

Texas Tech University
Energy Conservation Plan - Quarterly Update
April 2006

Executive Order RP-49 from the Governor’s Office requires each state agency to develop an energy conservation plan and set percentage goals for reducing electricity, gasoline, and natural gas.

Identified in the Resource Efficiency Plan, reporting to the State Energy Conservation Office (SECO) is the two-year energy reduction goal of 3.5%. Tactics identified to achieve this goal include implementing identified energy projects totaling approximately \$2.16 million with an estimated annual energy savings of \$650,000. The funding source identified for these projects is the LoanSTAR Revolving Loan Program managed by the Texas State Energy Conservation Office.

The Fleet Fuel Management Plan, reporting to the State Office of Vehicle Fleet Management (SOVFM) sets a 5% reduction in fleet fuel consumption for fiscal year 2006. Tactics identified to achieve this goal include replacing older vehicles with new, more efficient vehicles and implementing best practices for maintenance and operation.

The following quarterly update to the Energy Conservation Plan is being submitted in accordance with Executive Order RP-49. Energy numbers come from the Energy Report filed with SECO semi-annually.

A. Energy Goals

1. Campus Energy Use

In FY2004 the Texas Tech University campus consumed 192.1 kBtu/sq. ft. In FY2005 the campus consumed 189.0 kbtu/sq. ft, a decrease of 1.6%. The agency determined goal for FY2006 is 188.0 kBtu/sq. ft

In the first two quarters of FY2006 the overall energy consumption was 43.2 kBtu/sq. ft, a reduction/increase of 3.3% compared to the same period in FY2006. Table I reflects the energy consumption and dollar savings for FY2006 compared to the same period in FY2005. Energy savings are normalized to current energy costs.

Table I. Campus Energy Use (Sept. – Feb)

Utility	Goal (kBtu/sq. ft.)	FY2006 (kBtu/sq. ft.)	% Change	Savings
Electricity	12.1	12.2	(0.9%)	(\$9,600)
Steam	22.7	21.8	3.8%	\$134,800
Chilled Water	10.0	9.2	7.4%	\$28,900
Total	44.8	43.2	3.3%	\$154,100

2. Fleet Management

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

In the first two quarters of FY2006, the Texas Tech University vehicle fleet consumed 95,839.8 gallons of fuel. This figure represents a 1.1% decrease compared with the same period of time in FY2005.

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

Table II reflects the efficiency of the University fleet through the second quarter of FY2006. These figures represent an increase in vehicle efficiency compared with previous year data.

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
<i>FY 06</i>	11.9	12.4			

B. Current Energy Reduction Plans

1. Campus Energy Use

Texas Tech is currently seeking funding from Texas Public Finance Authority (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.

2. Fleet Management

The Texas Tech University tactics to achieve the reduction goal are:

- a. Improve overall fuel efficiency of fleet vehicles by replacing older, inefficient vehicles with newer, more efficient vehicles.
In the first two quarters of FY2006, Texas Tech University has acquired twenty-four new, more efficient vehicles. Additionally, as of April 1, 2006, an additional nine 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, advising 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. Continue operational efficiency modifications to improve the scheduling between academic departments and equipment runtime schedules.
- b. AHU Controls Upgrade – Estimated cost of \$500,000 with an estimated payback of 6 years.
- c. Boiler Side-stream Heat Recover – 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 creative initiatives for the university vehicle fleet.