

U.S. Department of Agriculture AFV Program Report for Fiscal Year 2005

This United States Department of Agriculture Alternative Fuel Vehicle (AFV) Program Report for Fiscal Year 2005 presents the Department's data on the number of alternative fuel vehicles (AFVs) acquired in fiscal year (FY) 2005, and planned and projected acquisitions for FY 2006 and FY 2007. The report has been developed in accordance with the Energy Policy Act of 1992 (EPAAct) (42 U.S.C. 13211-13219), as amended by the Energy Conservation Reauthorization Act of 1998 (Public Law 105-388) (ECRA), and Executive Order 13149, Greening the Government Through Federal Fleet and Transportation Efficiency, dated April 2000.

Legislative Requirements

The Energy Policy Act (EPAAct) of 1992 required that 75 percent of all covered light-duty vehicles acquired for Federal fleets in FY 1999 and beyond must be AFVs (where the fleets have 20 or more vehicles, are capable of being centrally fueled, and are operated in a metropolitan statistical area (MSA) with a population of more than 250,000 based on the 1980 census). Certain emergency, law enforcement, and national defense vehicles are exempt from these requirements. The Energy Conservation and Reauthorization Act of 1998 amended EPAAct to allow one alternative fuel vehicle acquisition credit for every 450 gallons of pure biodiesel fuel consumed in vehicles over 8,500 pounds gross vehicle weight rating. "Biodiesel credits" may fulfill up to 50 percent of an agency's EPAAct requirements. Executive Order 13149 directs Federal agencies operating a fleet of 20 or more vehicles within the United States to reduce their annual petroleum consumption by at least 20 percent by the end of FY 2005 (compared to FY 1999 levels) by using alternative fuels in AFVs more than 50 percent of the time, improving the average fuel economy of new light-duty petroleum-fueled vehicle acquisitions by 1 mpg by FY 2002 and 3 mpg by FY 2005, and using other fleet efficiency measures.

USDA Fleet Mission Requirements

USDA has a fleet inventory of 41,154 vehicles comprised of owned vehicles, commercial leases, and vehicles leased from the General Services Administration (GSA). The fleet is used to perform mission requirements in support of nationwide USDA programs, including the following:

- ◆ Management of the National Forest System, including fire prevention and firefighting
- ◆ Community Natural Resource Conservation Programs
- ◆ Animal, Plant, and Food Safety programs

- ◆ Border Surveillance
- ◆ Agriculture Science Research Programs

USDA Vehicle Acquisition Requirements

The USDA heavy duty, medium duty, and light duty vehicle acquisition (owned, commercially leased, GSA leased) numbers vary from year to year, in a range of about 4000 to 6000 acquisitions, due primarily to the varying replacement cycles used by USDA agencies. GSA leased vehicle replacement cycles are generally every three to four years, while USDA owned vehicles are replaced anywhere from six to ten years. Also, vehicle acquisitions are contingent upon critical mission requirements such as responding to catastrophic events and increases in food and plant inspection services which can necessitate unplanned vehicle acquisitions and increased petroleum use.

Since FY 2001 the Department has consistently surpassed the EAct AFV acquisition target goal of 75%. The FY 2005 AFV acquisition rate was 100%. Planned and projected increases for FY 2006 and FY 2007 are 99% for both years.

USDA Approach to Compliance with EAct and E.O. 13149

To achieve compliance with the legislative mandates of EAct and E.O. 13149 the Department developed the USDA Petroleum Reduction Strategy which was approved by the Office of Management and Budget in 2003. The USDA compliance strategy consists of four primary elements:

- (1) Biodiesel fuel (B20) use
- (2) AFV Acquisitions and Alternative Fuel Use
- (3) Acquisition of Higher Fuel Economy Vehicles
- (4) Fleet Efficiency Improvements.

