

Energy Use in Hospitals

Hospitals Using Portfolio Manager

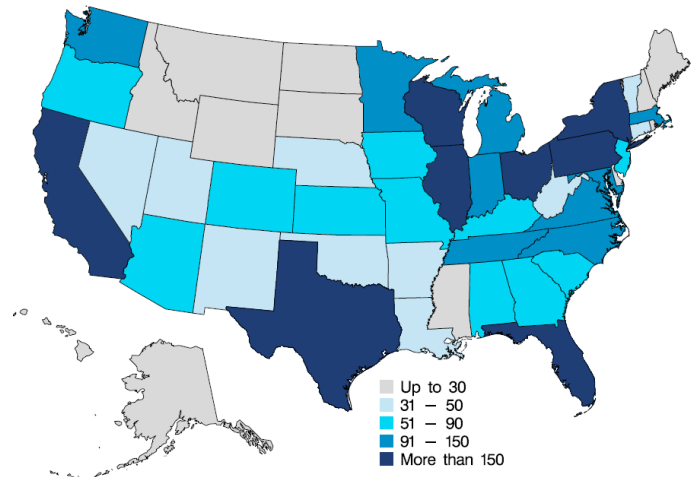
4,939 Properties

2.4 Billion ft²

Average ENERGY STAR Score

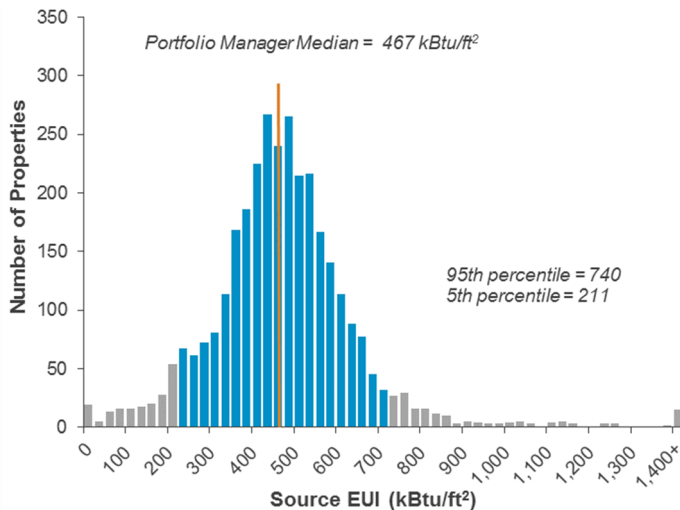
The U.S. Environmental Protection Agency's (EPA) ENERGY STAR Portfolio Manager is changing the way organizations track and manage energy. Because of this widespread market adoption, EPA has prepared the DataTrends series to examine benchmarking and trends in energy and water consumption in Portfolio Manager. To learn more, visit www.energystar.gov/DataTrends.

Benchmarking by State Number of Hospitals



What is a typical operating profile?

Energy use intensity (EUI) ranges from less than 100 to more than 1,400 kBtu/ft² across all hospitals, with those at the 95th percentile using more than 3 times the energy of those at the 5th percentile. The distribution has a slight negative skew, which means the most energy intensive properties are further away from the median than the most efficient. Properties may use more or less energy for many reasons, including variable equipment efficiency and energy management practices, as well as variations in climate and business activities.



The median hospital in Portfolio Manager is 326,000 square feet and has 0.5 staffed beds per thousand square feet. But the typical property use patterns observed in Portfolio Manager vary just as much as energy. As you can see, there are hospitals of all shapes and sizes benchmarking in Portfolio Manager.

Range of Values

Property Characteristic	5th percentile	Median	95th percentile
Square Feet	54,000	326,000	1,426,994
Full Time Equivalent Workers per 1,000 ft ²	1.2	2.6	4.0
Staffed Beds per 1,000 ft ²	0.2	0.5	1.1
MRIs per 1,000 ft ²	0.000	0.003	0.016
Heating Degree Days	922	4,527	7,735
Cooling Degree Days	165	1,146	3,447

What is Source Energy? Source energy is the amount of raw fuel required to operate your property. In addition to what you use on site, source energy includes losses from generation, transmission, and distribution of energy. Source energy enables the most complete and equitable energy assessment. Learn more at: www.energystar.gov/SourceEnergy.

