

## Texas Tech University Energy Savings Program July 2007 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 may not achieve its energy reduction goal this fiscal year.

### 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.

Through the third quarter of FY07 the campus consumed 0.1444 mmbtu/sq ft, an increase of 2.0% from FY06.

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-May**

Utility	FY06 Actual	FY07 Actual	% Change	Est. Savings
Electricity	0.0373	0.0367	1.6%	\$39,000
Nat. Gas	0.0147	0.0158	-7.5%	-\$34,100
Steam	0.0514	0.0555	-8.0%	-\$468,500
Chillwater	0.0405	0.0364	10.1%	\$305,800
Total	0.1439	0.1444	-2.0%	-\$157,800

## 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. For FY 2006, the agency established a reduction goal of 5% from FY 2005. This represented a total consumption of 186,256 gallons with an average of 12.4 miles per gallon.

However, in FY2006, the Texas Tech University vehicle fleet consumed 189,740 gallons of fuel. This figure represents a 3.3% decrease compared with the same period in FY2005. Even though the actual consumption fell short of the goal by less than 2%, a continued reduction in fuel consumption resulted.

*In the first three quarters of FY2007, the Texas Tech University vehicle fleet consumed 149,406 gallons of fuel compared to 143,877 gallons of fuel in the first three quarters of FY2006. These figures represent a 3% increase in fuel consumption.*

The established FY2007 goal of 12.4 mpg is still the target for the Texas Tech University vehicle fleet.

*The table below reflects the efficiency of the University fleet through the third quarter of FY2007. The figures below represent a decrease in vehicle efficiency compared with previous year data.*

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	11.6	11.9
<i>FY 07</i>	<i>11.3</i>	<i>11.0</i>	<i>11.7</i>		

## **B. Current Energy Reduction Plans**

### **1. Campus Energy Use**

Texas Tech is currently seeking funding from TPFPA 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.
- c. Perform a minimum of 1 detailed energy audit per month beginning with the largest consumers of energy.
  - 1) Five complete since last report
  - 2) Savings estimate if all recommendations implemented is \$93,400/yr.

### **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 preventative 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**

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

**D. Fuel Consumption Reduction Plans**

- 1. 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.