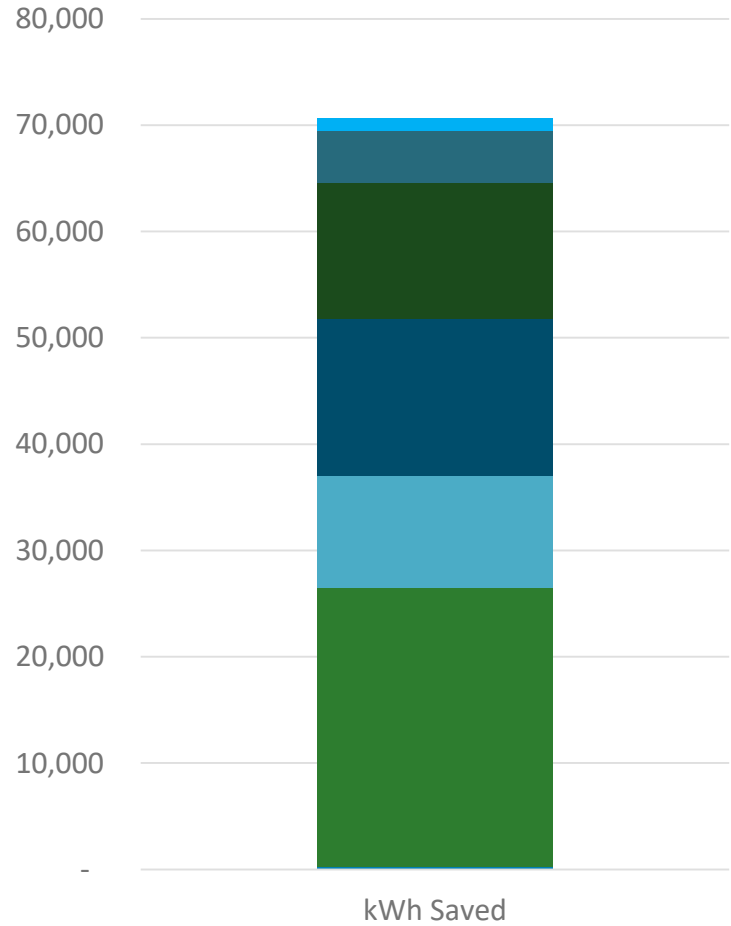
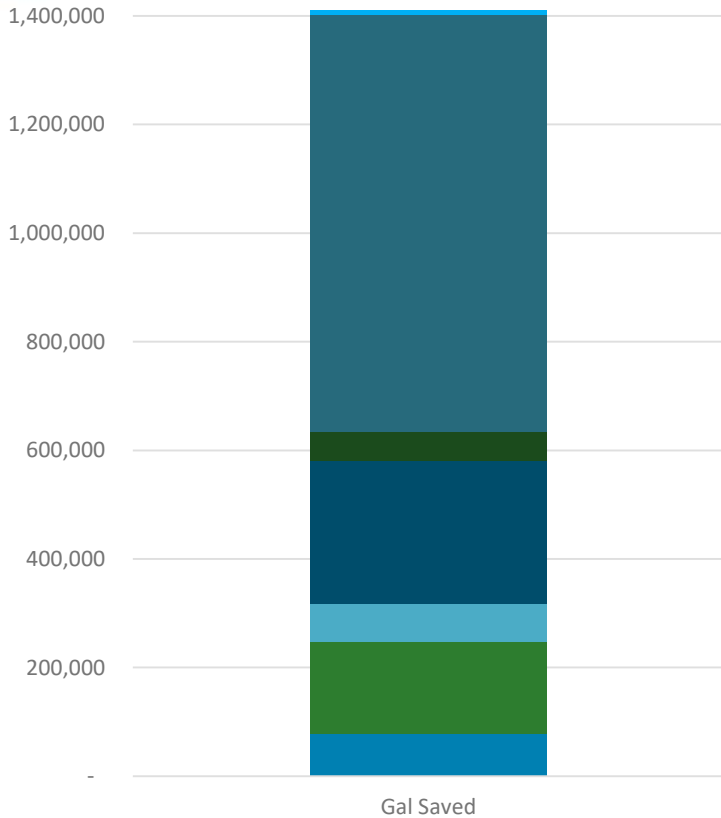
- Treatment, conveyance
- Water heating
- Wastewater





# Summary

1,600,000



- Toilets
- Showerheads
- Kitchen Faucets
- Clothes washers
- Dishwashers
- Outdoors
- Lav Faucets



