Water Use Tracking

Buildings Tracking Water Use in Portfolio Manager

53,306 Properties
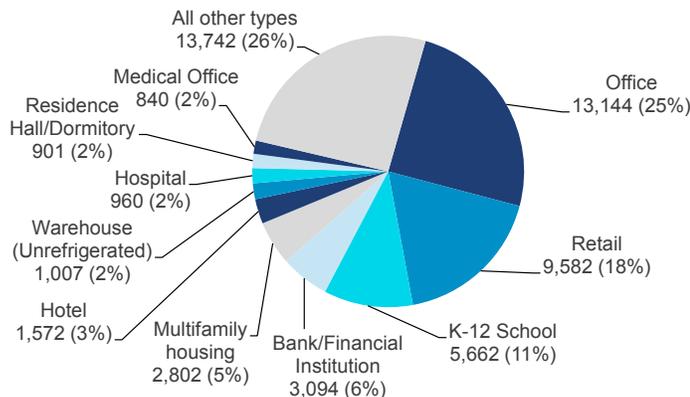
6.2 Billion ft²

As of June 2012

Organizations across the country are measuring and tracking the water use of over 50,000 buildings using the U.S. Environmental Protection Agency's (EPA) ENERGY STAR Portfolio Manager. These buildings represent close to 20% of all buildings in Portfolio Manager. EPA has prepared the DataTrends series to examine trends in energy and water consumption in Portfolio Manager. This document presents the general trends seen in the water data. To learn more, visit www.energystar.gov/DataTrends.

Who is tracking water use?

Many different types of organizations are tracking water consumption in a wide variety of buildings located in all 50 states. The most common types of buildings with water data are Office, Retail, and K-12 School, followed closely by Banks and Multifamily Housing. States and building types with the most energy benchmarking also tend to have the most water tracking.
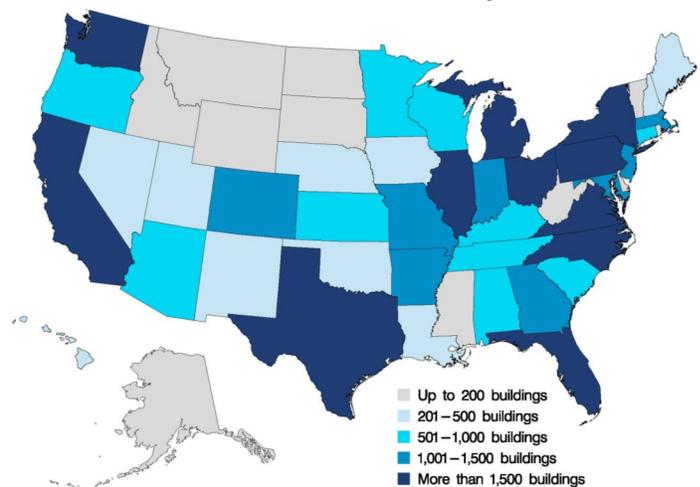
Water Use Tracking by Building Type
Number of Buildings

- All other types 13,742 (26%)
- Office 13,144 (25%)
- Medical Office 840 (2%)
- Residence Hall/Dormitory 901 (2%)
- Hospital 960 (2%)
- Warehouse (Unrefrigerated) 1,007 (2%)
- Hotel 1,572 (3%)
- Multifamily housing 2,802 (5%)
- Bank/Financial Institution 3,094 (6%)
- K-12 School 5,662 (11%)
- Retail 9,582 (18%)

Water Use Tracking by State
Total Number of Buildings

- Up to 200 buildings
- 201−500 buildings
- 501−1,000 buildings
- 1,001−1,500 buildings
- More than 1,500 buildings

Building owners and operators have the option to classify water use in Portfolio Manager as Indoor, Outdoor, Other, or some combination of the three. If separate meters are present for indoor and outdoor water use, Portfolio Manager can track these independently and can also provide a total water use metric. Close to 60% of users are tracking indoor water use only, while just over 40% track a combination of indoor and outdoor use. Other combinations are rare. The remainder of this document focuses on trends in indoor water consumption.
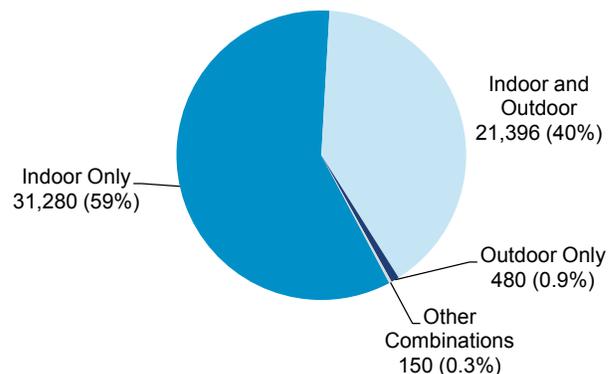
Category of Water Use Tracked
Number of Buildings

- Indoor and Outdoor 21,396 (40%)
- Indoor Only 31,280 (59%)
- Outdoor Only 480 (0.9%)
- Other Combinations 150 (0.3%)

EPA's WaterSense program seeks to protect the future of our nation's water supply by offering people a simple way to use less water with water-efficient products, new homes, and services. WaterSense and ENERGY STAR are working together to bring water efficiency solutions to the commercial sector.

