



### **How is Utilities & Energy Management (UEM) looking to the future?**

- Updating comprehensive Utility and Energy Master Plan
- Energy Action Plan 2015
- Improved Customer Service

### **UEM Master Plan Update to be Complete in Fall 2011**

- Define utility infrastructure requirements with specific recommendations for implementation
- Utility production and distribution system optimization
- Building automation and HVAC system optimization
- Update design standards for new buildings and major renovations
- Perform energy consumption, financial, and environmental impact analyses
- Recommend new opportunities to leverage technology and academic partnering

### **Energy Action Plan 2015**

- Energy Stewardship Program to reduce consumption by educating, raising awareness, and engaging campus community
- Comprehensive Building Automation Management
- Utility Metering and Data Management
- Building Energy System Retro-Commissioning
- Server Room Consolidation and Virtualization
- Utility Production/Distribution Optimization
- Smart Energy Campus Initiative
- Building Energy Efficiency Optimization
- Environmental Benefit and GHG Reduction

To learn more, contact us at 979.845.1210 or visit <http://utilities.tamu.edu>.

## **Utilities and Energy Efficiency Improvement**

### **How Does Texas A&M University Manage Utilities and Energy?**

The Utilities & Energy Management (UEM) department monitors, evaluates, and manages all utilities and energy on the Texas A&M University campus. UEM determines all purchased energy requirements; manages extensive utility production and delivery systems for electricity, cooling, heating, and water systems; manages all building automation to maintain the environment; meters and recovers cost for all utilities; and provides the expertise and service to optimize the use of energy. Other services include solid waste and recycling, water production and management, and operation of two wastewater treatment facilities.

### **How Has Utilities & Energy Management Been Improved?**

- \$200 million invested in utility infrastructure capacity, reliability and efficiency capital upgrades since 2000
- 36 percent reduction in energy consumption per gross square foot over the last nine years (FY02 to FY11)
- Upgraded Combined Heat and Power (CHP) Generation in 2011
- Improvements to building cooling and heating system operation and control
- Improved operation and management of utility/energy infrastructure with significantly improved efficiency, reliability, and safety

### **Utility Infrastructure Expansion and Upgrade – Since 2002**

- Connected additional 3.9 million gross square feet into utility infrastructure
- Major upgrades in all four campus utility plants
- Installed 11 new high-efficiency chillers
- Installed 15 new high-efficiency boilers
- 1,500 revenue-quality meters installed in 500 buildings
- Utility plant monitoring and control system upgrade
- Electrical generation, distribution, and monitoring system upgrades
- Numerous cooling tower, pumping, and auxiliary system upgrades
- Significant improvement in capacity, safety, reliability, and efficiency of utility plant and building utility/energy systems

### **Reduced Consumption and Cost Over Nine Years – Since 2002**

- Over 22% reduction in energy consumption with 21% increase in square footage
- Corresponding reduction in Green House Gas emissions (GHG footprint)
- \$120 million in energy cost avoidance as result of improved efficiency
- 25% reduction in domestic water consumption
- 500% increase in quantity of solid waste diverted from landfill to recycled material

### **Upgraded Combined Heat and Power (CHP) Generation**

- Major new CHP equipment fully operational August 1, 2011
- \$73.25 million project to be completed in 2011
- \$10 million Department of Energy grant awarded to TAMU (reduced university funding requirement)
- Significant reduction in energy consumption, GHG emissions, and operating cost
- CHP to achieve additional \$6 million annual cost avoidance

### **Improved Building Automation and Control**

- 120 buildings on building automation system – one of the largest building automation systems in the world
- \$15 million Heating, ventilation and air conditioning (HVAC) control and lighting upgrades installed in 24 facilities in 2011 – improves service and adds additional \$1.5 million annual cost avoidance
- Precise control of environmentally sensitive research labs and other spaces
- UEM assumed additional responsibility in 2011 for comprehensive management of all building automation and environmental control - to raise standards and improve customer service