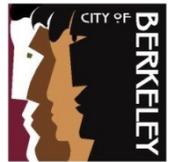




Berkeley Climate Action Plan: Tracking our Progress Building Energy Use - Municipal



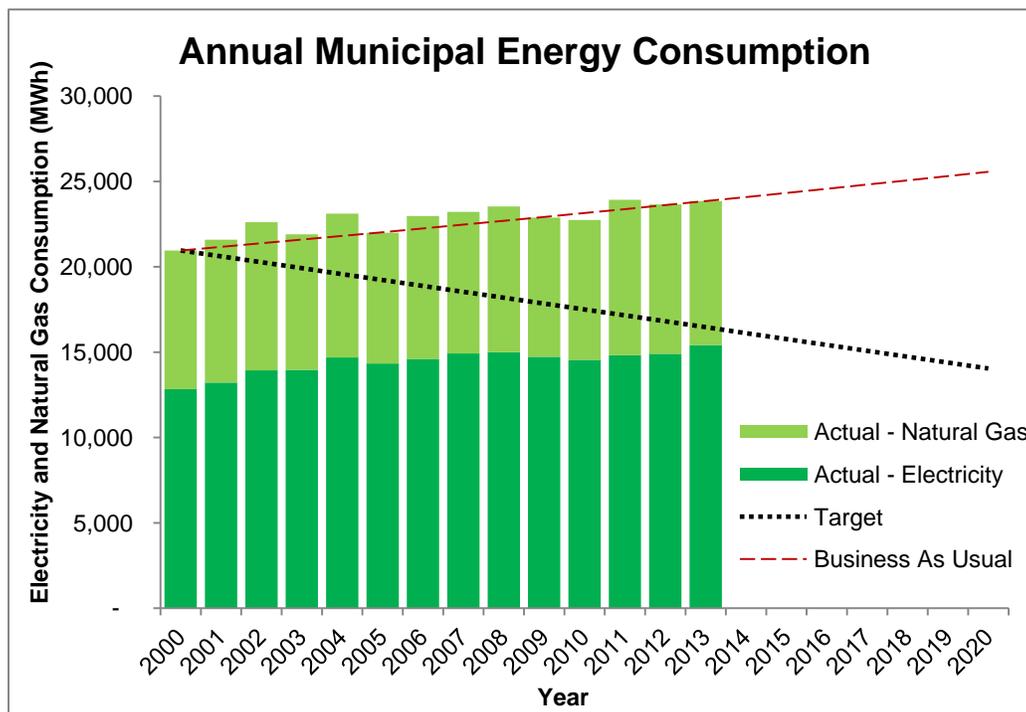
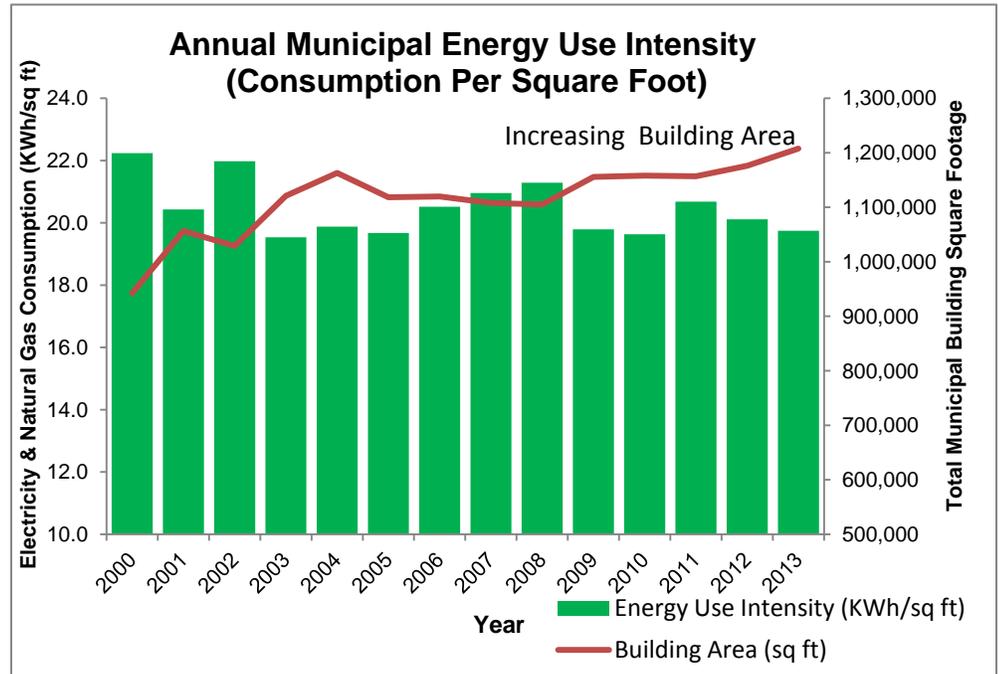
Goal: Increase energy efficiency and renewable energy use in public buildings

Performance metric: Annual municipal energy (electricity and natural gas) consumption

Target: Achieve a 33% (2% per year) reduction below 2000 levels in municipal energy use and associated greenhouse gas (GHG) emissions by 2020.

