



Director of Utilities and Energy Management

The University of Texas at Austin (UT Austin) welcomes nominations and applications for the position of Director of Utilities and Planning Management. The University is seeking an expert leader who has proven experience in the utilities and energy management field and is adept at complex decision-making in a high-risk environment and has a record of being collaborative and innovative in their approach to meeting the needs of partners and customers. UT Austin has set a global standard amongst their peers by maintaining a reliable and sustainable power infrastructure and is ranked among the largest and most competitive research universities.

[Utilities and Energy Management](#) (UEM) is part of the [Financial and Administrative Services](#) (FAS) portfolio at UT Austin. FAS supports the research and academic mission of the university through an array of financial and operational supports that improve continuously to meet the ever-changing needs of the campus community. With more than 2,400 employees, FAS oversees financial, business, procurement and payment, information technology, security and safety, physical infrastructure, operational and human resource services, frequently partnering with faculty, staff and students.

The Utilities and Energy Management organization is an integral part of FAS and provides reliable and cost-effective electricity, chilled water, steam, deionized water, compressed air, emergency power, and elevator services for The University of Texas at Austin. There are approximately 200 employees in five divisions: **Electrical Distribution and Elevator Services, Energy Management and Optimization, Mechanical Distribution, Power Plant and Chilling Stations, and Support Services.**

The University of Texas at Austin

The University of Texas at Austin, founded in 1883, ranks among the 40 best universities in the world, supports 51,000 diverse students with top national programs across 18 colleges and schools, and is Texas' leading research university, attracting more than \$650 million annually for discovery. The university contributes to the advancement of society through research, creative activity, scholarly inquiry, and the development and dissemination of new knowledge, including the commercialization of university discoveries. The university preserves and promotes the arts, benefits the state's economy, serves the citizens through public programs, and provides other public service.

UT Austin's beautiful campus is located in the heart of downtown Austin, a city bursting with an entrepreneurial spirit, a commitment to personal freedom, and a passion for unearthing new discoveries. Austin is known for internationally renowned music, film and art scene, and has a thriving economy that leads the way in the technology, engineering, and health care industries.

The University of Texas at Austin embarked on a [strategic planning process](#) in 2021 with a goal to become the world's highest-impact public research university, unleashing knowledge, opportunity, and innovation from the heart of Texas. To be an exceptional, diverse community of learners and scholars, leaders and trailblazers

amplifying the unmatched potential of Austin and Texas and changing the world through transformative experiences, education, and research.

Shared Values of Financial and Administrative Services

Across the FAS portfolio, planning, decision making, and activities are guided by diversity, innovation, integrity, service, stewardship, and teamwork.

- **Diversity:** We believe the best ideas are born from sharing viewpoints, opinions, and perceptions from colleagues with varied backgrounds and experiences.
- **Innovation:** We are creative and innovative in our service to the campus community.
- **Integrity:** We perform our work in a transparent, honest, and accountable manner. We also commit to meeting all compliance and reporting standards.
- **Service:** We are customer service-oriented and offer responsive, reliable, and seamless support.
- **Stewardship:** We are exceptional caretakers of the resources entrusted to FAS.
- **Teamwork:** We work collaboratively across our organizations on common objectives and develop efficient and cost-effective systems and processes for campus.

Diversity Commitment

Financial and Administrative Services (FAS) is dedicated to supporting the mission of The University of Texas at Austin of unlocking potential and preparing future leaders of the state. One of the essential elements of meeting that mission is conducting work in a way that reflects the value of diversity in its many facets.

FAS wants all employees to feel confident that their varied backgrounds and experiences are valued. In a similar manner, they embrace the expectation those experiences, in concert with the portfolio's other values of innovation, integrity, service, stewardship, and teamwork, will inform their work.

They commit to supporting staff with training and professional development to ensure diverse voices are invited, included, and listened to in the work environment. FAS promotes and sustains a sense of belonging for all colleagues. They commit to growing retention, promotion, recruitment, and hiring efforts to improve diversity at all levels in the portfolio.

Please visit the Diversity Commitment page to learn more about the vision, purpose, and current initiatives in support of a healthy operational culture where all employees feel safe, connected, valued, and respected.

