

## Title

### Subhead 1

Intro statement. Federal agencies ask numerous reoccurring questions about Federal fleet management. The U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) helps Federal agencies answer these questions while meeting Federal fleet goals and requirements.



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### Subhead 1

#### Subhead 2

Body text. The Energy Policy Act (EPA) of 1992 defines alternative fuel as methanol, ethanol, natural gas, liquefied petroleum gas, hydrogen, electricity, pure or neat **biodiesel** (B100), or any other fuel deemed by the Secretary of Energy to yield “*substantial energy security and environmental benefits.*” Gasoline blends only qualify if the mixture contains less than 20 percent gasoline. Additional information is available in FEMP’s Alternative Fuels & Federal Fleet Vehicle FAQ at [Web links \(character style\) www.eere.energy.gov/femp/pdfs/federal\\_fleet\\_faq.pdf](http://www.eere.energy.gov/femp/pdfs/federal_fleet_faq.pdf).

Covered fleets are those consisting of 20 or more light duty vehicles centrally located in a metropolitan statistical area that are owned, leased, or operated by the Federal Government.

#### Subhead 2

Body text. EPA 1992 defines alternative fuel vehicles as vehicles that can operate on alternative fuels. The National Defense Authorization Act (NDAA) of 2008 amended EPA 1992 to include fuel cell, lean burn, and hybrid technology vehicles (based on definitions in Section 30B of the Internal Revenue Code of 1986). NDAA also added any other type of vehicle that the U.S. Environmental Protection Agency’s (EPA) Administrator demonstrates to the Secretary of Energy would achieve a significant reduction in petroleum consumption.

Body text. Alternative fuel vehicles (AFVs) can be dedicated (capable of operating on alternative fuels only) or dual fuel (capable of operating on either alternative or conventional fuels). Dual fuel vehicles are also known as flexible fuel vehicles (FFVs). [See Appendix B for more detail.]

### Subhead 1

#### Subhead 2

Body text. EPA 1992, EPA 2005, Executive Order (E.O.) 13423, and the Energy Independence and Security Act (EISA) of 2007 set the following requirements for Federal fleets:

- **Body text bullets/body text bold (character style). EPA 1992:** Requires 75 percent of new light duty vehicle acquisitions be AFVs.
- **EPA 2005:** Requires dual-fueled AFVs to be fueled with alternative fuels unless the DOE grants a waiver.
- **E.O. 13423:** Requires a two percent reduction in annual petroleum consumption through 2015 compared against a 2005 baseline, a 10 percent annual increase in alternative fuel consumption through 2015 compared against a 2005 baseline, and that agencies acquire plug-in hybrids if available and reasonable in cost.
- **EISA 2007:** Requires Federal agencies to purchase low greenhouse gas emitting vehicles. EPA is to issue guidance.

- **EISA 2007:** Requires the installation of renewable fuel pumps at Federal fleet fueling centers.
- **EISA 2007:** Contains language similar to, but not consistent with, E.O. 13423 for petroleum reduction and alternative fuel use increases. DOE is conducting a rulemaking to further explain these requirements.

Further information on Federal fleet management and alternative fuel requirements is available on the FEMP Web site at <http://www.eere.energy.gov/femp/regulations/regulations.html>.

Subhead 2

Agencies subject to the fleet requirements of E.O. 13423, or subject agencies, operate 20 or more motor vehicles within the United States. Subject agencies must also comply with E.O. 13423 and EISA 2007 petroleum reduction and alternative fuel increase requirements. Subject agencies are executive agencies defined by Section 105 of Title 5 United States Code excluding the Government Accountability Office (GAO). For the purpose of E.O. 13423, military department defined by Section 102 of the same code are covered under the auspices of the Department of Defense (DOD).

1. Acquisition
2. Replace medium and heavy duty gasoline vehicles

Program Goals

- By 2012, develop technologies to make ethanol from cellulosic feedstock more cost-competitive.
- By 2017, create an environment conducive to sustainable biofuels production, including cost effective technology, supportive infrastructure, and market acceptance.
- By 2022, facilitate U.S. biorefinery production of 21 billion gallons of cellulosic and advanced biofuels.

