

Sullivan County 2020 Benchmarking Report - Supplemental

Comparing Site Energy Use and Site Energy Use Intensity at the old (1909) Jail and the 2019 Public Safety Facility

In 2019, the County completed construction of a new Public Safety Facility. The new jail complex replaced the 1909 jail located adjacent to the Sullivan County Courthouse, which was up until 2019 the oldest continuously operating county jail in New York State. The benchmarking year 2020 provides the first opportunity to document a full 12 months of energy use data at the new facility, and to analyze the energy use improvements delivered by the new facility. Since some allied County offices were still transitioning to the new Public Safety Facility during 2020, the 2020 benchmarking report still included energy use data for the old 1909 County Jail.

Two metrics help us understand energy use and energy efficiency in the context of the huge difference in size of the 2 facilities. **Site Energy Use (Site EU)** is the annual amount of all the energy (electricity, propane, fuel oil) a property consumes onsite, as reported on utility bills. **Energy Use Intensity (EUI)** expresses a building's energy use as a function of its size (square footage) and other characteristics. For most property types in Portfolio Manager, the EUI is expressed as energy per square foot per year. All fuel sources utilized in the operation of the buildings are calculated and then converted to a uniform measure of energy, the British thermal unit (Btu). EUI is calculated by dividing the total energy consumed by the building in one year (measured in thousands of British thermal units or kBtu), by the total gross floor area of the building. In general, a low EUI signifies good energy performance. Site EU and Site EUI can also allow a look at how new construction and better energy codes can influence the performance of a building.

Portfolio Manager also allows us to compare the energy performance of each county building with buildings of similar size and use across the country (the "national median") and to calculate the percentage difference in a building's energy performance from the national median.

At 58,998 square feet, the old 1909 jail's Site EUI (kBtu per square foot) was 120.4, 31.28% higher than the median Site EUI for a comparable building. The new Public Safety Facility, more than 2.5 times the size of the old facility, has a Site EUI of 105.45, roughly 15.24% above the median.

Building	Conditioned space (square feet)	Site EUI(kBtu/sq.ft)	Site EUI% higher than median
1909 Jail	58,998	120.4	31.28
2019 Public Safety Facility	154,000	105.45	15.24

Even though the new facility is a larger space, and the HVAC system is heating, cooling and providing controlled, mechanical ventilation to the space, the Site EUI has been significantly reduced when compared to the 1909 facility. Additionally, the new facility is performing, overall, at a much higher level of energy efficiency than the 1909 Jail compared to the national median Site EUI.