<https://financials.utexas.edu/diversity-commitment>

Leadership

[Darrell Bazzell](#) is the Senior Vice President and Chief Financial Officer (SVP/CFO) at The University of Texas at Austin. In this role, he serves as the financial steward of the university's resources and as the chief executive for the Financial and Administrative Services (FAS) portfolio.

As SVP/CFO, he has championed long-term budgetary strategies in support of the university's research and educational missions and efforts to modernize business systems. Under Bazzell's leadership, key campus services prioritize partnerships with academic affairs, student affairs, and research to bring a high level of support to the university's students, faculty, and staff.

Responsible for the largest portfolio of campus services, Bazzell has begun initiatives focused on improving business processes to better serve faculty, staff, and students while gaining much needed efficiencies. Departments responsible for campus safety, information security, finances, human resources, information technology, facilities, and other business transactions and services, are committed to providing reliable and seamless support to their university customers while exploring ways to improve current business practices.



Utilities and Energy Management

Utilities and Energy Management uses innovation and technology to provide reliable and cost-effective utilities to support the tradition of teaching and research excellence at The University of Texas at Austin. UEM supports education, research, and public service at The University of Texas at Austin by providing efficient, resilient, and reliable services.

UT Austin's sole energy source is natural gas, which is delivered directly to the UT campus to power the infrastructure. UEM generates all of their own electricity, and only produces what is needed. The campus operates as a **district energy system**, whereby the main campus buildings are 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 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: Since 2009, demand-side energy use (energy used by buildings) has been reduced by more than 20 percent, and annual utility cost avoidance from supply-side energy conservation measures has reached \$12 million, totaling nearly \$160 million over the last 15 years.

Carbon-neutral growth: UT Austin has maintained flat natural gas use since 1976, despite campus growth of more than 100 percent, representing four decades of carbon-neutral development and offsetting more than 220,000 metric tons of CO₂ production each year.

Water reuse and use reduction: UT Austin captures condensate from nearly all building HVAC equipment and uses it to offset cooling tower makeup. They also purchase reclaimed water, offsetting the need for more than 1.2 billion gallons of municipal water use since 2006.

Major Statistics:

- UEM serves a population of 74,000 students, faculty, and staff.
- We provide power for 160+ buildings, totaling more than 22 million square feet.
- We generate 100 percent of the energy used on campus.
- More than 70 miles of pipe make up our underground, looped distribution systems.
- Our overall efficiency rate is 85 percent.

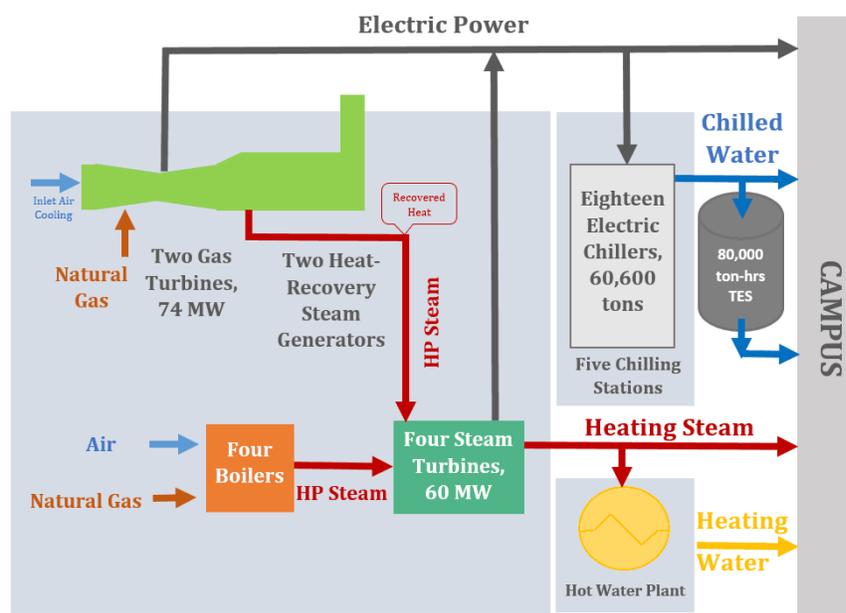
Carl J. Eckhardt Combined Heating and Power Complex

One of the largest microgrids in the United States, the [UT Austin Carl J. Eckhardt Combined Heat and Power](#) plant (CHP) is capable of generating 135 MW (megawatt) power (63 MW peak) and 1.2 million lb/hr (pounds per hour) of steam. The single largest electrical load on campus is the cooling system that can provide 60,600 tons (33,000 tons peak) of chilled water to the campus. The Carl J. Eckhardt Heating and Power Complex has enabled the UT Austin main campus to continue growing while actively reducing the environmental impact due to fuel and water consumption. As the campus grows, so, too, will the efficiency of the complex.

