

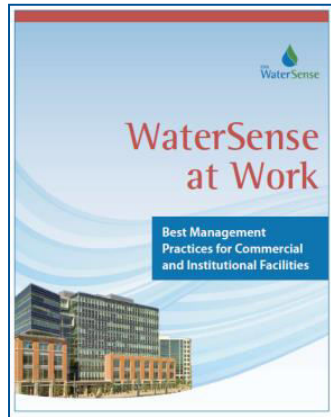
look for



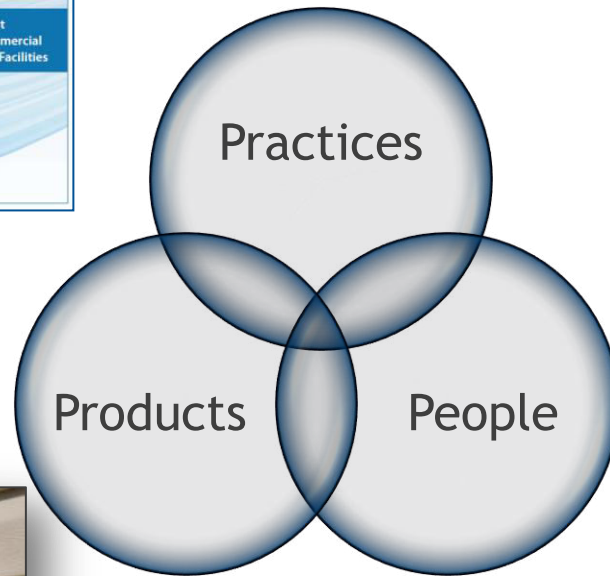
Saving Water in **Multifamily Buildings**



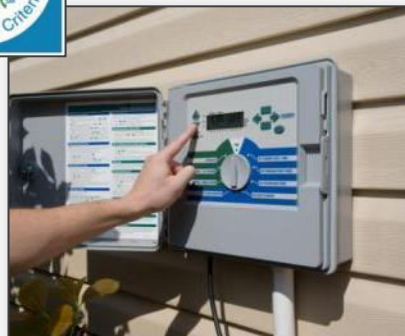
What is WaterSense?



Actions that can be taken to reduce water use -- at home, outdoors and at work



Fixtures and technologies save water



Partners reach users to change behavior



WaterSense Labeled Products



**Flushing
Urinals**



**Lavatory
Faucets**



**Irrigation
Controllers**



**Spray
Sprinkler
Bodies**



**Tank &
Flushometer
Valve Toilets**



Showerheads

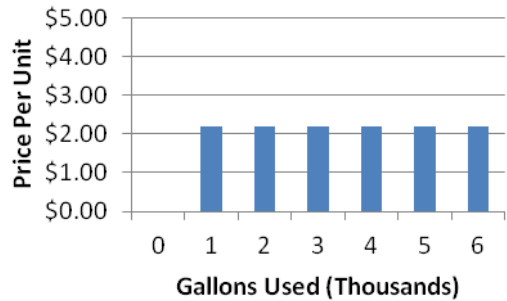


**Pre-
Rinse
Spray
Valves**

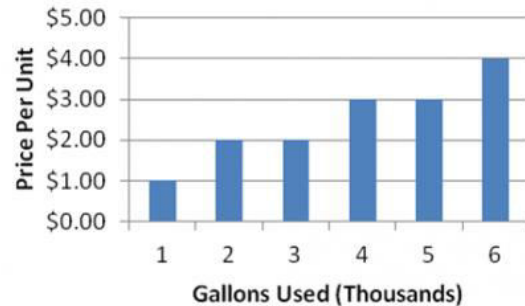
**More than
20,000
Labeled
Product
Models**

How Are You Being Charged for Water?