# What Does That Mean?

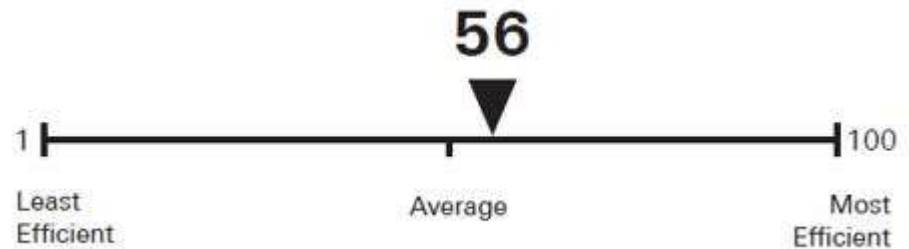


- Saving water can lead to substantial energy savings
  - But it is not a one to one equation
- The water/energy nexus is not a mystery though
  - It can be explained, monitored, and predicted in an empirically defensible way
- The largest potential impact on the water/energy nexus may be in the technology and systems that we are putting into our homes



# THE EPA WATER SCORE FOR MULTIFAMILY PROPERTIES

# EPA's 1-100 Water Score for Multifamily Properties



look for



ENERGY STAR®

# PortfolioManager®



## Management Tool

- Assess whole building energy, water, and waste consumption
- Track changes in performance over time
- Create custom reports
- Share/report data with others
- Apply for ENERGY STAR certification (*based on energy performance only*)

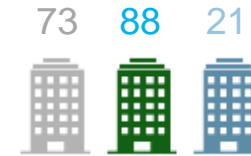
# Benchmarking allows you to:



Compare your building to a **national sample** of similar buildings



Compare your buildings of a similar type to **each other**



**Identify underperformers** in your portfolio and set priorities for the use of limited staff time and/or investment capital

**ANY building can be benchmarked.**





# Who Uses Portfolio Manager Anyway?



- 500,000+ properties benchmarking energy use
- 110,000+ properties benchmark water use
- 200,000+ properties benchmark energy/water using web services
- 31,000+ ENERGY STAR certified properties
- 40% of U.S. commercial buildings space
- Leveraged by municipal/state benchmarking requirements

