

## **U.S. Department of Army Fleet AFV Program Report for Fiscal Year 2007**

This U.S. Department of the Army AFV Program Report for Fiscal Year 2007 presents the Department's data on the number of alternative fuel vehicles (AFVs) acquired in fiscal year (FY) 2007 and its planned acquisitions and projections for FY 2008 and FY 2009. The report was 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), the Energy Policy Act of 2005 (Public Law 109-58), Executive Order 13149 and its successor Executive Order, 13423. Figure 1 indicates the Army acquired sufficient vehicles to exceed the 75 percent goal established by EPAAct. In FY 2007 the Army acquired 5,804 vehicles through leasing, and earned an additional 145 credits for a total of 5,949 AFV credits. The total number of EPAAct covered acquisitions was 3,231. The ratio of Army AFV acquisitions to EPAAct covered acquisitions was 184 percent.

Due to the lack of commercial alternative fuel refueling infrastructure, the Army could not find adequate alternative fuel for use in its fleet of 24,291 AFV. Therefore the Army did not meet the Energy Policy Act of 2005, Section 701 requirement to use alternative fuels in flexible fuel vehicles 100 percent of the time. The Army is committed to reducing the number of AFV that require Section 701 Waivers through the pursuit of Army, Military Exchange or commercial refueling infrastructure and the staging of future AFV at installations the have or expect to have appropriate refueling infrastructure within three years.

### **Legislative Requirements**

The **Energy Policy Act of 1992 (EPAAct)** requires that 75 percent of all covered light-duty vehicles acquired for Federal fleets in FY 1999 and beyond must be AFVs. This applies to fleets that 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. EPAAct also sets a goal of using replacement fuels to displace at least 30 percent of the projected consumption of motor fuel in the United States annually by the year 2010. 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 13423** directs Federal agencies operating a fleet of 20 or more vehicles within the United States to reduce their fleet's total consumption of petroleum products by 2 percent annually through the end of fiscal year 2015, increase the total fuel consumption that is non-petroleum-based by 10 percent annually and uses plug-in hybrid (PIH) vehicles when PIH vehicles are commercially available.

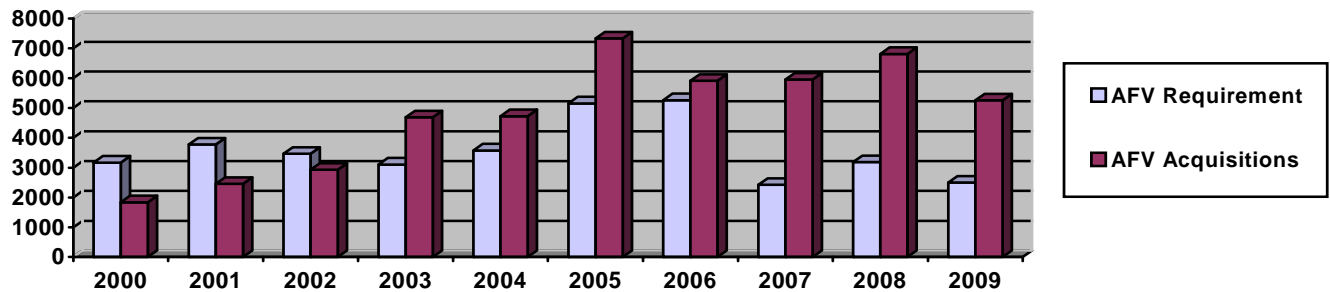
### **Department of the Army Approach to Compliance with EPAAct 2005 and E.O. 13423**

To achieve compliance with the legislative mandates of EPAAct and E.O. 13149, the Army will continue to lease from the General Services Administration (GSA) as many AFVs as possible, consistent with model availability from vehicle manufacturers and the Army will place its growing fleet of AFV in locations and installations that currently have or plan to

have appropriate refueling infrastructure. The Army will continue to work with GSA to acquire light duty vehicles with a higher fuel economy ratings in FY 2007, lease PIH when available and further reduce petroleum consumption by using biodiesel fuel in as many of its diesel, non-tactical vehicles as possible consistent with mission requirements. The Army is continuing to look for opportunities to develop alternative fuel refueling infrastructure on installations and in neighboring communities.