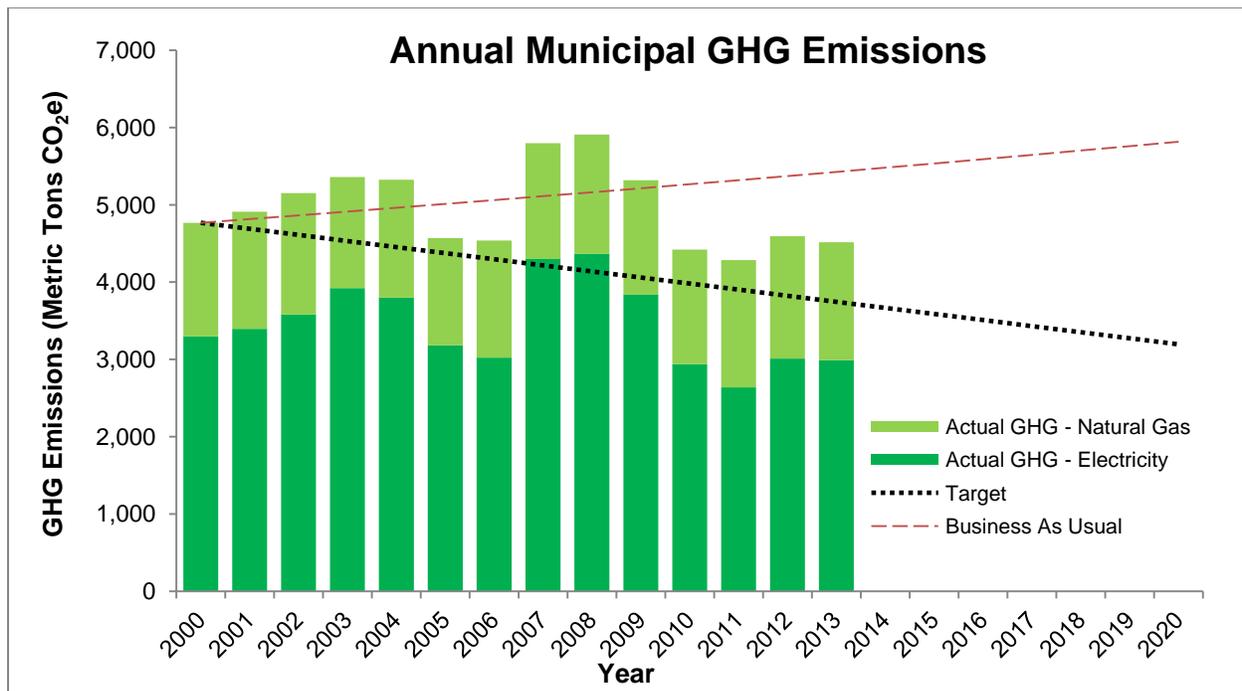
Status: City government facilities are more energy efficient in 2013 than they were in 2000. Due to ongoing energy upgrades, energy consumption (electricity and natural gas) decreased from approximately 22 KWh per square foot in 2000 to just under 20 KWh per square foot in 2013, representing an 11% decrease in consumption per square foot.¹

However, total energy consumption (electricity and natural gas) in City government buildings increased 14% between 2000 and 2013, mainly due to a 28% increase in total building square footage. Natural gas use increased 4% and electricity use increased 20% in that timeframe.



Current total municipal building energy consumption levels are not in line with targeted reductions. A 41% reduction from current annual energy consumption levels is required in order to achieve the 2020 target.

As is illustrated in the following chart, municipal building GHG emissions are 17% below baseline levels but 21% higher than targeted reduction levels as of 2013. The reduction below baseline levels is mainly due to PG&E's changing fuel mix for electricity.



The City has several efforts underway to achieve deep and sustained reductions in municipal energy use. For example, between 2012 and 2014 the City upgraded all of its more than 8,000 streetlights and park lighting to energy efficiency light-emitting diode (LED) bulbs.

The City also recently upgraded both lighting and lighting controls at the South Berkeley Senior Center and the Center St. Garage, resulting in a reduction of approximately 7,200 kWh per month and an estimated net savings of nearly \$13,000 per year. These and other upgrades to building systems, lighting and HVAC controls result in annual utility bill savings of approximately \$380,000.

In addition to energy efficiency measures, the City's new West Branch Library uses solar electric and solar thermal energy to provide most of its lighting, space conditioning (ventilation, heating and cooling) and domestic hot water. The City also operates solar hot water systems to offset natural gas consumption at the West Campus Swimming Pool for the showers, and at the Shorebird Park Nature Center, where it provides space heating as well as hot tap water.

Why is this metric important?

This indicator illustrates the annual trend of electricity and natural gas consumption in City government buildings. This trend is particularly important to track because the City is committed to playing a leadership role in the effort to achieve Berkeley's GHG reduction targets.

Resources and assistance for community members:

Visit the Office of Energy & Sustainable Development [website](#) to learn more about City government efforts to reduce the GHG emissions that result from energy use in City-owned buildings.

Data sources and technical notes:

Annual energy use data and emissions coefficients are provided by PG&E. Square footage information is obtained from City records. The baseline (year 2000) for the data for this indicator is an average of 1998 – 2001 consumption levels. Facilities include streetlights, traffic signals, buildings, pools, etc. Facilities no longer operated by the City have been removed from the baseline.

Tracking our progress: Review Climate Action Plan performance metrics at www.cityofberkeley.info/climate.

ⁱ Energy use from irrigation pumps, marina lighting, streetlights and traffic signals is included but there is no square footage associated with these major uses.