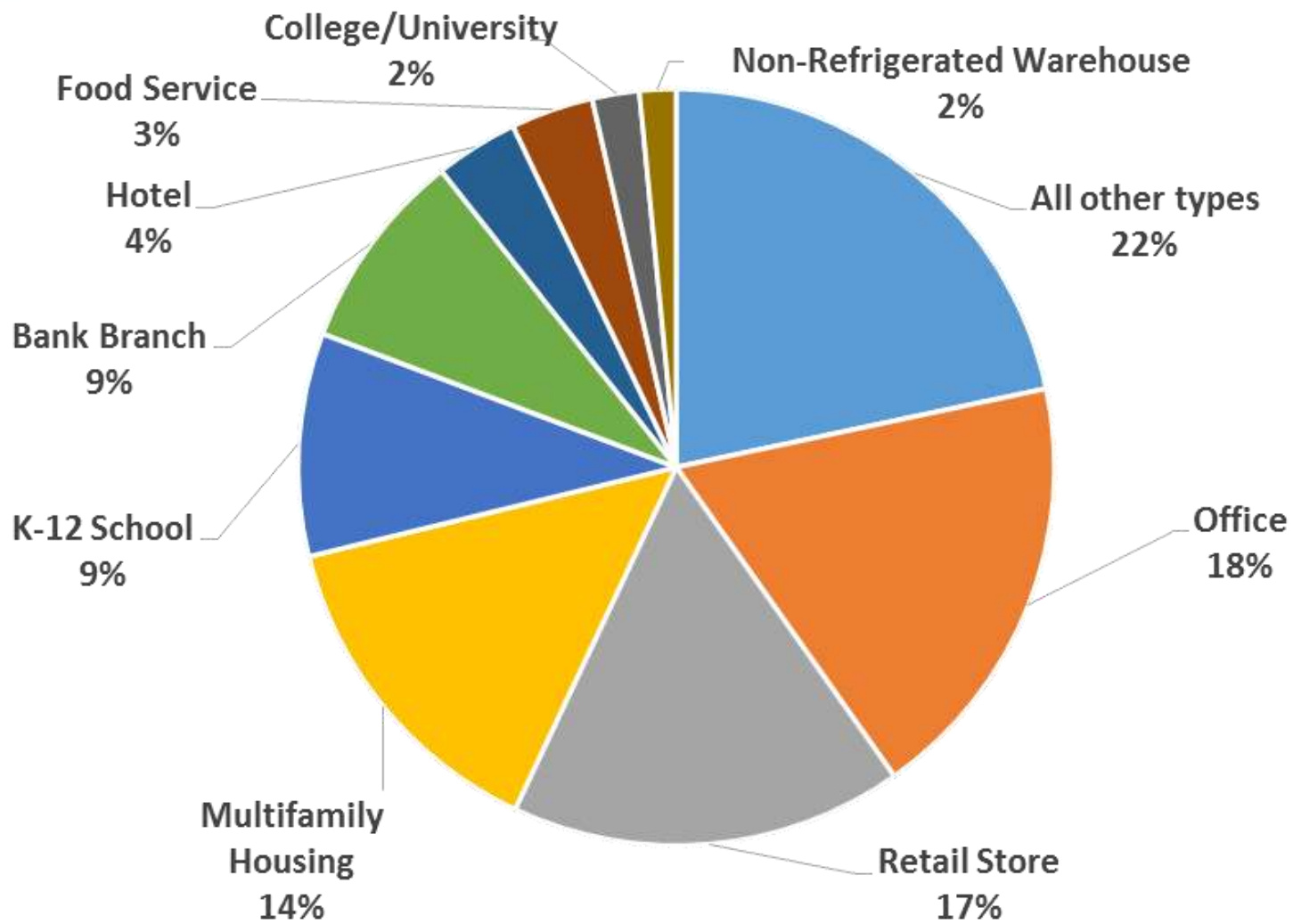


# Why Multifamily?

- **Comparatively intense users of water**
  - Portfolio Manager trends indicate that multifamily housing is among the most intense users of waters of all sectors (behind only food service, hotels, senior care facilities, and hospitals)
- **Presence in the national building stock**
  - More 33.1 million residences in the U.S. are located in multifamily buildings, roughly 25% of all housing the country
  - Distributed throughout the country
- **Availability of data**
  - Fannie Mae Multifamily Energy and Water Market Research Survey
- **Willingness of partners to participate**
  - Industry and utility partners have shown a tremendous amount of interest