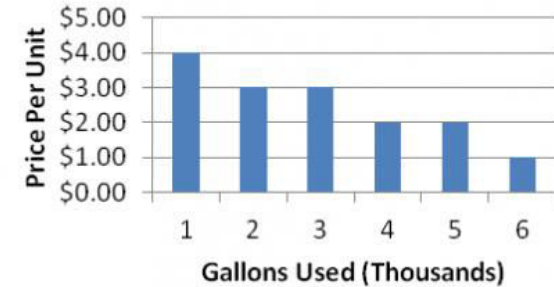
Uniform Rate



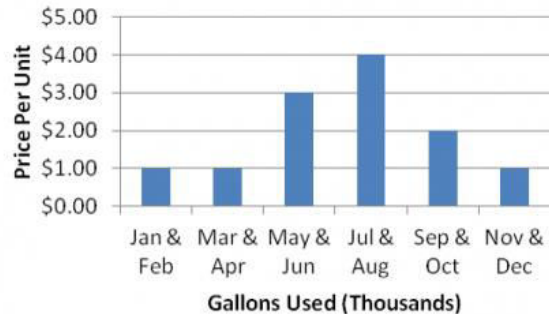
Increasing Block Rate



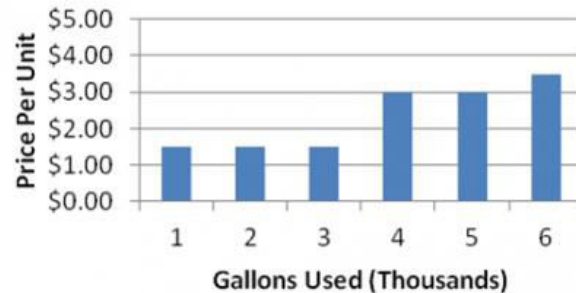
Declining Block Rate



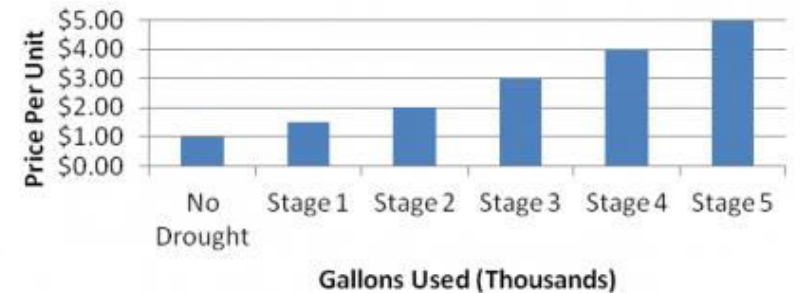
Seasonal



Water Budget Based



Drought



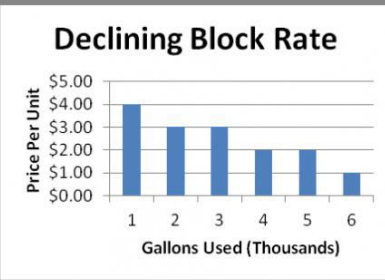
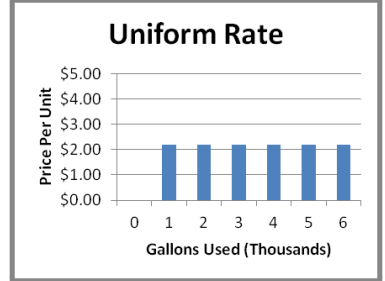
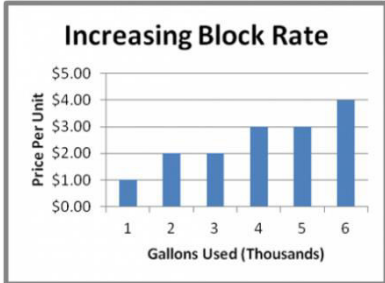
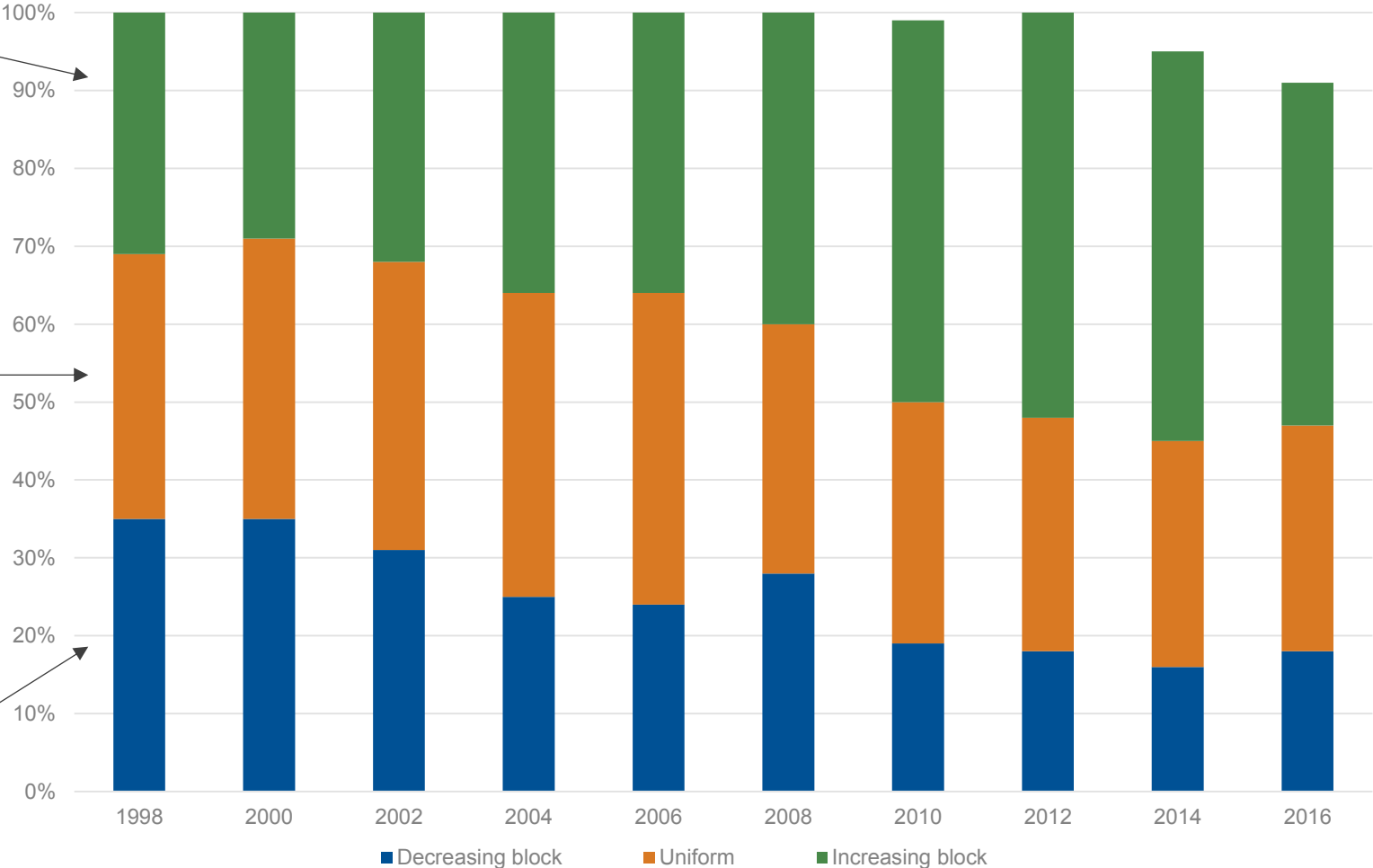
Be Careful... It Could Change