**Department of the Army Fleet Compliance for FY 2007**

Figure 1 depicts Army AFV acquisitions both current and proposed. The AFV Requirement illustrates the EAct goal for the Fiscal Year which is 75 percent of the EAct Covered Acquisitions. Prior to FY 2007 the Army displayed the AFV requirement as 100 percent of the EAct Covered Acquisitions. The AFV Acquisitions illustrate the Army effort to meet the EAct goal. In FY 2007 the Army acquired 5,949 AFV, not including 16 plug-in electric vehicles. The Army's 24,291 AFV make up 55 percent of the total light duty vehicle fleet. In FY 06 the Army acquired 137 hybrid electric vehicles and in 2007 the Army requested GSA to lease 165 HEV.



*Figure 1. Summary of Army's FY 2000-2007 AFV Acquisitions*

**Army AFV Acquisitions for FY 2008 and FY 2009**

The Army projects to lease from GSA 6,811 AFV in FY 2008 and 5,253 AFV in FY 2009. Because of the lack of available AFV fueling infrastructure, the Army is relying primarily on flex-fuel vehicles and will operate these vehicles on petroleum based fuel until the alternative fuel becomes available. The Army plans to lease approximately 165 hybrid electric vehicles from GSA in FY 2008 and in 2009.

**Army Special Projects Related to AFV and Infrastructure Acquisitions**

The Army is working to ensure that, by 2015, every large installation and selected remote activities are supported by either private sector, military exchange or if neither of the first two is available, Army owned alternative fueling infrastructure. In FY 08, the private sector will

open a refueling point within 5 miles of the Army Group in Miami, Florida and at Fort Huachuca, Arizona; Fort Leavenworth and Fort Riley, Kansas, Fort Hood, Texas, Fort Belvoir, Virginia and West Point, New York will have E-85. Fort Hood, Texas and Fort Belvoir, Virginia are expected to have B-20 available in FY 08.

## Petroleum Savings

Table 1 displays the Army petroleum baseline fuel consumption data for FY 2005 and fuel usage for FY 2006 through 2007. Although the Army fuel usage is below the FY 2005 baseline, their fuel use increased from 2006 to 2007 due the ongoing global war on terrorism and the subsequent overall growth of the Army. However, as the Army brings additional alternative fuel refueling infrastructure and Hybrid-electric vehicles on line, petroleum use, as a motor transport fuel, should decline in the out years at the 2 percent rate prescribed by Executive Order 13423.

**Table 1. Covered Petroleum Consumption in GGE**

Covered Petroleum Consumption in GGE											
	Baseline										
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>Gasoline</b>		33,542,638	34,767,472								
<b>Diesel</b>		6,443,982	7,549,599								
<b>B20</b>		99,647	121,653								
<b>Total</b>	<b>43,770,146</b>	<b>40,086,267</b>	<b>42,438,724</b>								
<b>Target</b>		42,894,743	42,019,340	41,143,937	40,268,534	39,393,131	38,517,728	37,642,325	36,766,922	35,891,519	35,016,116
<b>Compliance</b>		<b>Yes</b>	<b>No</b>								

\* B20 is the diesel component from covered biodiesel consumption.

## Alternative Fuel Use by Army Fleets in FY2007

Table 2 displays the 2005 baseline for alternative fuel consumption and consumption by type for 2006 and 2007. The Army complied with Executive Order 13423 by increasing alternative fuel use by 10 percent in each year from the baseline. The majority of fuel used by Army vehicles is either acquired from on-base fuel facilities or from commercial gas stations using a commercial fleet card. It is not possible at this time to electronically capture data on the alternative fuel purchased, by type, at the point of sale. Until this issue is resolved, we believe that the alternative fuels used by the Army are under reported. A significant number of the Army fleet does rely exclusively on the commercial refueling stations for fuel and the private sector has not yet invested in sufficient alternative fuel refueling infrastructure. The Army will increase refueling infrastructure on key installations and strive to ensure an adequate supply of vehicles to take advantage of that fuel.