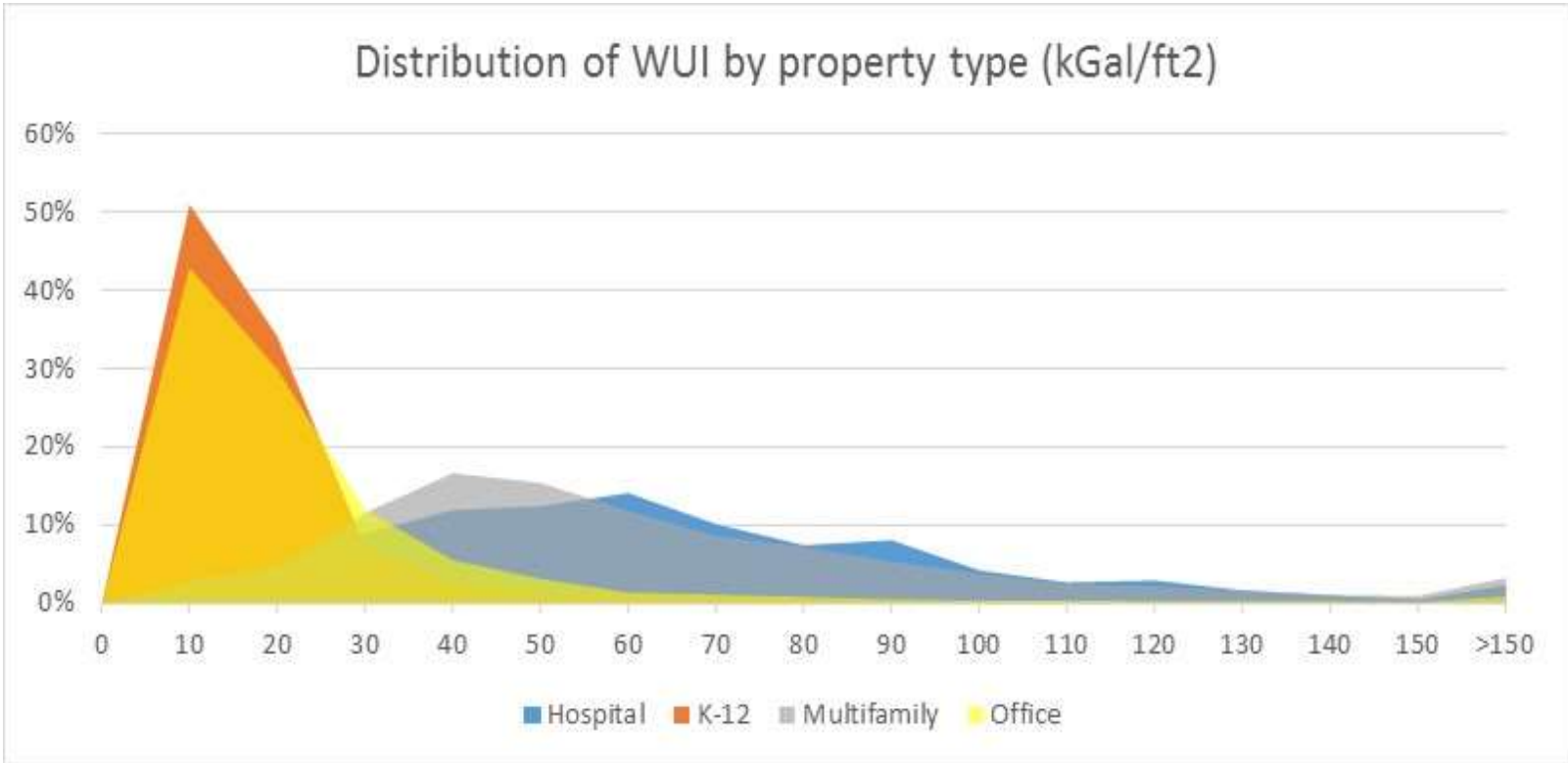


# 18,000 Multifamily Properties Are Tracking Water With Portfolio Manager





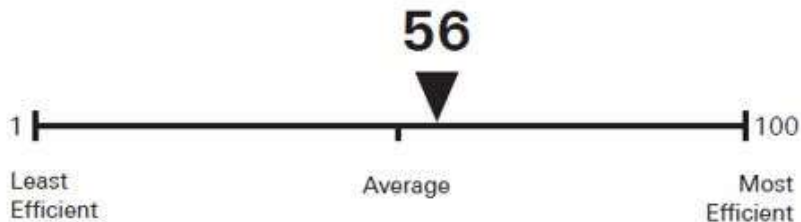
# Variability in Multifamily Properties



# EPA's 1-100 Water Score for Multifamily Buildings



What's similar to  
**ENERGY STAR** score  
approach?

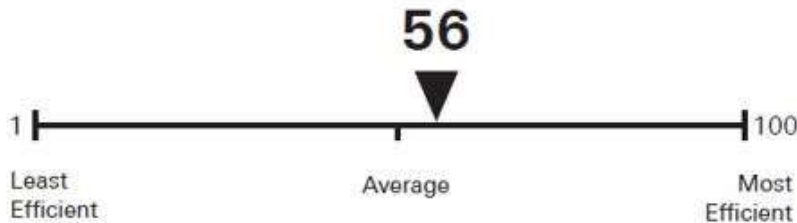


- Available for existing multifamily buildings with 20 or more units
- Approach consistent with the ENERGY STAR Score
  - Statistical evaluation of measured whole building resource (water) use
  - Normalize for weather and operation
  - Provide a meaningful peer comparison
  - Drive reductions in resource (water) use

# EPA's 1-100 Water Score for Multifamily Buildings



What's different from ENERGY STAR score approach ?



- Inputs Adjusted Appropriately for Water
  - Include all water use (indoor and outdoor)
  - Focus on water intensity:
    - Total water use divided by building square foot
  - Assess normalization factors in the context of water
    - Operation is assessed with an understanding of water use
    - Climate terms capture outdoor water needs
    - Irrigated Area is important factor (capped at a 1:1 ratio with floor area)
- No EPA certification based on the Water Score



# How the score works - Example 1

Variables	Multifamily A	Multifamily B
Size	150,000	150,000
Number of Units	220	200
Number of Bedrooms	280	200
Irrigated Area	300	300
Climate	Wet & Cool	Wet & Cool
Expected WUI (gal/ft <sup>2</sup> )	61	48
Actual WUI (gal/ft <sup>2</sup> )	56	56
EPA Water Score	50	29