Neither USDA nor the federal government as a whole met the FY 2005 petroleum reduction target. Therefore, in FY 2006, USDA will reevaluate the petroleum reduction strategy elements to determine required actions necessary for increasing alternative fuel use and decreasing petroleum usage. An updated strategy will be developed to meet the now FY 2008 petroleum reduction goal and new, increased alternative fuel use targets (in accord with guidance to be issued by the Department of Energy).

USDA Fleet Compliance Chart for FY 2005

AUTHORITY/ MANDATE	PERFROMANCE MEASURE	GOAL/ REQUIREMENT	USDA PERFORMANCE IN FY 2005	ASSOCIATED TABLE
1992 EPACT	AFV Acquisitions	75% of the 664 covered light-duty vehicles acquired in FY 2005 (i.e., 498 vehicles) must be AFVs	Acquired 654 AFVs, 2 dedicated AFV credits, and 11 biodiesel credits. Achieved a 100% EPAct acquisition rate, surpassing the established goal	TABLE 1 TABLE 2
E.O. 13149	Alternative Fuel use in AFVs	By FY 2005, increase alternative fuel use in AFVs to a majority (>50%) of the total fuel used in AFVs	USDA has increased alternative fuel use in AFVs compared with past years and will continue efforts to use alternative fuel 100% in AFVs	TABLE 3
	Petroleum Consumption Reduction	By FY 2005, reduce petroleum by 20% compared to FY 1999 baseline of 21,069,108 GGE (Gasoline Equivalent Gallons)	Reported 12.4% petroleum reduction	TABLE 4
	Fuel Economy of Light Duty Vehicle Acquisitions	By FY 2002, increase fuel economy by 1 mpg and by FY 2005, increase by 2 mpg, compared to FY 1999 base line of 17 mpg	Increased to 21.8 mpg, increase of 4.8 miles over baseline	TABLE 5

Performance Measures

The Department achieved the EPAct requirement for AFV Acquisitions and the requirement to increase fuel economy in accordance with E.O. 13149. The Department did not achieve the goals of reducing petroleum by 20% by FY 2005 and using alternative fuel the majority of the time by FY 2005. USDA will make every effort to overcome existing barriers such as the lack of alternative fuel sites, funding, and mission requirements that operate outside of existing alternative fueling sites.

