

U.S. Department of Energy

Fleet Alternative Fuel Vehicle Acquisition Report

Compliance with EAct and E.O. 13149 in Fiscal Year 2005

This report summarizes the U.S. Department of Energy’s (DOE) fiscal year (FY) 2005 fleet performance in meeting the requirements of the Energy Policy Act (EAct) of 1992 (Public Law 102-486), as amended by the Energy Conservation Reauthorization Act of 1998 (Public Law 105-388), and in meeting the goals of Executive Order (E.O.) 13149, “Greening the Government through Federal Fleet and Transportation Efficiency” (65 FR 24607), which was signed in April 2000 (Exhibit 1). Signed into law in August 2005, section 705 of the EAct of 2005 (Public Law 109-58), amended the due date of this report to February 15th. Additional requirements placed on Federal fleets by the EAct of 2005, do not impact fleets in FY 2005 but will be incorporated in subsequent reporting.

Exhibit 1. DOE’s Performance in Meeting EAct and E.O. 13149 Requirements, FY 2005

			DOE Performance in FY 2005
EAct	Alternative fuel vehicle (AFV) acquisitions	75 percent of the 725 covered light-duty vehicles (LDV) acquired in FY 2005 must be AFVs	Acquired 605 AFVs, earned 207 additional credits ¹ for total of 812 credits; or 112 percent of covered acquisitions
E.O. 13149	Alternative fuel use in AFVs	By FY 2005, increase alternative fuel use in AFVs to a majority of the total fuel used in those vehicles	Achieved 25.5 percent alternative fuel use in AFVs
	Fuel economy of light-duty acquisitions	By FY 2005, increase fuel economy by 3 miles per gallon (mpg) compared to FY 1999 baseline of 17 mpg	Increased to 20.5 mpg, an increase of 3.5 mpg over the FY 1999 baseline
	Petroleum consumption	By FY 2005, reduce covered consumption by 20 percent compared to FY 1999 baseline ² of 7,542,469 gasoline gallon equivalent (GGE)	Consumed 7,389,881 GGE, a decrease of 2.0 percent from the FY 1999 baseline

¹Earned credits for acquisition of dedicated light-duty AFVs and biodiesel use.

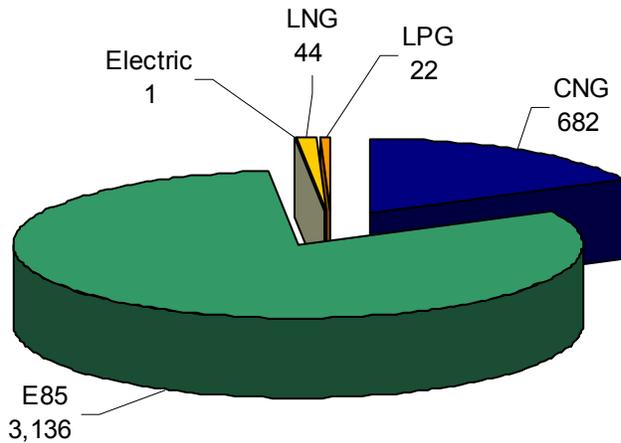
²Baseline adjusted in FY 2005 to account for unreported fuel used in vehicles leased from the General Services Administration.

EPAct Compliance

For the seventh consecutive year, DOE exceeded its EAct requirements in FY 2005. As a result of its AFV acquisitions and biodiesel fuel use, DOE in FY 2005 earned AFV acquisition credits amounting to 112 percent of its covered vehicle acquisitions, which is 37 percentage points higher than the 75 percent AFV acquisition requirement (Appendix A). In short, DOE:

- Acquired 725 EAct-covered LDVs. Of these, 605 were AFVs—61 more vehicles than the 75 percent compliance requirement of 544 AFVs.
- Received an additional 207 credits through the acquisition of dedicated light-duty AFVs and the use of biodiesel.
- Earned a total of 812 credits (including vehicle acquisitions and additional credits)—112 percent of covered acquisitions.

Exhibit 2. DOE's Total AFV Inventory



Credits

In FY 2005, DOE earned 812 credits. Federal fleets earn one credit for every bi- or flexible-fuel AFV acquired and for every 450 gallons of neat biodiesel (B100) or 2,250 gallons of B20 (20 percent biodiesel and 80 percent petroleum diesel) used. Additional credits are earned for AFVs that operate exclusively on alternative fuels. For this reporting period, DOE earned 605 credits for AFV acquisitions, 204 credits for biodiesel use, and three additional credits for purchasing three dedicated light-duty AFVs.