# How the score works - Example 1

## What is the Same?

- Size
- Climate
- Irrigated area
- Water Use**

## What is Different?

- Number of Units
- Number of Bedrooms
- Score**

Variables	Multifamily A	Multifamily B
Size	150,000	150,000
Number of Units	220	200
Number of Bedrooms	280	200
Irrigated Area	300	300
Climate	Wet & Cool	Wet & Cool
Expected WUI (gal/ft <sup>2</sup> )	61	48
Actual WUI (gal/ft <sup>2</sup> )	56	56
EPA Water Score	50	29
<b>Gal/unit</b>	<b>38k</b>	<b>42k</b>

**Why?**  Multifamily A is expected to use more water due to

- Higher unit density
- More bedrooms per unit



# How the score works - Example 2

Variables	Multifamily A	Multifamily B
Size	150,000	150,000
Number of Units	220	220
Number of Bedrooms	280	280
Irrigated Area	50,000	300
Climate	Dry & Hot	Wet & Cool
Expected WUI (gal/ft <sup>2</sup> )	82	61
Actual WUI (gal/ft <sup>2</sup> )	56	56
EPA Water Score	74	50

# How the score works

## - Example 2

### What is the Same?

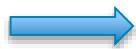
- Size
- Number of Units
- Number of Bedrooms
- Water Use**

### What is Different?

- Climate
- Irrigated Area
- Score**

Variables	Multifamily A	Multifamily B
Size	150,000	150,000
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EPA Water Score	74	50
<b>Gal/unit</b>	<b>38k</b>	<b>38k</b>

Why?



Multifamily A is expected to use more water due to

- Climate
- Irrigated Area



# What Do You Need to get the Score?



- Required inputs for a buildings of 20 units or more:
  - 12 months of water use
  - Building location
  - Building size
    - floor area
    - number of units
    - total number of bedrooms
  - Irrigated area
    - Critical field that many people need to add before a score will be calculated

# What is Irrigated Area?

- Outdoor water use can represent a significant portion of a multifamily property's overall water use - the irrigated area of a property is the outdoor vegetated area that is regularly supplied water
- Note - in the water score, this value is capped at a one to one ratio with floor space

## Include

- Areas irrigated with in-ground or automatic irrigation system
- Areas regularly watered by hand

## Maybe

- Areas landscaped to require no supplemental water (e.g. xeriscaped)

## Exclude

- Patios
- Decks
- Driveways
- Parking lots
- Other hardscapes



# How Do I Determine Irrigated Area?



- Review existing designs and installation/service contracts
  - The size of the landscape will often be written into a service contract for maintaining landscape or included in the original design
- Deduct the footprint of the building and hardscape (pavements and parking area) from the total property area
  - Lot size is commonly available from tax records and municipal/county records may also include building footprint
- Use an online mapping tool
  - One free example: [www.freemaptools.com/area-calculator.htm](http://www.freemaptools.com/area-calculator.htm)

# Add Irrigated Area



Welcome Leslie Staging: [Account Settings](#) | [Notifications](#) | [Contacts](#) | [Help](#) | [Sign Out](#)

MyPortfolio [Sharing](#) [Reporting](#) [Recognition](#)


## Water Score MF

1000 Overbrook Rd, Silver Lake, OH 44224 | [Map It](#)

Portfolio Manager Property ID: 16497084

Year Built: 2014

[Edit](#)

 [Not eligible to apply for ENERGY STAR Certification](#)

**Weather-Normalized Source EUI (kBtu/ft<sup>2</sup>)** Why not score?

**Current EUI:** 235.4  
(0.1% better than median.)

**Baseline EUI:** 227.2  
(3.6% better than median.)

[Summary](#) [Details](#) [Energy](#) [Water](#) [Waste & Materials](#) [Goals](#) [Design](#)

### Basic Information

**Construction Status:**  
Existing property that is one single building

**Property GFA - Self-Reported:**  
20,000 Sq. Ft.

**Occupancy:**  
100%

[Edit](#)

### Property Uses and Use Details

 [View as Diagram](#)

Add Another Type of Use  [Add](#)

Name	Property Use Type	Gross Floor Area	Action
▶ Building Use	Multifamily Housing	20,000 ft <sup>2</sup>	I want to... <input type="text"/>
Property GFA (Buildings):		20,000	<a href="#">(used to calculate EUI)</a>
Property GFA (Parking):		0	

# Add Irrigated Area con't



Construction Status: \*  Existing  
 Design  
 Test

Year Built: \*

Gross Floor Area: \*     
Gross Floor Area (GFA) is the total property floor area, measured from the outside surface of the exterior walls of the building(s). Do not including parking. [Details on what to include.](#)

