

Commonly Used Alternative Fuel Acronyms

- AFV** Alternative fuel vehicle
- Bi-fuel** Two separate fuel systems
- Dedicated** One fuel system
- FFV** Flexible fuel vehicle
- HEV** Hybrid electric vehicle
- LEV** Low emission vehicle
- CNG** Compressed natural gas
- E85** Blend of up to 85% ethanol and 15% gasoline
- EV** Electric vehicle
- LPG** Liquefied petroleum gas (Propane)
- EPACT** Energy Policy Act of 1992
- CAAA** Clean Air Act Amendments of 1990
- CFFP** EPA's Clean Fuel Fleet Program
- CNG2** Bi-fuel, compressed natural gas or gasoline
- LNG2** Liquid natural gas "bi-fuel"
- LPG2** Bi-fuel liquid propane gas or gasoline
- B20** A blend of 20% by volume biodiesel with 80% by volume petroleum diesel

AFV Information Sources

Sources
 National Alternative Fuels Hotline: 800-423-1363
 U.S. DOE's Clean Cities Program: 800-Ccities
 Environmental Protection Agency Website:

Websites
www.afdc.doe.gov
www.ccities.doe.gov
www.epa.gov

Alternative Fuel Vehicles



GSA Automotive
(703) 308-CARS

GSA Automotive can assist you in selecting the right AFV for your agency's fleet. To learn more about the different alternative fuel vehicles currently available, and the current vehicle manufacturers on contract, visit our web sites.

For more general information regarding Federal Supply Service, contact the National Customer Service Center at (800) 488-3111 or email NCSCustomer.service@gsa.gov.

www.gsa.gov/vehicles/buying
www.autochoice.gsa.gov



Q. Where can I get fuel for my AFV?
A. While the number of alternative fueling stations in the U.S. is increasing, their total numbers are still low and finding fuel can be difficult. Refueling site information is available through the National Alternative Fuels Hotline or through their Internet site (see AFV Information Sources).

Q. How do I lease an AFV?
A. Customers interested in leasing electric, ethanol, natural gas and propane AFVs can contact their servicing GSA Fleet office or call (703) 605-5630 for more information.

Q. How do I purchase an AFV?
A. Customer agencies interested in buying AFVs can submit orders in an electronic file format or through AutoChoice.

Q. Is there any funding assistance?
A. The DOE provides funding assistance to Federal fleets for electric vehicle acquisitions. DOE will fund up to 50% of the incremental cost of an electric vehicle (not to exceed \$10,000 per acquisition).

AutoChoice is an on-line ordering system that allows our customers to choose vehicle models, compare contract prices from the major manufacturers, and place vehicle orders on-line!

www.autochoice.gsa.gov



What's The Alternative?



GSA's Office of Vehicle Acquisition and Leasing Services is a full service provider for Federal agencies' vehicle requirements. We offer a variety of alternative fuel vehicles (AFVs) to assist in meeting your acquisition and leasing needs. These vehicles are production line models with all of the features and amenities you would expect to get from gasoline powered vehicles. AFVs have the added benefit of reducing harmful emissions in the air and reducing our nation's dependence on foreign oil. We hope you will support "Drive Green with GSA."



Q. What are Alternative Fuels?

A. The Energy Policy Act of 1992 (EPACT), defines alternative fuels as: "methanol, denatured ethanol, mixtures containing up to 85% methanol or denatured ethanol, natural gas, propane (liquefied petroleum gas), hydrogen, and electricity."

Q. Why use Alternative Fuels?

A. Air quality and energy security are two major national issues. Our nation's health and energy security are currently at risk due to dependence on petroleum as the primary energy source for vehicles. Highway vehicles account for 60% of all pollution in urban areas (aircraft accounts for 1.1% of all pollution in urban areas), and consume over 50% of all oil used in the U.S.

Q. How does GSA help?

A. GSA provides Federal agencies with clean, alternative fuel vehicles. We have purchased over 68,000 AFVs directly from automotive manufacturers for our Federal customers, more than any single organization in the U.S.



Important Information About AFVs

Q. Why do fleets acquire Alternative Fuel Vehicles?

A. There are both legislative and regulatory mandates that require AFV acquisitions for use in Federal fleets.

Energy Policy Act of 1992 (EPACT)

- Mandates the use of light duty AFVs in "covered" Federal fleets (fleets operating in a metropolitan statistical area (msa) with 20 or more vehicles, which are capable of being centrally fueled, barring exceptions).
- FY2000 and thereafter: 75% of all covered light duty vehicle acquisitions must be AFVs (law enforcement, emergency vehicles and vehicles located outside the 125+ msa's covered by EPACT are exempt).

Executive Order 13149 (Greening the Government through Federal Fleet and Transportation Efficiency), which supersedes Executive Order 13031, requires Federal agencies to exercise leadership in petroleum reduction through improvements in fleet efficiency and the use of alternative fuel vehicles and alternative fuels.

Section 201. Reduced Petroleum Fuel Consumption

Each agency operating 20 or more motor vehicles within the United States shall reduce its entire vehicle fleet's annual petroleum consumption by at least 20% by the end of FY 2005, compared with FY 1999 levels.