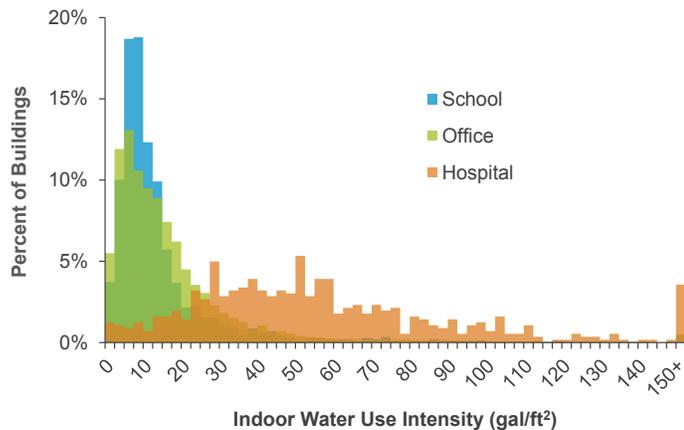## How does indoor water use vary among buildings?

There is a wide variation in water use among buildings in Portfolio Manager. Total water use and water use intensity (WUI) in gallons per square foot vary greatly based on the type of building. As expected, the buildings in which people live as well as work, such as Senior Care, Hotels, Hospitals, Multifamily Housing, and Residence Halls have the highest WUI.

Median Water Use Intensity
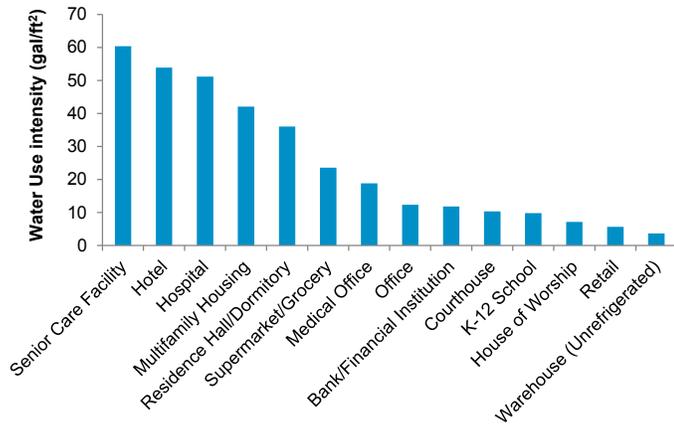
Each individual building type displays a range of WUI values. This variation may result from differences in business activity, climate, or equipment and operation. The following figure shows the full range of values observed for School, Office, and Hospital. The range in variation for Hospitals is quite large, while less variation is seen in Schools and Offices.
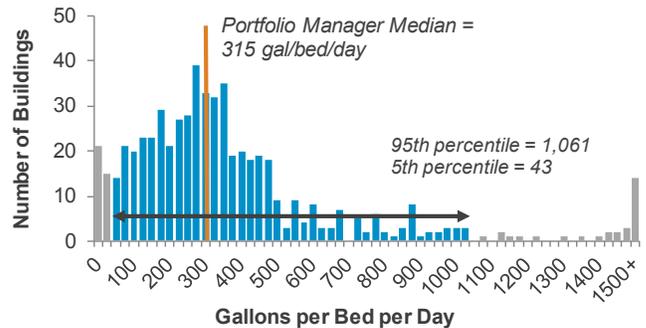
Range of Water Use Intensity

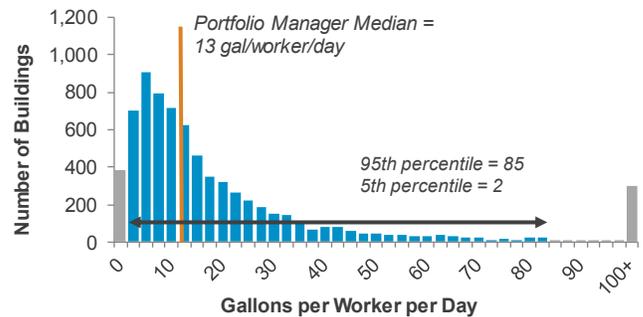## How does indoor water use relate to business activity?

WUI offers an easy method of comparing water use in different types of buildings. However, when looking at the range within an individual type it is instructive to consider water relative to key measures of business activity. The following graphs explore the variation in indoor water use for Hospitals, Offices, and Hotels in the context of their main business activity. For example, the median Hospital uses 315 gallons of water per bed each day.
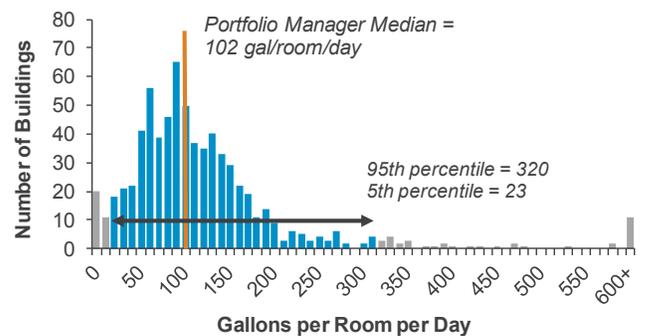
Hospital Use Per Bed

Portfolio Manager Median = 315 gal/bed/day

95th percentile = 1,061
5th percentile = 43

Office Use Per Worker

Portfolio Manager Median = 13 gal/worker/day

95th percentile = 85
5th percentile = 2

Hotel Use Per Room

Portfolio Manager Median = 102 gal/room/day

95th percentile = 320
5th percentile = 23

Note: Number and floor area of buildings tracking water use includes cumulative data through mid-year 2012. Water use and business activity includes buildings benchmarked between 2006 and 2012. The data is self reported and has been filtered to exclude outliers, incomplete records, and test facilities. Portfolio Manager is not a randomly selected sample and is not the basis of the ENERGY STAR score. To learn more, visit: www.energystar.gov/DataTrends.

EPA United States Environmental Protection Agency