Vehicles

Flexible-fuel vehicles (FFVs), that can run on E85 (85 percent ethanol, 15 percent gasoline) or gasoline, were the AFV of choice in FY 2005. Of the 605 AFVs acquired in FY 2005, 587 of them were FFVs. Also, 18 compressed natural gas (CNG) vehicles were acquired.

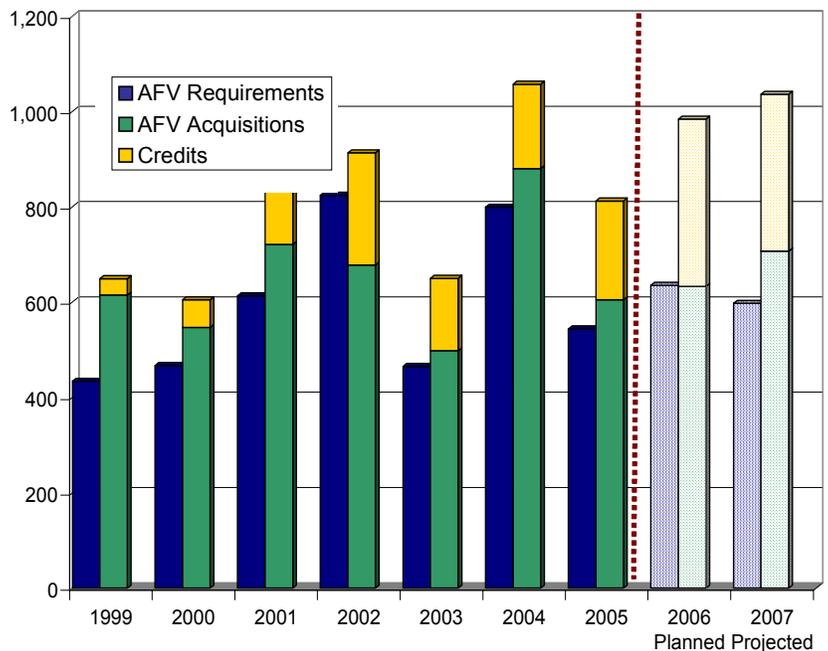
FFVs capable of operating on E85 comprise the majority of DOE's AFV fleet (Exhibit 2), with CNG vehicles making up most of the balance. As the availability of CNG vehicle models decreases, these vehicle types will become less prevalent in DOE's fleet. Of DOE's 3,885 AFVs, only 44 are liquefied natural gas (LNG) vehicles, and 22 are liquefied petroleum gas (LPG) vehicles.

Exemptions

Of the 1,138 total LDVs acquired by DOE in FY 2005, 413 vehicles (36 percent) were considered exempt from compliance with EPAct. Exemptions are granted for fleet size, geographic location or use outside a Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area (MSA/CMSA), and use for law enforcement. In FY 2005, exemptions were granted as follows:

- Fleet Size (1)
- Geographic (183)
- Law Enforcement (82)
- Non-MSA/CMSA Operation/Fleet (108)
- Non-MSA/CMSA Operation/Vehicles (39)

Exhibit 3. EPAct AFV Acquisitions, Credits, and Requirements (Actual and Projected)



FY 2006/2007 Projected Acquisitions

The attachments to this report offer a detailed look at DOE's FY 2005 acquisitions and its projected acquisitions for FY 2006 and FY 2007. As illustrated in Exhibit 3, DOE has exceeded its annual EPAct

requirements since FY 1999 and plans to continue to exceed these requirements in the next two years (Appendices B and C).

E.O. 13149 Compliance

E.O. 13149 calls for each agency to reduce vehicular petroleum consumption by 20 percent by the end of FY 2005 and specifies three approaches agencies should take to achieve this goal:

- Comply with EPart’s annual AFV acquisition requirements (as previously discussed).
- Use alternative fuels in fleet AFVs the majority of the time.
- Increase the fuel economy of LDV acquisitions (excluding AFVs) by 3 mpg by the end of FY 2005, as compared to baseline FY 1999 acquisitions.