Water Rate Structure Over Time

Use More
Pay More

Flat

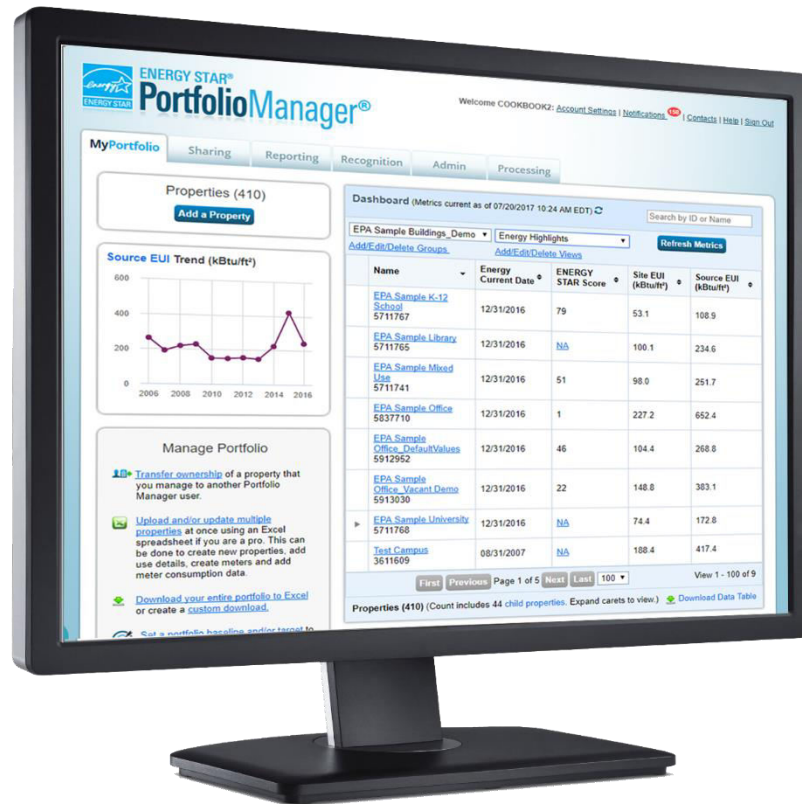
Use More
Pay Less





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*)

Who Uses Portfolio Manger?