Table Subhead

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1	Table body. Dual fuel (flexible or bi-fuel) vehicles, regardless of vehicle size class as long as the vehicle meets the AFV definition of <i>EPA</i> Act 1992
2	Dedicated light duty AFVs
1	Every 450 gallons of pure biodiesel (equivalent to 2,250 gallons of B20) used in diesel vehicles; cannot exceed 50 percent of <i>EPA</i> Act requirements <i>Fuel cell vehicle</i>
1	Other vehicles achieving significant reduction in petroleum consumption

*EPA*Act 1992 and *EPA*Act 2005 AFV acquisition and alternative fuel use requirements apply only to covered fleets. Covered fleets are those consisting of 20 or more light duty vehicles centrally located in a metropolitan statistical area that are owned, leased, or operated by the Federal Government. Vehicles exempt from these requirements include law enforcement vehicles, emergency vehicles, test/evaluation vehicles, rental vehicles available to the general public, certain military vehicles, and non-road vehicles (e.g. construction, farm, etc.). [See Appendix C for more detail.]

Subhead 3

Agency approaches to meet these goals vary widely. However, the following fundamental strategic goals are generally agreed upon:

- **AFV Acquisition and Alternative Fuel Use:** Maximize procurement of AFVs in the fleet through the normal acquisition process. Also maximize use of alternative fuel in dual fuel AFVs and install alternative fuel infrastructure at high-use fueling centers.
- **Biodiesel Blend Use:** Replace medium and heavy duty gasoline vehicles with diesel vehicles through the normal acquisition process. Maximize use of B20 in diesel vehicles and install B20

fuel infrastructure at high-use fueling centers.

- **Acquisition of High Efficiency and Advanced Technology Vehicles:** Acquire hybrid electric vehicles or neighborhood electric vehicles as part of the normal acquisition cycle at sites where no E85 infrastructure is present or planned.
- **Fleet Efficiency Improvements:** Reduce fuel use by implementing fleet operating efficiencies like reducing vehicle miles traveled, improved car sharing, teleconferencing, ride sharing, etc.

Subhead 3

Section 701 of *EPA*Act 2005 requires covered AFVs to operate on alternative fuels unless the Secretary of Energy determines that alternative fuel is not reasonably available or is unreasonably expensive. DOE guidance defines alternative fuel as not reasonably available if it cannot be obtained within a 15-minute drive or within five miles (one way) from the vehicle’s garaged location. It also defines alternative fuel as unreasonably expensive if it costs more per gallon than gasoline at the same station. If these conditions are met, Federal agencies can request a waiver.

Section 701 guidance is available at [http://www.eere.energy.gov/femp/pdfs/701\\_guidance.pdf](http://www.eere.energy.gov/femp/pdfs/701_guidance.pdf).

## Subhead 2

EPA 1992, as amended by the Energy Conservation Reauthorization Act of 1998, requires each agency to report to Congress annually on compliance with Federal fleet requirements. EPA 2005 requires these reports be posted by February 15th of each year. DOE provides links to these reports at [http://www.eere.energy.gov/femp/regulations/fleet\\_reports.html](http://www.eere.energy.gov/femp/regulations/fleet_reports.html).

DOE and the General Services Administration (GSA) have additional reporting requirements. E.O. 13423 requires DOE to report annually on Federal fleet compliance. This report is available at [http://www.eere.energy.gov/femp/regulations/fleet\\_reports.html](http://www.eere.energy.gov/femp/regulations/fleet_reports.html).

GSA publishes an annual report on Federal fleet inventory, costs, and miles traveled. This report is at [http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA\\_OVERVIEW&contentId=10077](http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_OVERVIEW&contentId=10077).



Caption here. Photo from Florida Power & Light Company, NREL/PIX 17237



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## Subhead 2

AFV acquisition credits are used to determine if Federal agencies meet the EPA 1992 annual AFV acquisition requirements of 75 percent. AFV credits are based on type of fuel and vehicle as shown in the table above right. Agencies must accumulate 75 credits per 100 covered vehicles purchased to comply.

## Subhead 1

### Subhead 2

In fiscal year 2008, the Federal fleet inventory contained nearly 600,000 domestic vehicles. Twenty-three percent of these vehicles (137,020 vehicles) were AFVs.

E85 vehicles, which run on a blend of 85 percent ethanol and 15 percent gasoline, make up the largest percentage of alternative fuel vehicles, followed by compressed natural gas vehicles. Although diesel vehicles often use B20, they are not considered AFVs.