**Irrigated Area:**   (circled in red)

Occupancy: \*  %

### Additional Information

Is this property's data maintained by a Service and Product Provider?  No  Yes

Is this a Federal Property (owned by any country?)  No  Yes

# Enter Water Meters and Consumption Data



## Manage Bills (Meter Entries) for [Water Score MF](#)

Meter Selection: Potable: Mixed Indoor/Outdoor Me... ▾

### Basic Meter Information

### Monthly Entries

	Start Date	End Date	Usage Gallons	Total Cost (\$)	Estimation
<input type="checkbox"/>	1/1/2016	1/31/2016	50,000	5,700.00	<input type="checkbox"/>
<input type="checkbox"/>	2/1/2016	2/29/2016	50,000	40,900.00	<input type="checkbox"/>
<input type="checkbox"/>	3/1/2016	3/31/2016	50,000	5,030.00	<input type="checkbox"/>
<input type="checkbox"/>	4/1/2016	4/30/2016	50,000	5,034.00	<input type="checkbox"/>
<input type="checkbox"/>	5/1/2016	5/31/2016	50,123	4,569.00	<input type="checkbox"/>
<input type="checkbox"/>	6/1/2016	6/30/2016	50,231	4,600.00	<input type="checkbox"/>
<input type="checkbox"/>	7/1/2016	7/31/2016	50,412	4,599.00	<input type="checkbox"/>
<input type="checkbox"/>	8/1/2016	8/31/2016	50,252	4,700.00	<input type="checkbox"/>



# New Water Metric Display



MyPortfolio

Sharing

Reporting

Recognition

## Water Score MF

1000 Overbrook Rd, Silver Lake, OH 44224 | [Map It](#)

Portfolio Manager Property ID: 16497084

Year Built: 2014

[Edit](#)



Not eligible to apply for ENERGY STAR Certification

Weather-Normalized Source EUI (kBtu/ft<sup>2</sup>)

Why not score?

Current EUI: 235.4  
(0.1% better than median.)

Baseline EUI: 227.2  
(3.6% better than median.)

Summary

Details

Energy

Water

Waste & Materials

Goals

Design

### Water Score (1-100)

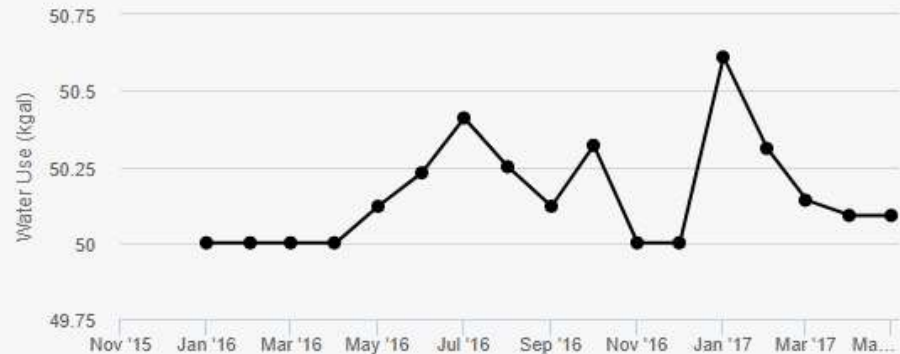
Current Score: 74

Baseline Score: 74

### Meter Summary

1 Water Meters Total

### Water Use by Calendar Month



# New Water Metric Display

## No Irrigated Area Entered



**Water Score (1-100)**

Current Score: N/A

Baseline Score: N/A

**Meter Summary**

1 Water Meters Total

1 - Used to Compute Metrics

[Add A Meter](#)

**Water Use (kgal)**

Nov '15 Jan '16 Mar '16 May '16 Jul '16 Sep '16 Nov '16 Jan '17 Mar '17 Ma...

◆ Potable: Mixed Indoor/Outdoor

This metric cannot be calculated.