Use Alternative Fuels in AFVs

In FY 2005, 25.5 percent of the fuel used in DOE AFVs was alternative fuels. As more infrastructure becomes available, this percentage will continue to increase. DOE recently invested \$2.1 million to build approximately 25 new alternative fuel stations at DOE locations throughout the United States. As these stations come on line, more alternative fuel will be available for the bi- and flexible-fuel vehicles that dominate the DOE AFV fleet. DOE will continue to work toward greater access to alternative fuel for fleet vehicles.

Exhibit 4 compares DOE’s covered fuel use in FY 2005 and FY 1999. Alternative fuels comprise a growing portion of DOE’s covered fuel use, representing 7.8 percent in FY 2005, up from less than half a percent in FY 1999. During this period, DOE’s total covered fuel consumption increased 5.8 percent, yet DOE was able to reduce covered petroleum consumption by 2 percent, largely by replacing petroleum fuel with alternative fuel.

Exhibit 4. DOE’s Total Covered Fuel Use

Improve Fuel Economy

Toward the petroleum reduction goal set forth in E.O. 13149, the E.O. calls for each agency to increase the fuel economy of its LDV acquisitions (excluding AFVs) by at least 3 mpg by the end of FY 2005. Each year since FY 1999, DOE has increased the average fuel economy of its vehicles, and achieved a 3.5 mpg improvement in FY 2005.

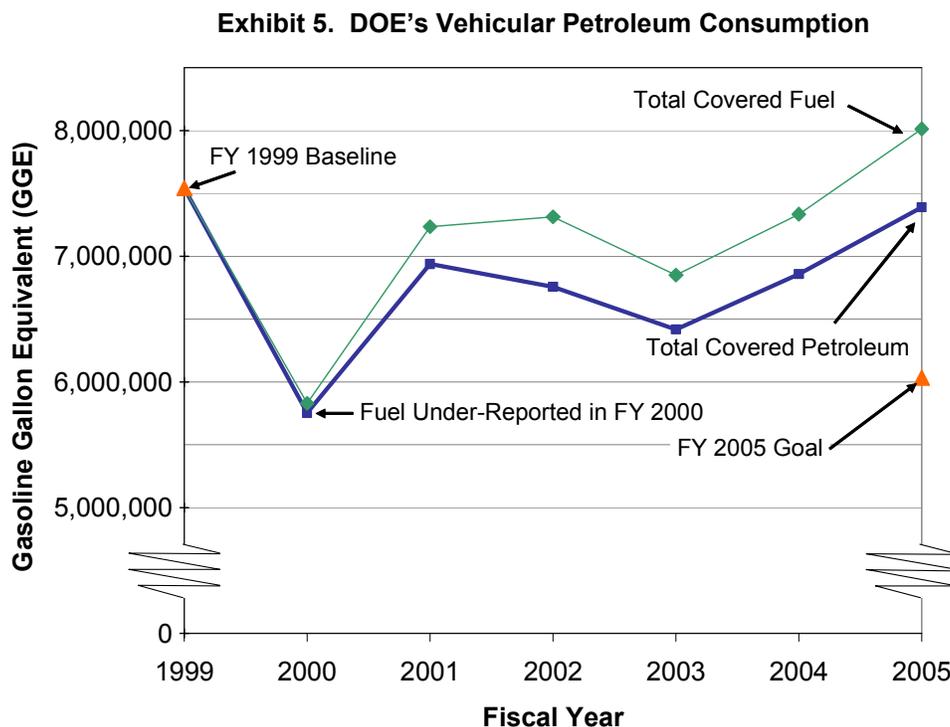
Petroleum Consumption Progress Report

In FY 2005, DOE consumed 623,779 GGE of alternative fuels, thereby reducing gasoline and diesel fuel consumption in DOE vehicles.

		FY 2005 (GGE)
Alternative Fuel		
B100	116	102,304
CNG	3,876	69,548
E85	996	401,895
Electricity	0	417
LNG	167	37,147
LPG	25,010	12,468
Total Alternative Fuel Use	30,165	623,779
Petroleum		
Diesel	2,230,613	1,901,848
Gasoline	5,311,856	5,488,033
Total Covered Petroleum Use	7,542,469	7,389,881
<i>Total Covered Fuel Use</i>	<i>7,572,634</i>	<i>8,013,660</i>
<i>Alternative Fuel Use as a Percentage of Total Fuel Use</i>	<i>0.40</i>	<i>7.78</i>

Exhibit 5 shows that although DOE has not reached the 20 percent reduction goal it has been successful in displacing petroleum. Without E.O. 13149, DOE’s covered petroleum consumption would have grown

from 7.6 million GGE in FY 1999 to more than 8 million GGE in FY 2005. However, due to alternative fuel use, covered petroleum consumption dropped to 7.4 million GGE.