**Table 2. Alternative Fuel Consumption**

Alternative Fuel Consumption in GGE											
	Baseline										
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>CNG</b>		2,998	2,589								
<b>LNG</b>		0	0								
<b>LPG</b>		16,782	1,302								
<b>E-85</b>		285,871	384,028								
<b>Electric</b>		36	0								
<b>M-85</b>		0	0								
<b>B100</b>		39,174	65,442								
<b>Hydrogen</b>		0	0								
<b>Total</b>	<b>109,647</b>	<b>344,861</b>	<b>453,361</b>								
<b>Target</b>		120,611	132,672	145,940	160,534	176,587	194,246	213,670	235,038	258,541	284,396
<b>Compliance</b>		<b>Yes</b>	<b>Yes</b>								

\*B100 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.

**Summary**

As detailed in this report the Army exceeded the AFV acquisition/lease requirements of EPOA in FY 2007. The Army now has over 24,000 AFV, not including plug-in electric vehicles. The Army continues to seek to lease additional hybrid electric vehicles as they become available. The Army demonstrated its commitment to reduced petroleum fuel consumption by pursuing both Army owned and commercial alternative fuel refueling infrastructure in the reportable Fiscal Year and increasing the use of alternative fuels. The Army did not achieve a reduction in the use of petroleum fuel due to the optempo associated with the ongoing global war against terrorism and the related increase in the Total Army end strength. The Army continues to bring additional refueling infrastructure on line inside the installation and to encourage private sector investment in infrastructure in communities near the installation. We are an Army at war and that wartime operating tempo combined with expected future growth in the force will significantly impact our future fuel consumption.

**ATTACHMENTS:**

- A. Actual Department of Army FY 2007 Vehicle Acquisitions
- B. Planned Department of Army FY 2008 Vehicle Acquisitions
- C. Projected Department of Army FY 2009 Vehicle Acquisitions
- D. FY 2007 Executive Order 13423 Fuel Consumption Report

# Actual Department of Army FY 2007 Vehicle Acquisitions

Actual FY 2007 Light-Duty Vehicle Acquisitions				Total Vehicle Inventory	
	Leased	Purchased	Total		
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		8,039	29	8,068	44,395
Exemptions	Fleet Size	0	0	0	238
	Geographic	0	11	11	1,249
	Law Enforcement	0	0	0	1,211
	Non-MSA Operation (fleet)	0	0	0	393
	Non-MSA Operation (vehicles)	4,826	0	4,826	(n/a)
<b>EPACT Covered Acquisitions</b>		<b>3,213</b>	<b>18</b>	<b>3,231</b>	<b>41,304</b>
Actual FY 2007 AFV Acquisitions				Total Vehicle Inventory	
Vehicle	Leased	Purchased	Total		
Sedan	CNG Bi-Fuel Subcompact	0	0	0	35
Sedan	CNG Bi-Fuel Compact	0	0	0	1
Sedan	E-85 Flex-Fuel Compact	7	0	7	9,482
Sedan	E-85 Flex-Fuel Midsize	2,952	0	2,952	3,441
Sedan	CNG Dedicated Large	0	0	0	4
Pickup 4x2	CNG Bi-Fuel	0	0	0	153
Pickup 4x2	CNG Dedicated	0	0	0	22
Pickup 4x2	E-85 Flex-Fuel	261	0	261	2,316
Pickup 4x2	LPG Bi-Fuel	0	0	0	19
Pickup 4x4	CNG Bi-Fuel	0	0	0	72
Pickup 4x4	E-85 Flex-Fuel	339	0	339	1,257
Pickup 4x4	LPG Bi-Fuel	0	0	0	4
SUV 4x2	E-85 Flex-Fuel	37	0	37	141
SUV 4x4	E-85 Flex-Fuel	355	0	355	1,461
Minivan 4x2 (Passenger)	CNG Dedicated	2	0	2	2
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	1,509	0	1,509	5,052
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	35	0	35	154
Van 4x2 (Passenger)	CNG Dedicated	0	0	0	1
Van 4x2 (Passenger)	E-85 Flex-Fuel	151	0	151	157
Van 4x4 (Passenger)	E-85 Flex-Fuel	86	0	86	85
Van 4x2 (Cargo)	CNG Bi-Fuel	0	0	0	3
Van 4x2 (Cargo)	E-85 Flex-Fuel	38	0	38	39
Pickup MD	CNG Bi-Fuel	0	0	0	19
Pickup MD	E-85 Flex-Fuel	7	0	7	8
SUV MD	E-85 Flex-Fuel	16	0	16	28
Van MD (Passenger)	CNG Bi-Fuel	0	0	0	235
Van MD (Passenger)	E-85 Flex-Fuel	2	0	2	3
Van MD (Cargo)	CNG Bi-Fuel	0	0	0	72
Van MD (Cargo)	CNG Dedicated	7	0	7	1
Van MD (Cargo)	LPG Bi-Fuel	0	0	0	3
MD 8,501-16,000 GVWR	E-85 Flex-Fuel	0	0	0	16
MD 8,501-16,000 GVWR	LPG Bi-Fuel	0	0	0	4
HD 16,001 + GVWR	LPG Bi-Fuel	0	0	0	1
<b>Total Number of AFV Acquisitions</b>		<b>5,804</b>	<b>0</b>	<b>5,804</b>	<b>24,291</b>