Table 1. Required Acquisitions vs. Actual Acquisitions

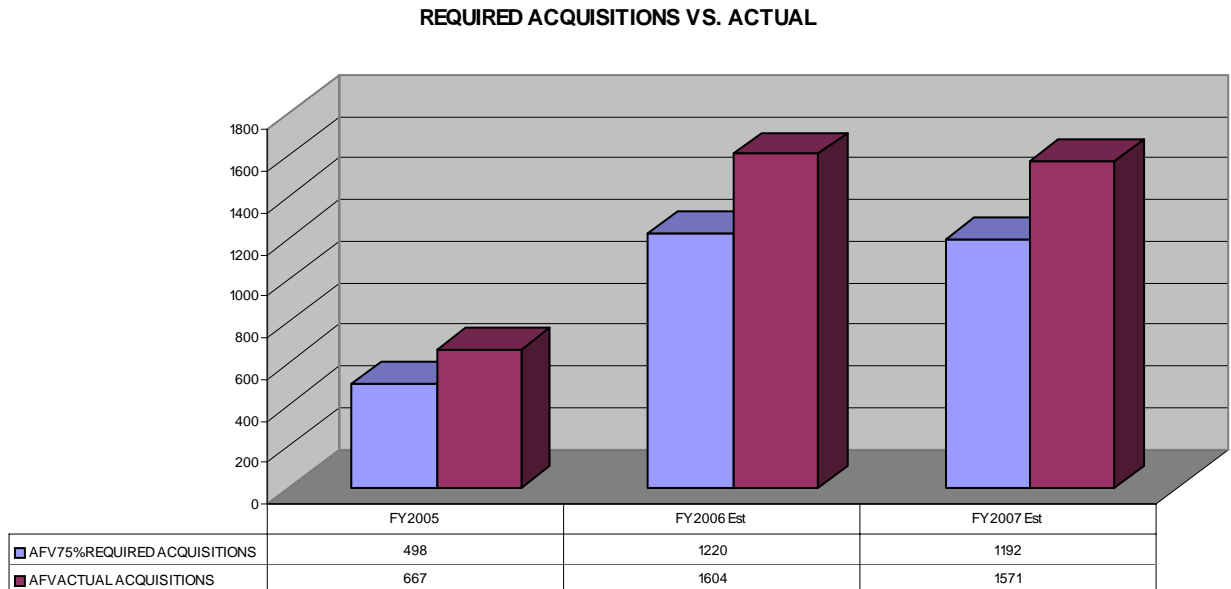


Table 2. AFV Acquisition Breakdown

FISCAL YEAR	2005 Actual		2006 Estimate		2007 Estimate	
Light Duty Vehicle Acquisitions	664		1626		1589	
AFV 75% EPA Act Required Acquisitions	498		1220		1192	
Actual AFV Acquisitions	654		1489		1456	
Dedicated Credit	2		0		2	
Biodiesel Credit	11		115		113	
AFV Totals/ EPA Act Percentage	667	100%	1604	99%	1571	99%

See Attachment 1 for details of FY 2005 light duty vehicle acquisitions and Attachments 2 and 3 for FYs 2006 and 2007 planned and projected light duty vehicle acquisitions.

Alternative Fuel and Petroleum Consumption

Biodiesel, specifically B20, played an important role in USDA's success in earlier years; however, the use of B20 has been decreasing since FY 2003, a result of increased prices and USDA agency fleet funding constraints. The increases in estimated biodiesel credits for FY 2006 and FY 2007 (shown in Table 2) are based on USDA owned diesel tank conversions to tanks capable of using B20 in these fiscal years. A project is underway to

determine which USDA locations nationwide offer the best opportunities for switching from diesel to B20 biodiesel use on an ongoing basis. The successful implementation of this project is contingent upon associated costs, location accessibility, and environmental issues concerning the siting and use of new fuel storage tanks.

Table 3. Alternative Fuel Consumption

ALTERNATIVE FUEL CONSUMPTION				
ALTERNATIVE FUEL GGEs	FY2002	FY2003	FY2004	FY2005
CNG	94	1,218	4,543	8,756
LPG	8,185	2,840	2,664	2,664
E-85	475	12,189	97,651	179,625
SUB-TOTAL	8,754	16,247	104,858	191,045
Biodiesel (B100)*	30,258	105,680	4,482	5,597
TOTAL	39,012	121,927	109,340	196,642
Estimated Total Fuel Used in AFVs	960,000	1,268,000	1,500,000	1,623,860
% of Alt Fuel Use in AFVs w/o biodiesel*	0.9119%	1.2813%	6.9905%	11.80%
<p>* Biodiesel is calculated at 20% of the reported B20 and 100% of the reported B100 fuel used in the Section III Actual Fuel Cost/Consumption by Fuel Type data input screen. Biodiesel is not included in the calculation of total fuels used in AFVs because biodiesel itself is used in conventional diesel vehicles, not <i>Alternatively Fueled Vehicles</i>.</p>				

There was a significant increase in E-85 fuel use in FY 2005. The 179,625 GGEs of E-85 was recorded from efforts by USDA agencies to manually track E-85 purchases and measures taken by fleet and budget personnel to determine accurate reporting data. Data accuracy has been an issue for USDA agencies because there is no centralized system that captures motor vehicle related data at the present time. Data was extracted from the best possible agency sources available.