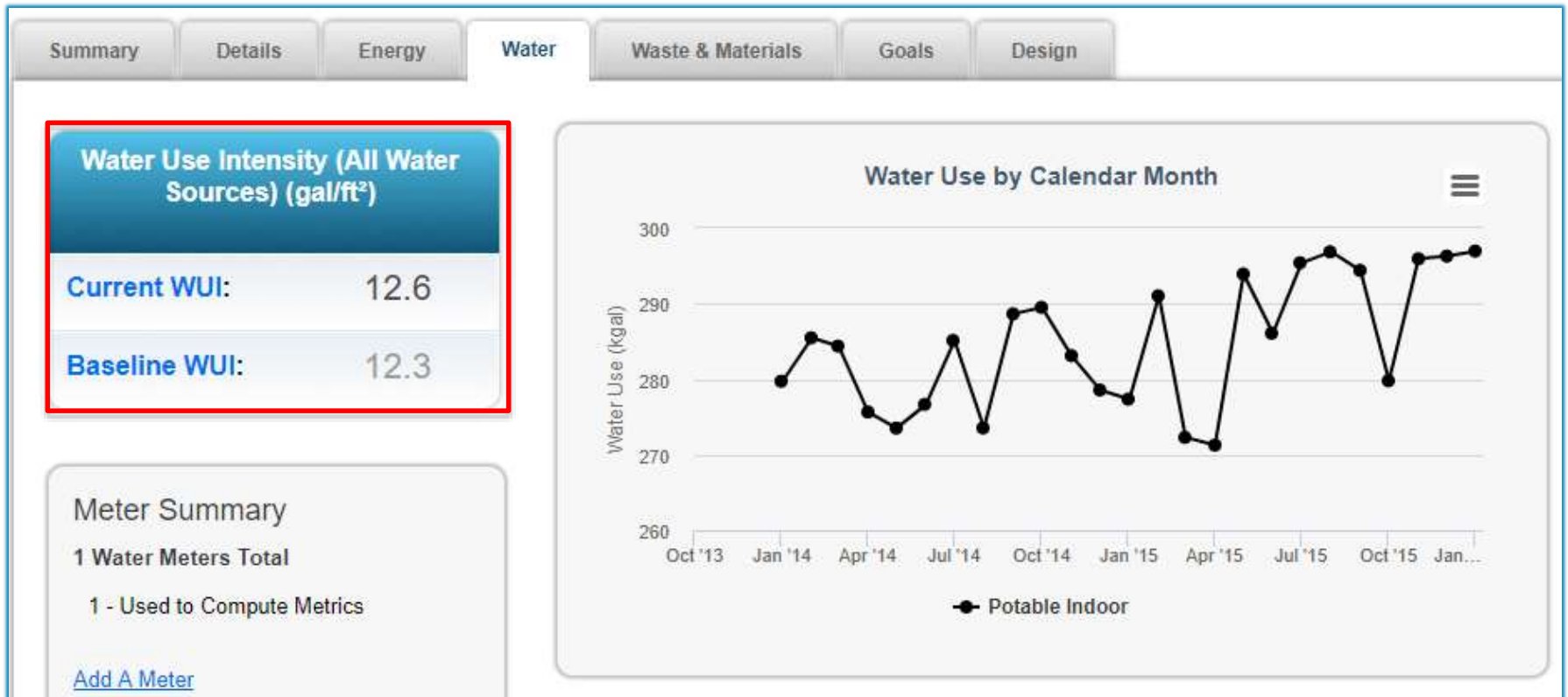
1) There is no value for Irrigated Area

**Problem:** The water score is not available when there is no value entered for the irrigated area.

**What to do:**

- Go to the [Edit Property Information](#) page to enter a value for Irrigated Area.
- If you have no irrigation at your property, enter a value of zero.

# New Water Metric Display *Not Eligible for the Water Score*



# Water Score is Available in the New “Dashboard” Feature



Welcome Leslie Staging: [Account Settings](#) | [Notifications](#) | [Contacts](#) | [Help](#) | [Sign Out](#)

MyPortfolio

Sharing

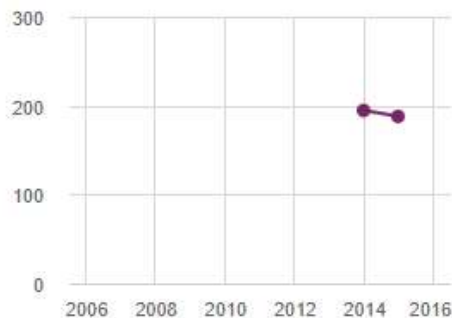
Reporting

Recognition

Properties (14)

Add a Property

Source EUI Trend (kBtu/ft<sup>2</sup>)



Manage Portfolio

Dashboard (Metrics current as of 09/21/2017 03:50 PM EDT)

Search by ID or Name

View All Properties (14) ▾

Water Score ▾

Refresh Metrics

[Add/Edit/Delete Groups](#)

[Add/Edit/Delete Views](#)

