



FACT SHEET

Utilities and Energy Management (UEM) provides reliable and cost-effective electricity, chilled water, steam, deionized water, compressed air, and emergency power for The University of Texas at Austin. We are part of the Campus Operations unit within the Office of the Senior Vice President and Chief Operating Officer and have over 200 employees within five divisions:

- Operations
- Distribution
- Power Systems, Controls & Operational Technology
- Engineering and Technical Services
- Finance and Administrative Services

Our sole energy source is natural gas, which is delivered directly to the UT main campus to power our infrastructure. Using this source, we generate all of our own electricity and only produce what we need. The campus operates as a **district energy system** with our main campus buildings connected underground by a network of pipes and circuits. Thermal energy and electric power are delivered to each building from the central power plant and several chilling stations. This centralized type of energy distribution is far more efficient than the conventional utility distribution systems found in most U.S. cities.

Energy conservation: Building energy use per square foot has been reduced by 17% since 2012. Over the same time period, chilling station efficiency has increased by 6%. These combined efforts, along with other campus energy conservation measures, have resulted in nearly \$32 million in fuel gas cost savings.

Water conservation: We are able to avoid purchasing domestic water for use in campus cooling towers by recovering cooling coil condensate from building heating, ventilating, and air conditioning equipment and by purchasing reclaimed water. Since 2015, nearly 300 million gallons of recovered water were used, resulting in \$1.4 million in cost savings. Approximately 300 million more gallons of reclaimed water were purchased, resulting in \$800,000 in cost savings.

100%

On-Site
Generation

23 MILLION

Square Feet
Served

79,000+

Students,
Faculty, and
Staff

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FAQ

Why does UT have its own microgrid?

Our forward-thinking university leaders understood that the unpredictable nature of the city's power grid at that time would not support UT's mission to build a flagship institution for research and academic excellence. So, our independence from the City of Austin's electrical grid began nearly a century ago with the construction of the Hal C. Weaver Power Plant in 1928, and the installation of the first campus generator in 1929. The plant has since grown from two 1 ½ MW generators to 138 MW of capacity, providing the entire campus community with a reliable, cost-effective source of power. We are tied into the city's grid, and we are able to receive power from Austin Energy at a moment's notice if needed. We have a remarkable record of only five campus-wide outages since 1964.

What are the advantages of generating your own energy instead of buying it?

A large, dense campus, such as UT Austin, is best served by what is known as a combined heat and power (CHP) plant. By utilizing highly efficient gas turbine generator technology, we meet all of our power needs, and we are able to recover energy in waste heat by producing steam and utilizing it as a heating medium all across campus (e.g., for domestic water heating or comfort heating). Most U.S. municipal utilities do not have the option of extracting this additional energy from their systems. In addition, we are able to share how the technology works, along with our efficiency practices, with many of the UT students and faculty who visit and tour the plant throughout the year. It provides an excellent learning opportunity, particularly for those in the areas of engineering, geosciences, and sustainability studies.

Do you plan to implement alternative energy sources?

We are consistently looking at ways to implement alternative energy sources including storage batteries, hydrogen, and geothermal energy. Our aim is to provide efficient, cost-effective, and reliable utilities to the UT Austin campus. Thus, as the technology for alternative sources continues to mature, we aim to evaluate them and their viability on our campus.

Do you sell any of your energy to the public?

First and foremost, our priority is to provide UT with the most cost-effective and reliable source of power possible in order to maintain its research and learning environments. Becoming a seller in the energy market would not align with our mission. We are further limited by geographic constraints, being that our campus is located in the center of a municipality, and thus we lack the capability to send power to outside customers.

Where does your water come from?

For the water used in power plant and chilling station operations, we recover water from air conditioning condensation and other clean sources. We purchase reclaimed, irrigation, and domestic water from the City of Austin. Our largest water usage goes to plant cooling systems such as cooling towers.

Are there partnership opportunities available to drive progress for UT?

Absolutely! We have a range of projects aligned with UT Austin's 10-Year Strategic Plan to foster progress in several key initiatives. These initiatives include becoming the best place to work for staff, enhancing staff opportunities, creating inspiring spaces, delivering operational excellence, advancing interdisciplinary study, building the best infrastructure, leading energy and environment research, and propelling technology and society. If you're interested in exploring partnership opportunities, we want to partner with you and find ways to collaborate. Contact our executive director, who will be happy to provide more information and discuss potential collaborations.

Awards and Recognition

- PEER Platinum Certification Renewal, 2020
- International District Energy Association System of the Year Award, 2018
- Global District Energy Climate Award, 2009

Contact

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