

Texas Tech University Energy Savings Program October 2006 Update

The Texas Tech Energy Savings Update is being submitted in accordance with Governor's Executive Order, RP 49, Electric Conservation by State Agencies. Energy numbers come from the Energy Report filed with SECO semi-annually. Texas Tech is currently in line to achieve its energy reduction goal.

A. Energy Goals

1. Campus Energy Use

Energy units are converted to mmBtu to allow for comparisons of the various energy forms. Goals and energy use are then stated in mmBtu/sq ft. Estimated savings are based on energy consumption for the same time period from the previous year normalized to current energy costs and campus square footage.

In FY06 the campus consumed 0.1899 mmBtu/sq ft, an increase of 0.4% from FY05. The unusually hot weather in September 2005 and the summer of 2006 were the most significant factors affecting the increase in energy consumption for campus. This is evident by the increase in chilled water and electrical use during these time periods.

In Table I, the campus energy use is broken down by utility type. A negative change indicates an increase in consumption while a positive number indicates a decrease compared to the previous year.

Table I: Campus Energy Use (mmBtu/Sq ft): September-August

Utility	FY05 Actual	FY06 Actual	% Change	Est. Savings
Electricity	0.0489	0.0505	-3.3%	-\$181,200
Nat. Gas	0.0185	0.0176	5.5%	\$43,000
Steam	0.0603	0.0564	6.5%	\$310,700
Chillwater	0.0612	0.0654	-6.6%	-\$240,200
Total	0.1889	0.1899	-0.5%	-\$67,700

2. Fleet Management

- a. In FY2004 the Texas Tech University vehicle fleet consumed 201,186 gallons of fuel and traveled 2,279,692 miles. In FY2005 Texas Tech University consumed 196,059 gallons of fuel, a reduction of 2.5% while traveling 2,307,849 miles. The agency determined goal for FY2006 is 5% less or 186,256 gallons. The estimated efficiency in miles per gallons (mpg) required will be approximately 12.4.

In FY2006, the Texas Tech University vehicle fleet consumed 189,740.3 gallons of fuel. This figure represents a 3.3% decrease compared with the same period in FY2005. The goal of 5% reduction in fuel consumption was not achieved; however, a reduction in fuel consumption was noted.

The established FY2006 goal for Texas Tech University is 12.4 mpg.

Table II reflects the efficiency of the University fleet through the fourth quarter of FY2006. These figures represent an increase in vehicle efficiency compared with previous year data. The 12.4 goal was not reached in FY2006. However, an improvement in efficiency was noted.

Table II. Historical University Vehicle Fleet Efficiency (mpg)

MPG	1st Q	2nd Q	3rd Q	4th Q	Annual
FY 04	10.0	11.5	12.5	11.7	11.3
FY 05	11.7	10.8	11.9	12.6	11.8
FY 06	11.9	12.2	12.3	11.3	11.9

B. Current Energy Reduction Plans

1. Campus Energy Use

Texas Tech is currently seeking funding from TPFA using the Master Lease Purchase Program for two energy projects.

- a. AHU VFD Project – Estimated cost of \$600,000 with a payback of 2.3 years.
- b. International Textile Center Performance Contract - \$560,000 with a 6 year payback.

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2. Fleet Management

The Texas Tech University tactics to achieve this goal are:

- a. Improve overall fuel efficiency of fleet vehicles by replacing older, inefficient vehicles with newer, more efficient vehicles.
In FY2006, Texas Tech University has acquired forty-six new, more efficient vehicles. Additionally, as of August 31, 2006, an additional seventeen new, more efficient vehicles are currently on order to replace older, less efficient models.
- b. Continue the aggressive Preventative Maintenance program to maintain all vehicles at their peak efficiency.
The Preventive Maintenance program for all Texas Tech University vehicles will continue to be monitored. Routinely, notices are sent to all vehicle custodians advising when preventive maintenance services are needed.
- c. Continue to utilize the State's Fleet Data Management System.
The Texas Tech University Vehicle Fleet Management office will continue to use the Fleet Focus database to monitor vehicle utilization, efficiency, maintenance and accuracy of vehicle reporting. Any discrepancies will immediately be addressed with appropriate vehicle custodians.
- d. Educate personnel on the efficient use of University vehicles.
The Vehicle Fleet Management office of Texas Tech University initiated a letter from the Vice-President of Operations to all vehicle custodians in December 2005, to advise them of Governor Perry's Executive Order and the University's established goal of 12.4 mpg. Additional information included individual vehicle miles per gallon data for FY2005 and tips for improving vehicle efficiency.

- e. Document agency best practices for operation and maintenance.
New initiatives will continue to be collected and shared with appropriate vehicle custodians and operators through the Vehicle Fleet Management quarterly newsletter.

C. Future Energy Reduction Plans

- a. AHU Controls Upgrade – Estimated cost of \$500,000 with an estimated payback of 6 years.
- b. Boiler Side-stream Heat Recovery – Estimated cost of \$500,000 with an estimated payback of less than 5 years.

D. Fuel Consumption Reduction Plans

- a. The Vehicle Fleet Management office will network with vehicle custodians to exchange information on vehicle efficiency and solicit additional best practices and other initiatives for the University's vehicle fleet.