Zero Emission Vehicle Credits	0	0	0
Dedicated Light-Duty AFV Credits	2	0	2
Dedicated Medium-Duty AFV Credits	14	0	14
Dedicated Heavy-Duty AFV Credits	0	0	0
Biodiesel Fuel Usage Credits - Actual			129
<b>Total AFV Acquisitions with Credits</b>	<b>5,820</b>	<b>0</b>	<b>5,949</b>
<b>AFV Percentage of Covered Light-Duty Vehicle Acquisition</b>			<b>184%</b>

# Planned Department of Army FY 2008 Vehicle Acquisitions

## Planned FY 2008 Light-Duty Vehicle Acquisitions

		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		10,722	58	10,780
Exemptions	Fleet Size	0	1	1
	Geographic	0	23	23
	Law Enforcement	0	0	0
	Non-MSA Operation (fleet)	0	0	0
	Non-MSA Operation (vehicles)	6,474	0	6,474
<b>EPACT Covered Acquisitions</b>		<b>4,248</b>	<b>34</b>	<b>4,282</b>

## Planned FY 2008 AFV Acquisitions

Vehicle		Leased	Purchased	Total
Sedan	CNG Bi-Fuel Subcompact	26	0	26
Sedan	E-85 Flex-Fuel Compact	4,931	0	4,931
Sedan	E-85 Flex-Fuel Midsize	116	0	116
Pickup 4x2	CNG Bi-Fuel	39	0	39
Pickup 4x2	CNG Dedicated	22	0	22
Pickup 4x2	E-85 Flex-Fuel	283	0	283
Pickup 4x2	LPG Bi-Fuel	7	0	7
Pickup 4x4	CNG Bi-Fuel	23	0	23
Pickup 4x4	E-85 Flex-Fuel	91	0	91
Pickup 4x4	LPG Bi-Fuel	4	0	4
SUV 4x2	E-85 Flex-Fuel	21	0	21
SUV 4x4	E-85 Flex-Fuel	178	0	178
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	942	0	942
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	3	0	3
Van 4x2 (Passenger)	CNG Dedicated	1	0	1
Van 4x2 (Cargo)	CNG Bi-Fuel	2	0	2
Pickup MD	CNG Bi-Fuel	8	0	8
SUV MD	E-85 Flex-Fuel	4	0	4
Van MD (Passenger)	CNG Bi-Fuel	86	0	86
Van MD (Cargo)	CNG Bi-Fuel	19	0	19
Van MD (Cargo)	LPG Bi-Fuel	2	0	2
MD 8,501-16,000 GVWR	LPG Bi-Fuel	3	0	3
HD 16,001 + GVWR	CNG Bi-Fuel	0	2	2
<b>Total Number of AFV Acquisitions</b>		<b>6,811</b>	<b>2</b>	<b>6,813</b>
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		23	0	23
Dedicated Medium-Duty AFV Credits		0	0	0
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Planned				252
<b>Total AFV Acquisitions with Credits</b>		<b>6,834</b>	<b>2</b>	<b>7,088</b>
<b>AFV Percentage of Covered Light-Duty Vehicle Acquisition</b>				<b>166%</b>