## Subhead 2

In fiscal year 2008, the Federal Government consumed approximately 272 million gasoline gallons equivalent (GGE) of covered petroleum. Federal agencies subject to E.O. 13423 were 1.5 percent short of achieving the E.O. 13423 fiscal year 2008 goal of 267,972,000 GGE. GGE measures the amount of alternative fuel required to equal the energy content of one liquid gallon of gasoline.

## Subhead 1

### Subhead 2

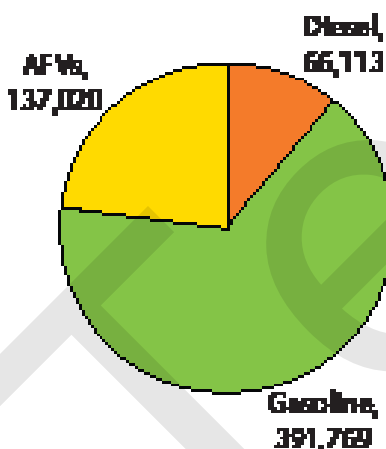
Three common barriers exist for Federal agencies working to reduce petroleum consumption and increase alternative fuel use:

- **Availability:** More than half of current Federal AFVs are waived from using alternative fuel. As a result of a forum between Federal fleet managers and alternative fuel providers, DOE made public the locations of Federal flexible fuel vehicles



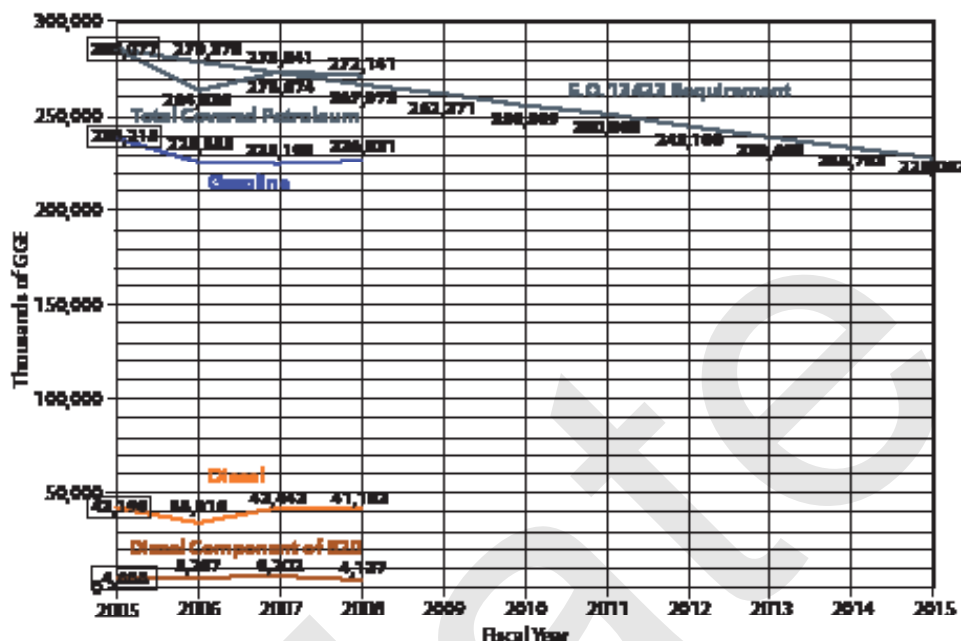
that do not currently have access to alternative fuel. Approximately 60 alternative fuel infrastructure projects have since been completed across Alabama, California, Florida, Georgia, Maryland, Mississippi, North Carolina, Texas, and Virginia. In total, more than 1,000 waived Federal fleet vehicles now have access to alternative fuel.

- **Efficient Vehicle Technology:** Most competitively priced AFVs are available only with powerful engines, often making them less efficient than the conventionally fueled alternative. To increase the availability of fuel efficient AFVs, DOE worked to add highly efficient vehicles to the list of qualifying AFVs. Highly efficient vehicles help agencies reduce petroleum consumption where alternative fuel is not available. Advanced technology plug-in hybrid and electric vehicles are not currently commercially available.
- **Fuel Coding and Reporting:** Fuel purchases are often improperly coded for fuel type at fueling stations. The improper coding leads to poor data quality on the amount of alternative



Fuel types chart.

