

**University of Texas at Austin
Vehicle Fleet
Alternative Fuels Policy**

Background

In 1991 the Texas Legislature enacted laws requiring state agencies to purchase and operate vehicles powered by clean burning alternative fuels. Similar federal statutes, enacted in 1992, followed the state legislation. The goal of both groups of lawmakers was to take advantage of Texas' natural resources, reduce dependence on foreign oil, and improve air quality. Recent rule changes promulgated by state and federal government necessitate the adoption of policies formally implementing the operative sections of these statutes. The following policy is intended to offer guidance and essential information for departments as they work to meet a series of complex, sometimes contradictory, alternative fuels requirements.

Purpose

This alternative fuels policy provides instructions for individual departments to follow when planning new vehicle purchases, preparing new vehicle purchase specifications, planning alternative fuels conversions for existing vehicles and operating existing vehicles. Any deviation from this policy must be approved, in writing, by the Fleet Manager.

Preferred Alternative Fuels

All of the fuels on the approved alternative fuels list are acceptable. But, due to the expense associated with training, providing necessary support equipment and stocking various types of fuel, the University of Texas at Austin's Fleet Manager (Fleet Manager) recommends departments limit their choice of fuel types. The three preferred alternative fuels are E85 and propane (LPG) for vehicles usually powered by gasoline, and B20 for diesel trucks.

Advantages and Disadvantages of the Preferred Alternative Fuels

Advantages of E85

Ethanol is a renewable resource that contributes nothing in itself to global warming concerns. It can be blended with any amount of gasoline in the tank of a flexible fuel vehicle, which is what many automakers are selling these days. Starting with the 1999 model year, some automakers are making *every one* of certain vehicle models capable of using E85 in any mixture with gasoline, at no extra charge. Thus owners will not have to do anything extra at all to have a vehicle capable of using an alternative fuel.

Disadvantages of E85

The main disadvantage of E85 is the price of the fuel. However, research is under way to enable the fermentation of lower-grade feedstocks. Ethanol is somewhat corrosive and concerns about vapor lock, cold starts, and flame visibility have led to a standard blend of 85% alcohol with 15% gasoline.

Advantages of LPG

Because it is widely available (over 700 retail stations in Texas), LPG is the most commonly used alternative fuel in the United States. To liquefy the fuel, it is compressed to about 20 times standard atmospheric pressure and stored in heavy steel tanks. These tanks are much tougher than the typical sheet metal or plastic gasoline tanks found in most vehicles. Additionally, the tanks are built with an automatic shutoff valve that will seal the tank if one of the fuel lines develops a leak. For these reasons LPG is generally considered safer than gasoline. In most places, it is also slightly less expensive in price than gasoline. Since LPG enters the engine as a vapor, it does not wash oil off cylinder walls or dilute the oil. When the engine is cold it doesn't deposit carbon particles or sulfuric acid in the oil. Thus, when an engine operates on propane, it usually enjoys a longer service life and reduced maintenance costs.

Disadvantages of LPG

On a gallon-per-gallon basis, LPG is somewhat lower in energy content compared to gasoline. This difference produces the need for a slightly larger than average fuel tank to achieve the same driving range. The cost of required conversion equipment will increase the base price for the vehicle by about \$2,500.

Advantages of B20

B20 can be stored and dispensed in exactly the same manner as 100% petroleum based diesel fuel. Additionally, diesel-powered vehicles require no modification at all to run on B20. Thus any diesel-powered vehicle is, potentially, already an alternative-fueled vehicle. Since biodiesel is not a fossil fuel, it can cut greenhouse-gas emissions as well as ordinary pollutants (particularly soot) by displacing petroleum based fuel. Because it requires no changes in hardware (vehicle or refueling) or retraining of mechanics and users, some studies have shown that it could be the most cost-effective way to meet clean-air requirements.

Disadvantages

The main disadvantage of B20 is fuel cost.

Purchasing Requirements

To achieve compliance with state and federal statutes, all requests to purchase new vehicles must give priority to purchasing a vehicle powered by an approved alternative fuel. Failure to achieve and maintain compliance with certain statutes may result in fines of up to \$50,000 per vehicle, per day.