DOE Fleet Successes

In FY 2005, two DOE fleets, Savannah River Site and the Idaho National Laboratory (INL), collectively consumed almost half (46 percent) of the alternative fuel used by the total DOE fleet. Savannah River has long been a leader in alternative fuel use, using between 150,000 and 200,000 GGE annually since FY 2001. As one of the largest DOE fleets, INL has been rapidly increasing its alternative fuel use and used more than 75,000 GGE in 2005, a value that is expected to increase in FY 2006.

Summary and Conclusions

In FY 2005, DOE exceeded its EPCAct FY 2005 AFV acquisition requirements and expects to exceed them in FY 2006 and FY 2007. Toward compliance with E.O. 13149, DOE used alternative fuels in its AFVs 25.5 percent of the time, achieved a 3.5 mpg increase in fuel economy, and reduced its petroleum consumption by 2 percent as compared to FY 1999 levels. DOE will continue its efforts to reduce petroleum consumption through increased alternative fuel usage beyond the minimum requirement, accelerated replacement of conventional vehicles with AFVs, and acquisition of hybrid and fuel efficient vehicles for fleets not covered by these requirements. Exhibit 6 summarizes DOE's FY 2005 performance.

Exhibit 6. DOE's Performance in Meeting its Requirements

			Change FY 1999 vs. FY 2005
EPCAct	N/A	112 percent	N/A
Alternative Fuel Use in AFVs	N/A	25.5 percent	N/A
Fuel Economy of LDV Acquisitions	17 mpg	20.5 mpg	+3.5 mpg
Petroleum Consumption	7,542,469 GGE	7,389,881 GGE	-2.0 percent

Appendices

Appendix A

Actual FY 2005 Light-Duty Vehicle Acquisitions					Total Vehicle Inventory
					8,658
	-				31
					1,291
					346
					809
					(n/a)
					6,181
Actual FY 2005 AFV Acquisitions					Total Vehicle Inventory
					35
					2
					1
					8
					1
	-				324
	-				243
					4
					278
					82
	-				837
					33
					15
					126
					3
	-				201
					1
					7
					1
	-				18
					5
	-				541
					3
					2
					1

Table Continued on A2.

	-				783
	-				15
					16
	-				138
					12
					1
					1
					7
					27
	-				17
	-				19
					22
					2
					22
					31
					0
					3,885
	-				

Appendix B

Planned FY 2006 Light-Duty Vehicle Acquisitions			
			Total
	-		1,207
			3
			112
			93
			106
			46
			847
Planned FY 2006 AFV Acquisitions			
			Total
			1
	-		75
	-		9
			3
			18
			13
	-		202
			11
	-		47
	-		2
	-		125
			1
	-		82
	-		5
	-		29
	-		2
			8
			633
			0
			17
			16
			0
	-		318
			984
			116%

Appendix C

Projected FY 2007 Light-Duty Vehicle Acquisitions			
			Total
	-		1,143
			2
			107
			86
			112
			39
			797
Projected FY 2007 AFV Acquisitions			
			Total
			2
	-		64
			2
	-		26
			20
			19
	-		165
			11
			2
	-		74
	-		149
	-		110
	-		12
	-		37
			2
			1
			7
			3
			1
			707
			0
			22
			8
			0
	-		299
			1,036
			130%

Appendix D

List of Acronyms

	Phrase
AFV	Alternative Fuel Vehicle
B100	Biodiesel (100 percent, neat)
B20	Biodiesel (20 percent biodiesel, 80 percent petroleum diesel)
CNG	Compressed Natural Gas
DOE	U.S. Department of Energy
E85	Ethanol (85 percent ethanol, 15 percent petroleum)
E.O.	Executive Order
EPAct	Energy Policy Act
FFV	Flexible Fuel Vehicle
FR	Federal Register
FY	Fiscal Year
GGE	Gasoline Gallon Equivalent
GVWR	Gross Vehicle Weight Rating
HD	Heavy-Duty
INL	Idaho National Laboratory
LD	Light-Duty
LDV	Light-Duty Vehicle
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas (Propane)
MD	Medium-Duty
MPG	Miles Per Gallon
MSA/CMSA	Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area
SUV	Sport Utility Vehicle