Table 4. USDA Petroleum Consumption Chart

PETROLEUM CONSUMPTION	FY 1999 Baseline	FY 2005
Gasoline	19,219,108	16,865,096
Diesel	1,850,000	1,598,851
TOTAL	21,069,108	18,463,947
Reduction*	N/A	12.4 %
* Reduction is the % reduction compared to the FY 1999 Baseline Total		

The vast majority of the FY 2005 12.4% petroleum reduction was a result of exempted fuel used in emergency situations related to catastrophic events such as forest fires and Hurricane Katrina. This petroleum reduction decrease was not a direct result of alternative fuel use. As stated above, the Department is reevaluating its lower than expected use of alternative fuels and will identify methods to significantly increase alternative fuel use. The USDA Petroleum Reduction Strategy will be revised accordingly.

Table 5. USDA Fuel Economy Achievements

Year	FY 1999 Baseline	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005
Average Fuel Economy for Non-AFV Light Duty Vehicle Acquisitions	17.0	18.0	19.0	20.0	20.0	21.0	21.8

Improved Fuel Economy

USDA’s baseline average fuel economy for covered, conventional petroleum non-AFV light-duty vehicle acquisitions was 17 mpg in FY 1999; by FY 2005, USDA had improved this to 21.8 mpg. USDA achieved the 3 mpg improvement goal for FY 2005 in FY 2003. The FAST System developers, Idaho National Energy Laboratory, have not included calculations in FAST that convert fuel economy mileage gains into displaced GGEs. This would require a system change needing approval by DOE before the system can be modified.

USDA Special Projects for Increasing Alternative Fuel Use and Decreasing Petroleum Use

Expanding E85 use by USDA Agencies in the Midwest

USDA has a project underway to increase the use of alternative fuel and decrease petroleum usage in the Midwest. The state of Minnesota has one of the most progressive clean air fuel programs in the country, and leads in the development of E85 availability with more than 140 retail locations. In 2004, the Department started an initiative to increase the USDA agencies use of E85 in Minnesota and nearby Illinois and Wisconsin. USDA agency staff and USDA agency fleet representatives representing the three state region formed a task force to work on this. Vehicle inventory data pertaining to E85 AFVs in the region and mission related travel routes were analyzed to identify the best E85 fueling site for each AFV. Also, E85 fueling site facilities throughout the region were mapped out for the performance of interstate travel. USDA agencies were tasked with developing plans to ensure that:

1. E85 vehicle acquisition is priority for vehicle replacement in the region whether acquired through ownership, GSA, or commercial leases;
2. E85 vehicles in the region use E85 fuel 100% of the time unless the vehicle travels in areas of the region where E85 fueling sites are nonexistent; and
3. Drivers of the AFVs are educated about alternative fuels, AFVs and the benefits

USDA agencies involved in this geographic initiative recorded using 3,502 gallons of E85 fuel in FY 2003. In FY 2005, these same locations used 8,487 gallons of E85 fuel, an increase of 142% since FY 2003. This initiative is on going and should result in further increases in E85 fuel use in FY 2006 and beyond.

New Initiatives for FY 2006

- Determine which states USDA can replicate the Midwest E85 fuel use initiative
- Develop new partnerships with Federal, state, and local government entities to increase availability and access to alternative fuel sites
- Update and revise USDA Petroleum Strategy to meet new requirements of the 2005 Energy Policy Act

Summary

The composition of the USDA fleet and the various agency mission requirements has made a 20% reduction in petroleum use a challenging assignment. The USDA Petroleum Reduction Strategy was developed with industry assurance that Nationwide alternative fueling infrastructure would be in place by 2005. Most of the projected infrastructure, however, has yet to materialize. Most E85 fueling sites are in the Midwest region and

USDA's more than 41,000 vehicles operate primarily in rural areas in every region of the country. Also, the increase of B20 prices has reduced the use of this fuel in FYs 2004 and 2005 although the B20 was purchased from the Defense Energy Support Center.