Illustration by Alfred Hicks, NREL



Fuel types graph. Illustration by Alfred Hicks, NREL

fuel that Federal fleets are using. In 2007, DOE commissioned a study that quantified the problem and identified barriers to correctly identifying alternative fuel purchases with fleet cards. Since then, Visa publicly announced changes to address this problem. An October 2008 GAO report also highlighted the problem of fuel coding data quality. GSA and DOE are currently working with fuel providers and credit card companies to encourage deployment of more accurate fuel coding systems.

## Subhead 2

Federal agencies can apply for an alternative fuel vehicle waiver per Section 701 of EPAct 2005 if alternative fuel is not reasonably available. While waivers were allocated to the Federal Government in 2009, more alternative fuel is becoming available across the U.S.

As of December 2008, more than 1,900 stations offer E85 in the U.S. compared to approximately 162,000 gasoline stations. DOE continually updates a database of

nationwide alternative fuel infrastructure, which is available through the Alternative Fuels and Advanced Vehicles Data Center Station Locator at [http://www.afdc.energy.gov/afdc/stations/find\\_station.php](http://www.afdc.energy.gov/afdc/stations/find_station.php).

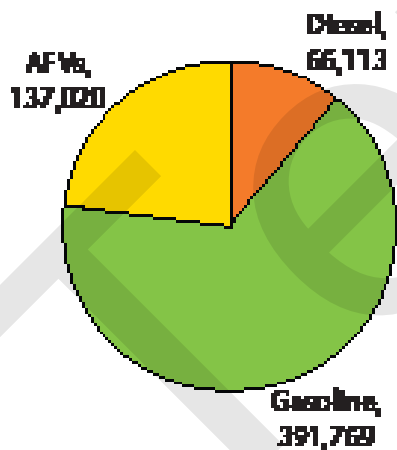
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FEMP services include online summaries of legislative requirements, guidance documents, reporting requirements, field technical support teams, and interagency coordination. More information is available on the FEMP Web site at <http://www.femp.energy.gov>.

If questions remain, contact:

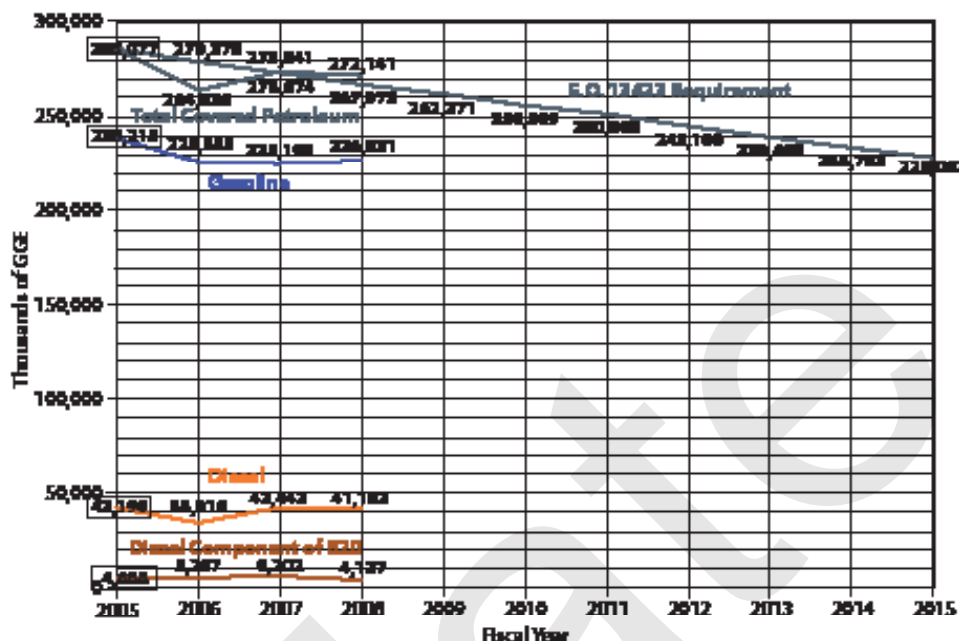
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- to alternative fuel. Approximately 60 alternative fuel infrastructure projects have since been completed across Alabama, California, Florida, Georgia, Maryland, Mississippi, North Carolina, Texas, and Virginia. In total, more than 1,000 waived Federal fleet vehicles now have access to alternative fuel.
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