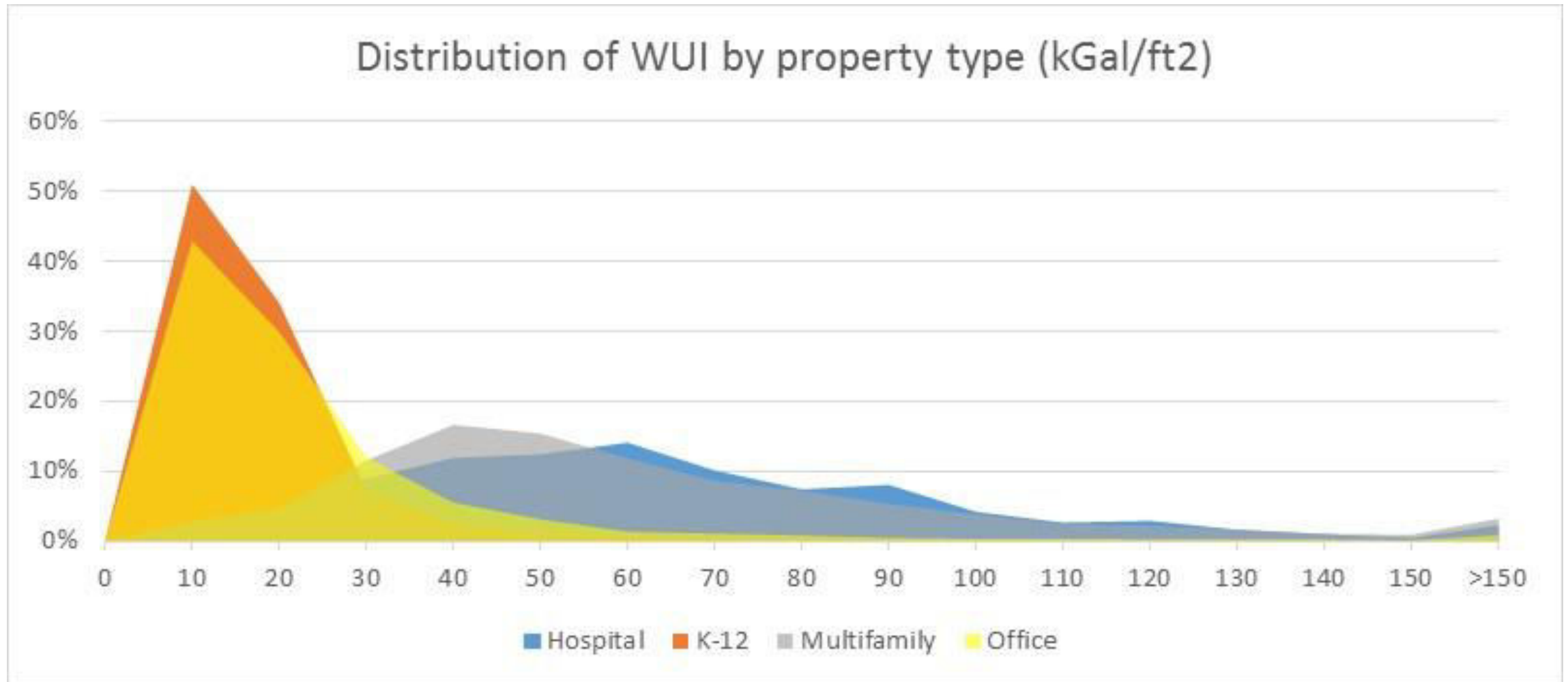
Current Portfolio Manager users include:

- 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

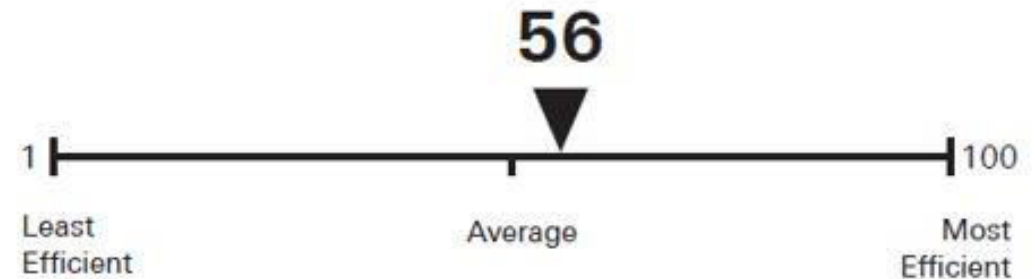
It's a Highly Variable Building Type



EPA's 1-100 Score for Multifamily Buildings

- 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

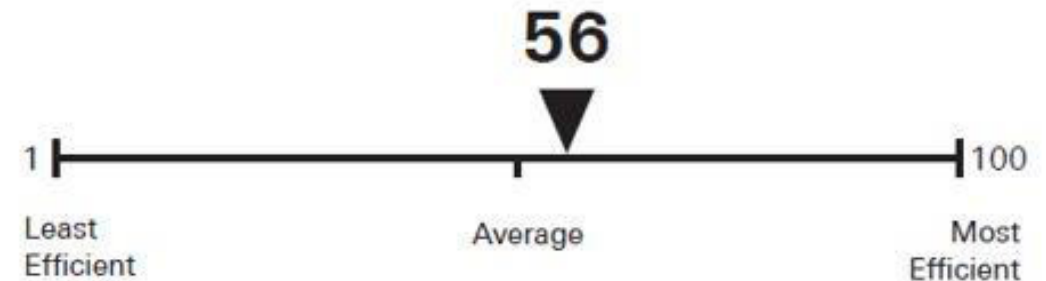
What's similar to ENERGY STAR score approach?



Saving Water in Restaurants

- 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 an important factor (capped at a 1:1 ratio with floor area)
- No EPA certification based on the Water Score

What's different from
ENERGY STAR score
approach ?





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 ²)	61	48
Actual WUI (gal/ft ²)	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 ²)	61	48
Actual WUI (gal/ft ²)	56	56
EPA Water Score	50	29
Gal/unit	38k	42k

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 ²)	82	61
Actual WUI (gal/ft ²)	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
Number of Units	220	220
Number of Bedrooms	280	280
Irrigated Area	50,000	300
Climate	Dry & Hot	Wet & Cool
Expected WUI (gal/ft ²)	82	61
Actual WUI (gal/ft ²)	56	56
EPA Water Score	74	50
Gal/unit	38k	38k

Why?



Multifamily A is expected to use more water due to

- Climate
- Irrigated Area

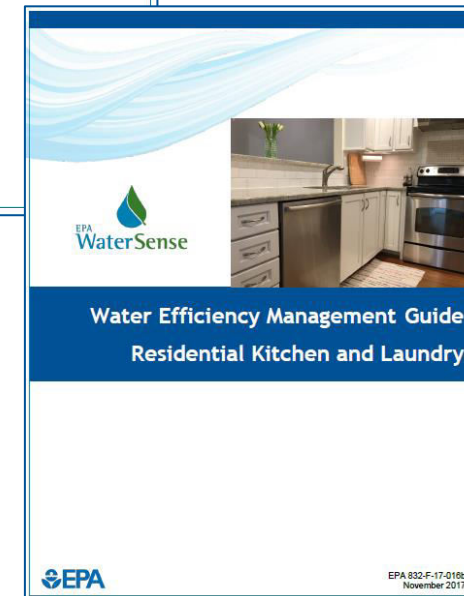
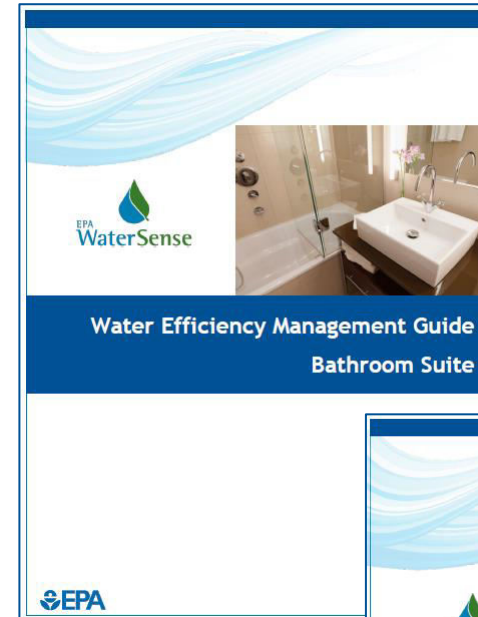
Multifamily Guides

Water efficiency management guides focused on multifamily buildings cover:

- Bathrooms
- Residential kitchens and laundries
- Outdoor Water Use
- Mechanical systems

Multifamily Water Assessment Tool – (coming soon)

<https://www.epa.gov/watersense/water-score-multifamily-housing>



look for



Questions?



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 - Schein.Jonah@epa.gov
- WaterSense Helpline
 - E-mail: watersense@epa.gov
 - Phone: (866) WTR-SENS (987-7367)