The Department did not achieve the 20% petroleum reduction and alternative fuel use requirements in FY 2005. In order to achieve these goals USDA will reevaluate petroleum reduction initiatives. These initiatives must be in tune with critical mission requirements that result in spontaneous vehicle acquisitions and increased petroleum use. Every existing impediment that obstructs the Department from 100% compliance will be taken into account. A USDA task force will focus on every practical approach to reduce petroleum consumption and increase alternative fuel use in FY 2006 and beyond.

The accuracy of motor vehicle data within USDA and data provided by GSA must improve. USDA is developing a new departmental corporate personal property system which will capture more reliable vehicle information. This system, the USDA Corporate Property Automated Information System, is expected to be operational during FY 2007 for departmental agencies to begin inputting vehicle data. The data from GSA continues to be problematic. For example, the leasing contract folds in the maintenance and fuel costs for vehicles. This is accomplished by the use of a GSA credit card that the fleets use to purchase alternative and conventional fuel. However, since product code standards are not uniform among suppliers of alternative fuels (e.g., ethanol or E-85), it is difficult for credit vendors to accurately track the purchase of alternative fuels with this credit card. Some USDA fleet managers are taking the initiative to review credit card data for accuracy with respect to alternative fuel purchases. These managers are manually recording alternative fuel purchases until better methods of fuel tracking become available. This, however, is clearly a labor intensive method which can only yield partial information and is not a proposed solution to the core problem.

The ability to capture alternative fuel purchases is a major concern to USDA but not within our power to resolve independently. The issues of tertiary fleet card data correctly identifying fuel type purchased at the pump and the inability to obtain full and accurate accounting of fuel use for USDA owned and GSA leased vehicles must be resolved if USDA is to have accurate information to quantify use of alternative fuels to support petroleum fuel reductions. The inability of the FAST system to convert the annual acquisition of fuel economy vehicles into displaced GGEs or convert miles traveled to displaced GGEs is an issue that could result in underreporting displaced petroleum. Given these data collection problems and issues, USDA will continue best efforts to provide the most reliable and accurate petroleum reduction and increased alternative fuel use data possible in our reporting.

Actual Department of Agriculture FY 2005 Vehicle Acquisitions					
Actual FY 2005 Light-Duty Vehicle Acquisitions					Total Vehicle Inventory
	Leased	Purchased	Total		
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		1,075	2,134	3,209	31,999
Exemptions	Fleet Size	3	0	3	16
	Geographic	0	92	92	1,877
	Law Enforcement	47	0	47	200
	Non-MSA Operation (fleet)	394	1,352	1,746	15,514
	Non-MSA Operation (vehicles)	339	318	657	(n/a)
EPACT Covered Acquisitions		292	372	664	14,392
Actual FY 2005 AFV Acquisitions					Total Vehicle Inventory
Vehicle		Leased	Purchased	Total	
Sedan	CNG Bi-Fuel Subcompact	1	0	1	4
Sedan	CNG Bi-Fuel Compact	0	0	0	10
Sedan	E-85 Flex-Fuel Compact	124	15	139	562
Sedan	E-85 Flex-Fuel Midsize	21	71	92	812
Sedan	CNG Dedicated Large	0	0	0	7
Sedan	E-85 Flex-Fuel Large	2	0	2	2
Pickup 4x2	CNG Bi-Fuel	0	3	3	14
Pickup 4x2	CNG Dedicated	0	0	0	2
Pickup 4x2	E-85 Flex-Fuel	10	113	123	625
Pickup 4x2	LPG Bi-Fuel	0	0	0	2
Pickup 4x4	CNG Bi-Fuel	0	0	0	2
Pickup 4x4	CNG Dedicated	0	2	2	2
Pickup 4x4	E-85 Flex-Fuel	19	120	139	548
Pickup 4x4	LPG Bi-Fuel	0	0	0	13
SUV 4x2	E-85 Flex-Fuel	0	6	6	53
SUV 4x4	E-85 Flex-Fuel	24	83	107	340
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	25	10	35	204
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	0	0	0	5