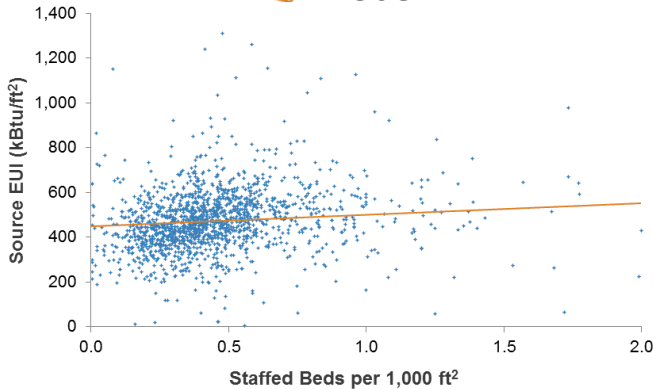
What characteristics affect energy use in hospitals?

Business activity and climate are often correlated with energy consumption. For example, hospitals that have more full-time equivalent (FTE) workers per square foot, more staffed beds per square foot, and/or experience more cooling degree days (CDD) use more energy, on average. The orange trend line in the graphs below show the impact of each characteristics on energy use. The steeper the line, the bigger the impact. While these trends hold true on average, the blue dots demonstrate that for any given value of workers, beds, and CDD, a broad range in energy use is observed. Similar trends can be seen for other indicators of business activity, such as number of MRI machines.

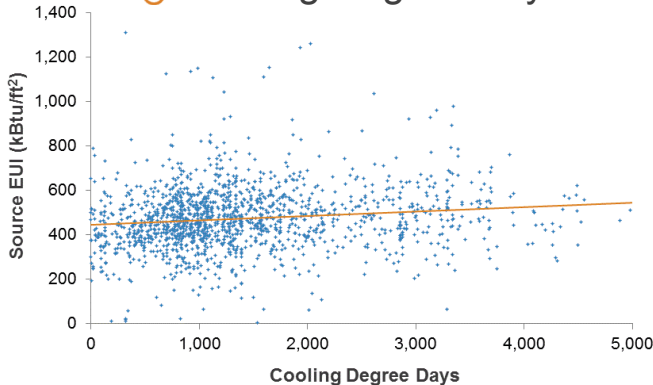
FTE Workers



Beds

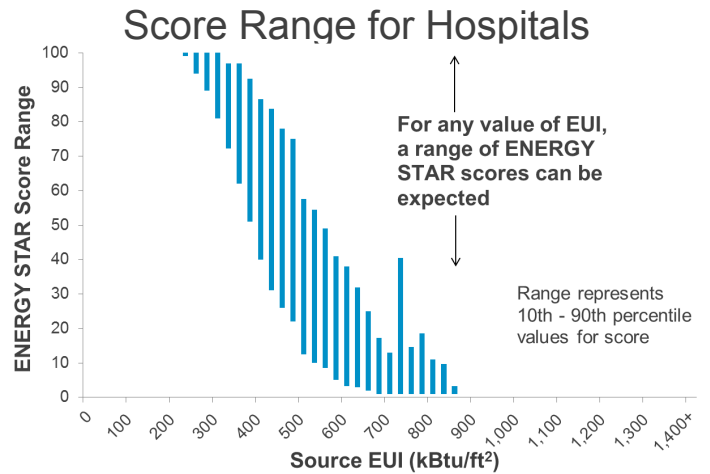


Cooling Degree Days

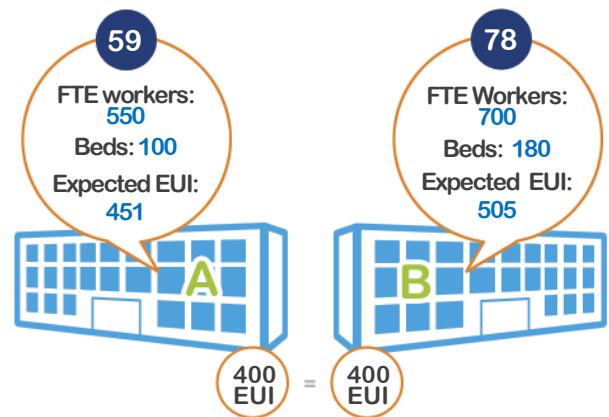


How does EPA's ENERGY STAR score vary with energy use?

EPA's ENERGY STAR score normalizes for the effects of operation. While properties with lower EUI generally earn higher scores on the 1-100 scale, an individual property's result depends on its business activities. For any given EUI, a range of scores is possible.



Let's look at two hospitals, Hospital A and Hospital B. They have the same EUI of 400 kBtu per square foot, and are identical except that Hospital B has more full-time equivalent workers per square foot and more staffed beds per square foot. Because Hospital B has more intensive activities, it is expected to have a higher EUI than Hospital A, based on ENERGY STAR scoring models. Since Hospital B is *expected* to use more energy, but *actually* uses the same energy, it earns a higher score.



Note: Total number and floor area of properties benchmarked reflects cumulative data through 2013. Analysis of energy use and operational characteristics includes 3,207 properties benchmarked in the most recent 5 years. 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.