Section 202. Performance Strategies

Customer agencies must reduce their fleet's petroleum consumption by using a portfolio of defined measures, which are:

1. The acquisition of alternative fuel vehicles and alternative fuel use
2. The acquisition of higher fuel economy vehicles
3. The substitution of cars for trucks
4. A decrease in vehicle miles traveled
5. A decrease in fleet size

Fleets must develop a strategy that includes:

1. The acquisition of alternative fuel vehicles and alternative fuel use
2. The acquisition of higher fuel economy vehicles

Section 301. Leadership Responsibilities

GSA (as well as other agencies) is responsible for providing leadership to the other Federal agencies in implementing programs to meet the goals of this order.

The Office of Vehicle Acquisition and Leasing Services' web site will include the miles per gallon (MPG) rating for light-duty vehicles, as well as the available models and fuel types for the current model year, along with the emissions ratings. This will assist agencies in evaluating the fuel economy efficiencies for the particular light-duty vehicle that would meet their mission.

EPA's Clean Fuel Fleet Program (CFFP)

The Clean Air Act Amendment of 1990 (CAAA) requires Federal fleets to acquire low emission vehicles (LEVs) in the following locations: (50% of all Federal fleet light duty acquisitions for FY2000 must have an LEV rating).

- Atlanta, GA
- Chicago, IL (and surrounding counties)
- Milwaukee, WI (and surrounding counties)
- Denver-Boulder, CO

Q. What types of alternative fuel vehicles are currently available?

A. There are four types of AFVs available: flexible fuel, bi-fuel, dedicated fuel, and electric vehicles.

Flexible fuel vehicles (FFVs) have only one fuel tank. Flexible fuel vehicles are designed to operate on alcohol, gasoline or any combination of both. The vehicle's fuel system automatically adjusts the engine, depending on what type of fuel or mixture is being used.

Bi-fuel vehicles can run on either alternative or conventional fuel. Bi-fuel vehicles have two fuel systems: the driver can switch to operate on either alternative fuel or gasoline. Bi-fuel vehicles offer the benefit of flexibility when compressed natural gas (CNG) or liquefied petroleum gas (LPG) is not readily available.

Dedicated fuel vehicles run on one fuel only. A dedicated AFV has one fuel system and is designed to run exclusively on alternative fuel. Dedicated vehicles are available with CNG, LPG or electric.

Electric vehicles (a dedicated vehicle type) do not have engines. Electric vehicles (EVs) are propelled by an electric drive motor. The motor is provided energy from a battery pack. Battery packs consist of hi-voltage multiple batteries that deliver electrical power to the vehicle's drive motor. Electric vehicles must be recharged with special hi-voltage battery chargers.

Hybrid electric vehicles (HEVs) combine the internal combustion engine of a conventional vehicle with the battery and electric motor of an electric vehicle, resulting in improved fuel economy over conventional vehicles. This combination offers the extended range and rapid refueling that consumers expect from a conventional vehicle, with a significant portion of the energy and environmental benefits of an electric vehicle. The practical benefits of HEVs include improved fuel economy and lower emissions compared to conventional vehicles.

Note: As of the publication date of this brochure, HEVs are not covered by the Energy Policy Act, and availability of the aforementioned vehicles resides with production strategies of the manufacturers.

Q. What types of alternative motor fuels are available?

A. Electricity, ethanol, natural gas and propane are available as motor fuels for light duty vehicles. GSA is fuel neutral and offers a wide range of vehicles capable of operating on these types of alternative motor fuels.

Electric vehicles run exclusively on battery power. Electric vehicles emit the least amount of pollutants of all AFVs offered. However, the driving range of electric vehicles is very limited compared to original equipment manufacturer's (OEM's) conventional vehicles.

Ethanol is a liquid alcohol fuel that can be made from corn, grains or agricultural waste. Ethanol is a renewable energy source and is domestically produced. Ethanol powered vehicles have good performance and emissions characteristics. Ethanol is stored in a liquid form making it very similar to gasoline in handling procedures. Ethanol is most commonly found in a mixture of up to 85 % ethanol and 15 % unleaded gasoline (E85).

Natural gas is a domestically abundant, odorless gas. Compressed natural gas (CNG) is typically stored and dispensed at 3000-3600 psi. Many different types of natural gas vehicles are currently available.

Propane (LPG) is a domestically abundant fuel. LPG vehicles operate cleanly and have good performance characteristics and range. LPG is most commonly found as a by-product of petroleum refining or natural gas processing. While LPG is a gas, it becomes a liquid when pressurized to 125 psi. Fullsize pickups and vans powered by propane are available.

Biodiesel is a clean burning alternative fuel, produced from domestic, renewable resources. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in compression-ignition (diesel) engines with no major modifications.

Q. Do AFVs offer emissions benefits?

A. Yes, all of the AFVs reduce ozone-forming tailpipe emissions. The following diagram shows the percentage of combined carbon monoxide (CO) and nitrogen oxide (Nox) emissions for each alternative fuel as compared to gasoline. For example, the emissions from CNG vehicles are estimated to be 20% compared to 100% emissions from vehicles using gasoline. CNG vehicles demonstrate an 80% reduction in ozone-forming emissions. Emissions from electric vehicles are 0%, because electric vehicles do not emit any exhaust emissions.