The power complex provides 100 percent of campus electricity and heating. Five chilling stations and 10 million gallons of chilled water in two thermal energy storage tanks satisfy the cooling requirements for 22 million square feet in more than 160 campus buildings, serving 74,000 faculty, students and staff. The complex provides the university with an independent utility system, with electrical ties to the City of Austin electrical grid as an emergency backup source of power.

Operating as a CHP and district energy system, the university is able to function with much greater reliability and efficiency than that afforded through purchased energy. Typical power plants generate waste heat, which is not used for electricity production and is generally expelled either into the atmosphere through cooling towers or into local reservoirs. A CHP facility is able to convert this heat into useful work, such as space heating and hot water, thereby converting around 80 percent of the energy into useful work.

The diagram below provides a general outline of how the university's CHP system operates.



Waste heat from the combustion turbine is recovered and output to a heat recovery steam generator. The recovered heat is then used to generate steam for power, heating, and hot water generation in campus buildings.

Reliability

The UT Austin electric grid has operated with 99.9998 percent reliability over the last 40 years. Based on a three-year average, the grid's reliability score for outage duration (SAIDI) was 9.7 minutes and outage frequency (SAIFI) was 0.04. In contrast, the U.S. national average SAIDI is 310 minutes and the SAIFI is 1.6.

Energy Efficiency

In 1996, the power plant's overall energy efficiency was 62 percent, compared to a typical power plant energy efficiency of only 40 percent. Through 2008, the power plant efficiency increased to 72 percent due to plant modifications and implementation of sophisticated optimization technologies. Chilled water production strategies and the installation of a new gas turbine, operational in 2010, have contributed to reduced fuel consumption and increased efficiency of up to 88 percent.

Emissions

Carbon dioxide (CO₂) emissions have always been an area of concern with fossil fuel power plants, more recently with a growing awareness of a facility's carbon footprint. While natural gas is considered one of the cleanest fossil fuels available, it is still a significant source of greenhouse gas emissions, notably carbon dioxide. Since 1996, the UT power plant has generated 4,765,600 tons of carbon dioxide, averaging about 240,000 tons per year. Figuratively, this is equivalent to the carbon output of 45,837 cars on the road in a year.

The system has avoided releasing 1,252,119 metric tons of carbon dioxide (CO₂e). That's equivalent to taking 239,136 cars off the road for a year or preserving 8,771 acres of forest -- a forest roughly 22 times the size of the UT Austin main campus.

District Cooling System

The university's district cooling system consists of five cooling plants distributed strategically across campus and interconnected by more than eight miles of piping. With the addition of our latest plant, designed to serve the Dell Seton Medical Center, our stations have a combined capacity of 60,600 tons of cooling and are complemented by two thermal energy storage tanks which store a combined 10 million gallons of chilled water.

Our stations use a variety of advanced technologies to minimize the cost of cooling the campus:

- **Variable speed motors** – The ability to run chiller compressors, pumps, and fan motors at variable speeds, rather than modulating output by throttling valves, allows us to achieve greater efficiencies.
- **Real time optimization** – To fully exploit the advantages of variable speed equipment, a control system monitors campus chilled water conditions every two seconds and uses advanced algorithms to minimize compressor, pumping, and fan motor energy continuously.

- **Hydraulic modeling** – A network of instruments distributed across campus provides a real-time view of the system. The model takes as inputs weather conditions, real-time building energy flows, plant chilled-water flow, and differential-pressure (dP) readings from critical points in the system to predict and validate conditions throughout the network, including flow-constraint locations.

The overall goal of system optimization is to use the least amount of electricity to produce chilled water. Our optimization strategies have steadily decreased the number of kilowatts required to produce a ton of cooling.

Benefits of District Cooling

- District cooling is 40 to 50 percent more energy efficient than conventional systems.
- It has substantially lower operating costs, higher operating reliability and availability.
- It reduces new building construction costs compared to conventional air-conditioning systems.
- District cooling improves air quality and temperature control. These are frequently difficult to monitor and regulate, especially if the system is operating below optimal levels.
- District cooling offers a high potential for economies of scale through the use of large, centralized plants to replace multiple individual units.
- District cooling reduces net CO2 emissions compared to distributed conventional systems.