Van 4x2 (Passenger)	E-85 Flex-Fuel	0	5	5	116
Pickup MD	CNG Bi-Fuel	0	0	0	3
Van MD (Passenger)	CNG Bi-Fuel	0	0	0	2
MD 8,501-16,000 GVWR	CNG Bi-Fuel	0	0	0	2
Total Number of AFV Acquisitions		226	428	654	3,330
Zero Emission Vehicle Credits		0	0	0	
Dedicated Light-Duty AFV Credits		0	2	2	
Dedicated Medium-Duty AFV Credits		0	0	0	
Dedicated Heavy-Duty AFV Credits		0	0	0	
Biodiesel Fuel Usage Credits - Actual				11	
Total AFV Acquisitions with Credits		226	430	667	
AFV Percentage of Covered Light-Duty Vehicle Acquisition				100 %	

**Department of Agriculture
Complex-Wide AFV Report 2006 - Planned**

Planned Department of Agriculture FY 2006 Vehicle Acquisitions				
Planned FY 2006 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		830	2,768	3,598
Exemptions	Fleet Size	3	0	3
	Geographic	0	60	60
	Law Enforcement	35	0	35
	Non-MSA Operation (fleet)	302	1,443	1,745
	Non-MSA Operation (vehicles)	129	0	129
EPACT Covered Acquisitions		361	1,265	1,626
Planned FY 2006 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	E-85 Flex-Fuel Compact	391	7	398
Sedan	E-85 Flex-Fuel Midsize	25	176	201
Pickup 4x2	CNG Bi-Fuel	0	1	1
Pickup 4x2	E-85 Flex-Fuel	3	332	335
Pickup 4x4	E-85 Flex-Fuel	1	315	316
SUV 4x2	E-85 Flex-Fuel	0	18	18
SUV 4x4	E-85 Flex-Fuel	15	156	171
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	6	10	16
Van 4x2 (Passenger)	E-85 Flex-Fuel	0	32	32
Van MD (Passenger)	CNG Bi-Fuel	1	0	1
Total Number of AFV Acquisitions		442	1,047	1,489
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		0	0	0
Dedicated Medium-Duty AFV Credits		0	0	0
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Planned				115
Total AFV Acquisitions with Credits		442	1,047	1,604
AFV Percentage of Covered Light-Duty Vehicle Acquisition				99 %

**Department of Agriculture
Complex-Wide AFV Report 2007 - Projected**

Projected Department of Agriculture FY 2007 Vehicle Acquisitions				
Projected FY 2007 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		807	2,687	3,494
Exemptions	Fleet Size	2	0	2
	Geographic	0	60	60
	Law Enforcement	35	0	35
	Non-MSA Operation (fleet)	318	1,332	1,650
	Non-MSA Operation (vehicles)	158	0	158
EPACT Covered Acquisitions		294	1,295	1,589
Projected FY 2007 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	CNG Dedicated Compact	0	2	2
Sedan	E-85 Flex-Fuel Compact	361	7	368
Sedan	E-85 Flex-Fuel Midsize	17	176	193
Sedan	E-85 Flex-Fuel Large	2	0	2
Pickup 4x2	CNG Bi-Fuel	0	1	1
Pickup 4x2	E-85 Flex-Fuel	7	316	323
Pickup 4x4	E-85 Flex-Fuel	9	353	362
SUV 4x2	E-85 Flex-Fuel	2	17	19
SUV 4x4	E-85 Flex-Fuel	44	95	139
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	2	10	12
Van 4x2 (Passenger)	E-85 Flex-Fuel	0	35	35
Total Number of AFV Acquisitions		444	1,012	1,456
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		0	2	2
Dedicated Medium-Duty AFV Credits		0	0	0
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Projected				113
Total AFV Acquisitions with Credits		444	1,014	1,571
AFV Percentage of Covered Light-Duty Vehicle Acquisition				99 %