Name ▾	Water Current Date ↕	Water Score (Multifamily Only) ↕	Water Intensity (All Water Sources) (gal/ft <sup>2</sup> ) ↕	Total Water Cost (All Water Sources) (\$) ↕
<a href="#">Hilltop Central Office</a> 16497080	01/31/2016	NA	12.62	520541.06
<a href="#">Hilltop Estate</a> 16497099	05/31/2017	79	60.26	16379.00
<a href="#">Hilltop Gardens</a> 16497100	05/31/2017	26	120.52	43379.00
<a href="#">Hilltop Towers</a> 16497084	05/31/2017	74	30.13	19179.00
<a href="#">Hilltop Village</a> 16497101	05/31/2017	61	80.34	37379.00



# Water Score is Available in Custom Reports

MyPortfolio

Sharing

Reporting

Recognition

## View Report: Water Score

Date Generated: 09/21/2017 03:56 PM EDT

Number of properties in report: 4

The following displays the data generated from your [report template](#). It includes the information and metrics that you selected for the properties you included. You may "Generate a New Report" to get updated information from the action menu for this report template.

### Information and Metrics

#### Information and Metrics

4 records

Property Id	Property Name	Year Ending	Water Score (Multifamily Only)	Water Intensity (All Water Sources) (gal/ft <sup>2</sup> )	Water Use (All Water Sources) (kgal)	Total Water Cost (All Sources) (\$)
16497080	Hilltop Central Office	01/31/2016	Not Available	12.62	3470.3	520541.06
16497099	Hilltop Estate	05/31/2017	79	60.26	602.6	16379
16497100	Hilltop Gardens	05/31/2017	26	120.52	602.6	43379
16497101	Hilltop Village	05/31/2017	61	80.34	602.6	37379



# WATER SCORECARD

# 56

out of 100

## Uptown Lofts

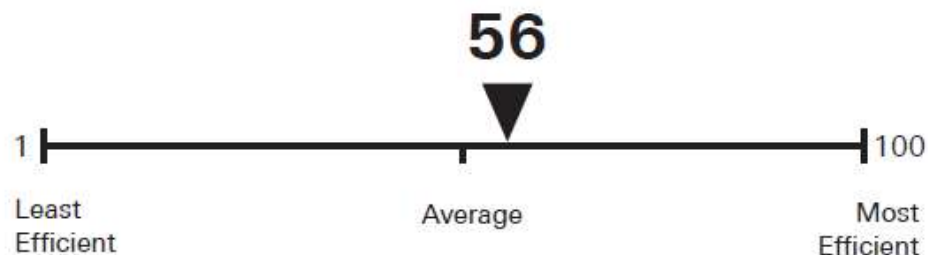
Primary Function: Multifamily  
Gross Floor Area (ft<sup>2</sup>): 14,800  
Built: 1960

Property Address:  
123 Main Street  
Anytown, CA 12345

For Year Ending: April 30, 2015

Date Generated: June 30, 2017

For the year ending May 2017, this building used 198 gallons of water per square foot. Here's how that compares to similar buildings nationwide:



### About this Score

The U.S. Environmental Protection Agency's (EPA) Water Score is generated by the ENERGY STAR® Portfolio Manager® tool and supported by WaterSense. The Score offers a 1 - 100 measurement of how efficiently this property uses water, compared to similar properties nationwide, when normalized for climate and operational characteristics. Learn more at [www.epa.gov/WaterSense](http://www.epa.gov/WaterSense).



Supported by EPA's  
WaterSense program



This scorecard was generated from EPA's  
ENERGY STAR Portfolio Manager tool.

### VERIFICATION (Optional)

I, \_\_\_\_\_, verify that the information regarding water use and property use details is true and correct to the best of my knowledge.

Signature \_\_\_\_\_

Date \_\_\_\_\_

# Additional Resources

- **Understanding Portfolio Manager and the Water Score**
  - Access Portfolio Manager: [www.energystar.gov/benchmarking](http://www.energystar.gov/benchmarking)
  - EPA’s Portfolio Manager Help Center: <https://portfoliomanager.energystar.gov/pm/help>
  - EPA’s Water Score technical reference guide
  - ENERGY STAR Water Score FAQs
- **Assessing and Improving Water Use**

Available at [www.epa.gov/watersense/water-score-multifamily-housing](http://www.epa.gov/watersense/water-score-multifamily-housing)

  - WaterSense’s new Multifamily Assessment Tool
  - WaterSense’s new Reference Guides for water management in multifamily buildings



# Questions?





# WaterSense Information

look for



**Visit us online!**

[www.epa.gov/watersense](http://www.epa.gov/watersense)

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Helpline: (866) WTR-SENS (987-7367)

look for

