

HSU Energy Facts and Figures

How Much Energy Does HSU Use? Humboldt State University uses a lot of energy -- over 10 million kilowatt-hours a year. Not all of this energy is coming from clean sources, meaning it comes at a cost both economically and environmentally. HSU pays over \$2 Million each year for energy. We all are a part of our campus energy use and we are all paying for it in a number of ways: tuition and fee increases, a carbon footprint (nearly 6,000 tons of carbon dioxide emitted in 2007), and the perpetuation of dirty energy use. The chart below (Table 1) shows HSU's energy used -- in kilowatt hours for electricity and therms for natural gas -- used and money spent for it over the past 10 years.

YEAR	KILOWATT HOURS	THERMS	DOLLARS
1998	12,906,749	1,184,905	\$1,578,710
1999	12,936,084	1,291,002	\$1,640,225
2000	13,261,694	1,252,228	\$1,770,777
2001	13,096,768	1,007,324	\$1,950,113
2002	12,872,773	1,331,823	\$1,950,227
2003	13,193,987	1,038,759	\$2,094,068
2004	13,185,071	1,006,542	\$2,232,661
2005	11,502,969	1,208,504	\$2,394,564
2006	10,213,849	1,418,304	\$2,574,807
2007	9,995,983	1,516,998	\$2,407,263

Table 1 HSU's electricity use is decreasing. Green Campus formed as an organization in 2004, and while we would like to take credit for the subsequent energy reductions, facilities throughout the CSU have been making a better effort to save energy wherever they can. However, Figure 2 below tells another story: HSU's energy has decreased since 2004, but the amount of money spent on energy has steadily increased. Rising energy costs per kilowatt-hour are the primary culprit, and provide a strong incentive to find more creative ways to save energy on campus.

Where Does HSU's energy come from?

When you flick on a light switch here on campus, do you ever wonder where the electricity comes from? The campus buys its energy from Constellation Energy Group, a Maryland-based energy provider with a national portfolio. Constellation's NewEnergy program is set up so that they purchase energy on an open market from various energy-generating facilities around the nation (see Figure 3), paying a competitive price. That energy is then delivered from a variety of sources of generation to HSU.

Not all sources of energy are the same. For example, a coal-powered plant produces pollutants like mercury and sulfur dioxide which contributes to acid rain. A large hydroelectric dam, on the other hand, produces no emissions but floods portions of land upriver from the dam and may prevent fish spawning. Each source has a number of costs and benefits. California has stricter standards on where our energy comes from than many other states, mandating a portion be from renewable sources. As you can see from the charts below, Constellation's California mix is quite different from the nationwide trend. Figure 4 shows a nation-wide breakdown by source for the total energy Constellation purchases, while Figure 5 shows California-specific sources of energy.

Why is saving energy important?

Saving energy means less electricity is used to deliver lighting and heating to our campus buildings. Whether from a dam on a river or from coal mined from the earth, all energy sources come at an environmental cost. For each 1% reduction in energy, HSU has the potential to save a lot of money and can spend those dollars in other ways, all the while diverting carbon dioxide emissions. The easiest way to reduce energy use, besides not using it in the first place, is through energy efficiency measures. From installing motion sensors in all class rooms in order to cut needless light use, to making sure all computer labs are tuned to proper energy-savings settings, there are plenty of opportunities to reduce more than 1% year after year. Each 1% energy reduction saves...99,960 kWh\$12,085 59 Tons of Carbon Dioxide...every year. The United States has one of the highest energy use per capita in the world. We make up less than 5% of the world's population yet consume more than 23% of the world's energy. Changing the way we use energy in the United States can help make renewable energy more widespread. A renewable energy future starts with energy efficiency. For more information visit: The U.S. Department of Energy's Energy Efficiency and Renewables website has information about our nation-wide energy use, renewable energy technologies, and tax incentives for projects. Constellation Energy Group's website gives more detail on the company's mission, financial assets and energy mix. HSU Plant Operations has information about environmental health and safety measure, waste and energy data.

FACTS AND FIGURES PROVIDED BY: Tall Chief Comet, HSU Sustainability Coordinator
 Tim Moxon, Director of Plant Operations
 Jeffry Steuben, HSU Energy Management Intern
 PLANT OPERATIONS, HUMBOLDT STATE UNIVERSITY
 1 Harpst Street Arcata, CA 95521 707-826-4475
 This page was created by Green Campus Program Coordinators. Contact klr47@humboldt.edu for corrections or for more information.