# Projected Department of Army FY 2009 Vehicle Acquisitions

## Projected FY 2009 Light-Duty Vehicle Acquisitions

		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		8,368	59	8,427
	Fleet Size	0	2	2
	Geographic	0	42	42
	Law Enforcement	0	0	0
	Non-MSA Operation (fleet)	0	0	0
Exemptions	Non-MSA Operation (vehicles)	5,054	0	5,054
<b>EPACT Covered Acquisitions</b>		<b>3,314</b>	<b>15</b>	<b>3,329</b>
Projected FY 2009 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	E-85 Flex-Fuel Compact	3,076	0	3,076
Sedan	E-85 Flex-Fuel Midsize	299	0	299
Pickup 4x2	CNG Bi-Fuel	67	0	67
Pickup 4x2	E-85 Flex-Fuel	381	0	381
Pickup 4x2	LPG Bi-Fuel	3	0	3
Pickup 4x4	CNG Bi-Fuel	6	0	6
Pickup 4x4	E-85 Flex-Fuel	153	0	153
SUV 4x2	E-85 Flex-Fuel	18	0	18
SUV 4x4	E-85 Flex-Fuel	191	0	191
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	950	0	950
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	7	0	7
Van 4x2 (Passenger)	E-85 Flex-Fuel	8	0	8
Pickup MD	CNG Bi-Fuel	4	0	4
SUV MD	E-85 Flex-Fuel	1	0	1
Van MD (Passenger)	CNG Bi-Fuel	72	0	72
Van MD (Cargo)	CNG Bi-Fuel	14	0	14
Van MD (Cargo)	CNG Dedicated	1	0	1
<b>Total Number of AFV Acquisitions</b>		<b>5,251</b>	<b>0</b>	<b>5,251</b>
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		0	0	0
Dedicated Medium-Duty AFV Credits		2	0	2
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Projected				190
<b>Total AFV Acquisitions with Credits</b>		<b>5,253</b>	<b>0</b>	<b>5,443</b>
<b>AFV Percentage of Covered Light-Duty Vehicle Acquisition</b>				<b>164%</b>



# FY2007 EO 13423 Fuel Consumption Report

## Department of Army

<b>Covered Petroleum Consumption in GGE</b>											
	<b>Baseline</b>										
	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Gasoline</b>		33,542,638	34,767,472								
<b>Diesel</b>		6,443,982	7,549,599								
<b>B20</b>		99,647	121,653								
<b>Total</b>	<b>43,770,146</b>	<b>40,086,267</b>	<b>42,438,724</b>								
<b>Target</b>		42,894,743	42,019,340	41,143,937	40,268,534	39,393,131	38,517,728	37,642,325	36,766,922	35,891,519	35,016,116
<b>Compliant</b>		<b>Yes</b>	<b>No</b>								

\* B20 is the diesel component from covered biodiesel consumption.

<b>Alternative Fuel Consumption in GGE</b>											
	<b>Baseline</b>										
	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>CNG</b>		2,998	2,589								
<b>LNG</b>		0	0								
<b>LPG</b>		16,782	1,302								
<b>E-85</b>		285,871	384,028								
<b>Electric</b>		36	0								
<b>M-85</b>		0	0								
<b>B100</b>		39,174	65,442								
<b>Hydrogen</b>		0	0								
<b>Total</b>	<b>109,647</b>	<b>344,861</b>	<b>453,361</b>								
<b>Target</b>		120,611	132,672	145,940	160,534	176,587	194,246	213,670	235,038	258,541	284,396
<b>Compliant</b>		<b>Yes</b>	<b>Yes</b>								

\*B100 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.