While it is possible to purchase certain vehicles and have them locally converted to operate on an approved fuel, the recommended procedure is to order a bi-fueled vehicle (a vehicle that can

operate on traditional fuel or an approved alternative fuel rather than a dedicated alternative fuel vehicle) directly from the factory. The primary reason for this approach relates to the difficulty in locating qualified conversion shops, potential warranty problems, the need to develop equipment specifications that meet a complex set of state and federal requirements, and a potential shortage of approved alternative fuels during inter and intra state operations. Additionally, in most cases, “aftermarket conversions” are more expensive and typically do not perform as reliably as those completed at the factory. The following is a list of model year 2001 vehicles that are currently available in Texas. Please note, the bi-fueled E85/gasoline powered vehicles may be purchased from the factory already converted at no additional cost over the base price for that vehicle. For a more current list of vehicles and cost information, please contact the University of Texas Purchasing Department.

Bi-Fueled E85/Gasoline

Ford 3.0-L Ranger pick-ups
 General Motor’s 2.2-L S-10 pickups
 GMC 2.2-L Sonoma pickups
 Chrysler 3.3-L minivans
 Dodge 3.3-L minivans
 Plymouth 3.3-L minivans
 Ford 3.0-L Taurus LX sedans
 Ford 3.0-L Taurus sedans

Bi-Fueled Propane/Gasoline

Ford F150 standard cab
 Ford F150 standard cab

Purchase Orders for New Vehicles

Beginning September 1, 2001, the University of Texas Purchasing Department will not process a purchase request for a new vehicle unless the request includes provisions to:

- Purchase an approved alternative fuels vehicle; or
- Purchase a conventional vehicle and have it converted to an approved fuel prior to delivery (a purchase request for conversion must be attached to the request to acquire a conventional vehicle and be processed at the same time); or
- Purchase a conventional vehicle with an alternative fuels waiver, endorsed by the Fleet Manager, attached to the order.

Waivers

Because of the ready availability of qualifying vehicles and approved alternative fuels, the authority to issue a waiver from state and federal requirements is extremely limited. In prior years many waivers were issued due to high conversion or operational costs, unavailability of fuel and equipment, or lack of space. In today’s market the cost is reasonable, fuel and

equipment is readily available, and with new tank designs space is no longer a problem. Questions about waivers or special circumstances should be addressed to the Fleet Manager.

Exceptions

State and federal statutes exempt the following vehicles from the alternative fuels program:

- Vehicles used for law enforcement, emergency, or safety purposes; or
- Vehicles used for vehicle research purposes, such as crash tests or related research.

Fuel Use

Vehicles capable of operating on an approved alternative fuel will use that alternative fuel when available. The goal of the University of Texas at Austin is to procure bi-fueled vehicles so conventional gasoline can be used when the alternative fuel is not available.

Definitions

Approved Alternative Fuels – State regulations identify the following fuels as meeting the minimum requirements for alternative fuels use:

- 85% Methanol (also known as M85)
- 85% Ethanol (also known as E85)
- Electricity
- Liquid Petroleum Gas (also known as LPG or propane)
- Compressed Natural Gas (also known as CNG)
- Liquid Natural Gas (also known as LNG)

Federal regulations identify the above listed fuels as meeting the minimum requirements for alternative fuels use and add the following:

- 100% BioDiesel (also known as B100)
- 20% BioDiesel (also known as B20)

Alternative Fuels Conversion – A process involving the use of special hardware and software that gives a vehicle the means to operate on one of the approved alternative fuels.

Bi-fuel Vehicle – A vehicle that can operate on two separate types of fuel. For the purpose of this policy, one fuel being traditional (gasoline or diesel), the other fuel being an approved alternative fuel.

Dedicated Vehicle – A vehicle designed and engineered to operate solely on one specific alternative fuel.

Fleet Manager – A person, designated by the University of Texas at Austin, responsible for planning, directing, managing, coordinating and supervising programs for the acquisition, assignment, utilization, maintenance, repair, replacement and disposal of fleet vehicles.

This person also serves as the primary contact with the State Office of Vehicle Fleet Management

Flexible Fuel Vehicle – A vehicle that has a single fuel storage and combustion system that can be fueled with either a blended alcohol fuel, a traditional fuel, or any combination of these fuels.

Office of the Controller - University of Texas at Austin office that provides high level administrative and financial analysis support for senior level management.

Plan - University of Texas at Austin Vehicle Fleet Management Plan

OFVM - GSC's Office of Vehicle Fleet Management.

University - University of Texas at Austin.

Vice President for Employee and Campus Services – The University of Texas at Austin executive level approval authority for fleet transactions.