More information can be found by visiting: [UEM Fact Sheet](#)

The Position

Reporting to the Senior Vice President and Chief Financial Officer, the Director of Utilities and Energy Management manages all functions related to supporting the missions of the University, Financial and Administrative Services, and UEM including long-range planning for utility infrastructure and vertical transportation for the main campus and the J.J. Pickle Research Campus.

This includes but is not limited to the operation of power, heating and chilled water plants, and management of underground utilities such as water, wastewater, reclaimed water, recovered water, chilled water, steam, hot water, compressed air, demineralized water, and electricity and supports a demand side conservation program in partnership with Facilities Services.

This also includes managing the elevator and escalator maintenance, upgrade and construction program to sustain the cost effectiveness, safety, and reliability of the systems. Responsible for directly managing UEM projects as authorized; managing the standards necessary to sustain the efficiency, redundancy, reliability, resiliency, and excellence in renovation and capital construction projects related to UEM; and working directly with outside consultants and the General Land Office to procure natural gas.

The director will lead a globally recognized utilities and energy management department known for their cutting-edge approach to meeting the needs of the institution and for setting standards in higher education and in industry. The incoming director will have the vision to account for the future growth of The University of Texas at Austin, an ability to incorporate and adapt to various stakeholder's master plans, and the desire to

collaborate and build trust internally and externally. The work of the utilities and energy management team is crucial to the mission of the university, and the staff are seasoned leaders who are highly skilled, service-oriented, and seek to provide innovative solutions to the needs of the institution.

In addition, the director will address the needs of one of the largest and most prominent research universities in the country with a particular focus on providing an uninterrupted supply of energy at all times. Given the incredible breadth of research customers on UT Austin's campus as well as the inherent criticality of the new medical school, UEM's commitment to reliability is first and foremost. The director will oversee the upgrade and replacement of aging systems and sustainability efforts focused on current buildings and infrastructure to ensure the work of the institution is not compromised.

Principal Duties:

- Responsible for overall leadership of UEM an organization with an annual budget of \$60 million and approximately 200 employees. This responsibility includes daily operations and the development of long-term objectives and goals that sustain the efficiency, redundancy, reliability, resiliency, and excellence of the systems.
- Provides direct support for the development of natural gas procurement strategies and works with consultants and the Texas General Land Office to execute these strategies.
- Leads the development and execution of UEM operational programs, maintenance programs, and capital projects.
- Serves as member of the Financial and Administrative Services portfolio to assist in the development of goals and decision making on campus-wide utility and facility related issues.
- Special projects and other duties as assigned, including but not limited to participation in meetings or events related to utility or university operations.
- Supervise a team of approximately 200 staff with a commitment to talent development and management.

Required Experience, Skills and Personal Attributes

- Bachelor's degree in mechanical, electrical engineering, or related field.
- Professional Engineer in Texas or ability to obtain it within two years.
- Five years' experience managing utility operations, power generation, chilled water production, mechanical and electrical distribution.
- Experience managing construction projects related to university operations.
- Experience managing a diverse workforce and experience working with personnel at all levels from the university executive level to the lowest crafts level.
- Ability to establish and maintain effective work relationships while including the ability to negotiate and solve problems with multiple constituencies.
- Demonstrated achievement in growing and retaining an inclusive and diverse workforce, providing guidance that promotes civility in the workplace, and coaching others to work collaboratively and effectively to support organizational goals and the university's mission.

Preferred Experience

- Master's degree in mechanical, electrical engineering, or business administration.
- Eight years' experience managing utility operations, power generation, chilled water production, mechanical and electrical distribution.
- Experience developing, presenting, defending, and managing large capital utility infrastructure projects. Experience with natural gas or related energy contracting and procurement processes.

For best consideration, please send all nominations and applications to:



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The University of Texas at Austin is committed to providing an inclusive educational environment in which all students, faculty, and staff can learn, research, create, work and thrive free from all forms of harassment, discrimination, and misconduct. As an equal opportunity/affirmative action employer, UT Austin complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, or veteran status in employment, educational programs and activities, and admissions.