

U.S. Department of Energy

Fleet Alternative Fuel Vehicle Acquisition Report

Compliance with EPACT and E.O. 13149 in Fiscal Year 2006

This report summarizes the U.S. Department of Energy’s (DOE) fiscal year (FY) 2006 fleet performance in meeting the requirements of the Energy Policy Act (EPACT) of 1992, as amended (42 U.S.C. 13212), and in meeting the goals of Executive Order (E.O.) 13149, “Greening the Government through Federal Fleet and Transportation Efficiency” (65 FR 24607, April 21, 2000), which was in effect in FY 2006 (Exhibit 1). Additional requirements have been placed on Federal fleets by the EPACT of 2005 (Public Law 109-58, signed into law in August 2005) the full impact if these requirements will be incorporated in subsequent reporting. On January 24, 2007, E.O. 13423, “Strengthening Federal Environment, Energy, and Transportation Management” (72 FR 3919), replaced E.O. 13149. Agencies will report on compliance activities with this order beginning in FY 2007.

Exhibit 1. DOE’s Performance in Meeting EPACT and E.O. 13149 Requirements, FY 2006

Authority/ Mandate	Performance Measure	Goal/Requirement	DOE Performance in FY 2006
EPACT	Alternative fuel vehicle (AFV) acquisitions	75 percent of the 627 covered light-duty vehicles (LDV) acquired in FY 2006 must be AFVs	Acquired 603 AFVs, earned 215 additional credits ¹ for total of 818 credits; or 130 percent of covered acquisitions
E.O. 13149	Alternative fuel use in AFVs	Increase alternative fuel use in AFVs to a majority of the total fuel used in those vehicles	Achieved 20.1 percent alternative fuel use in AFVs
	Fuel economy of light-duty acquisitions	Increase fuel economy by 3 miles per gallon (mpg) compared to FY 1999 baseline of 17 mpg	Average LDV fuel economy was 19.5 mpg, an increase of 2.5 mpg over the FY 1999 baseline (but a small decline compared to FY 2005)
	Petroleum consumption	Reduce covered consumption by 20 percent compared to FY 1999 baseline ² of 8,539,281 gasoline gallon equivalent (GGE)	Consumed 7,324,518 GGE, a decrease of 14.2 percent from the FY 1999 baseline

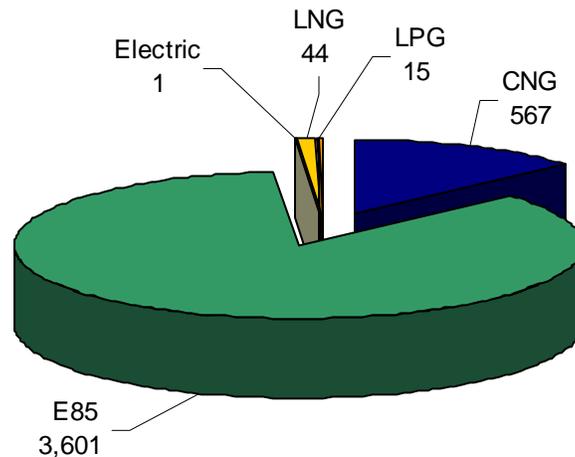
¹Earned credits for acquisition of dedicated light-duty AFVs and biodiesel use.

²Baseline adjusted in FY 2006 to account for unreported fuel used in contractor vehicles and vehicles leased from the General Services Administration.

For the eighth consecutive year, DOE exceeded its EPACT AFV acquisition requirements in FY 2006. As a result of its AFV acquisitions and biodiesel fuel use, DOE in FY 2006, earned AFV acquisition credits amounting to 130 percent of DOE’s covered vehicle acquisitions, which is 55 percentage points higher than the required 75 percent annual AFV acquisition rate (Appendix A). In short, DOE:

- Acquired 627 EPACT-covered light-duty vehicles (LDV). Of these, 603 were AFVs—133 more vehicles than the 75 percent compliance requirement of 470 AFVs.
- Received an additional 215 credits through the acquisition of dedicated medium-duty AFVs and the use of biodiesel.
- Earned a total of 818 credits (including vehicle acquisitions and credits)—130 percent of covered acquisitions.

Exhibit 2. DOE's Total AFV Inventory



Credits

In FY 2006, DOE earned 818 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 blended 20 percent biodiesel and 80 percent petroleum diesel (B20) used. Additional credits are earned for AFVs that operate exclusively on alternative fuels. For this reporting period, DOE earned 603 credits for AFV acquisitions, 212 credits for biodiesel fuel use, and three additional credits for purchasing three dedicated light-duty AFVs.

Vehicles

Flexible-fuel vehicles (FFV) capable of running on blended fuel of 85 percent ethanol and 15 percent gasoline (E85), or regular gasoline, were the AFV of choice in FY 2006. Of the 603 AFVs acquired in FY 2006, 598 of them were FFVs. The remaining five were dedicated (three) and bi-fuel (two) compressed natural gas (CNG) vehicles.

FFVs operating on E85 comprise the majority of DOE's AFV fleet (Exhibit 2), with CNG vehicles making up most of the balance. As evident in the low number of CNG vehicles acquired in FY 2006, this type of vehicle is becoming less prevalent in DOE's fleet. This is predominately due to limited availability of CNG vehicles from original equipment manufacturers. Of DOE's 4,228 AFVs, only 44 run on liquefied natural gas (LNG) vehicles, and 15 run on liquefied petroleum gas (LPG).

Exemptions

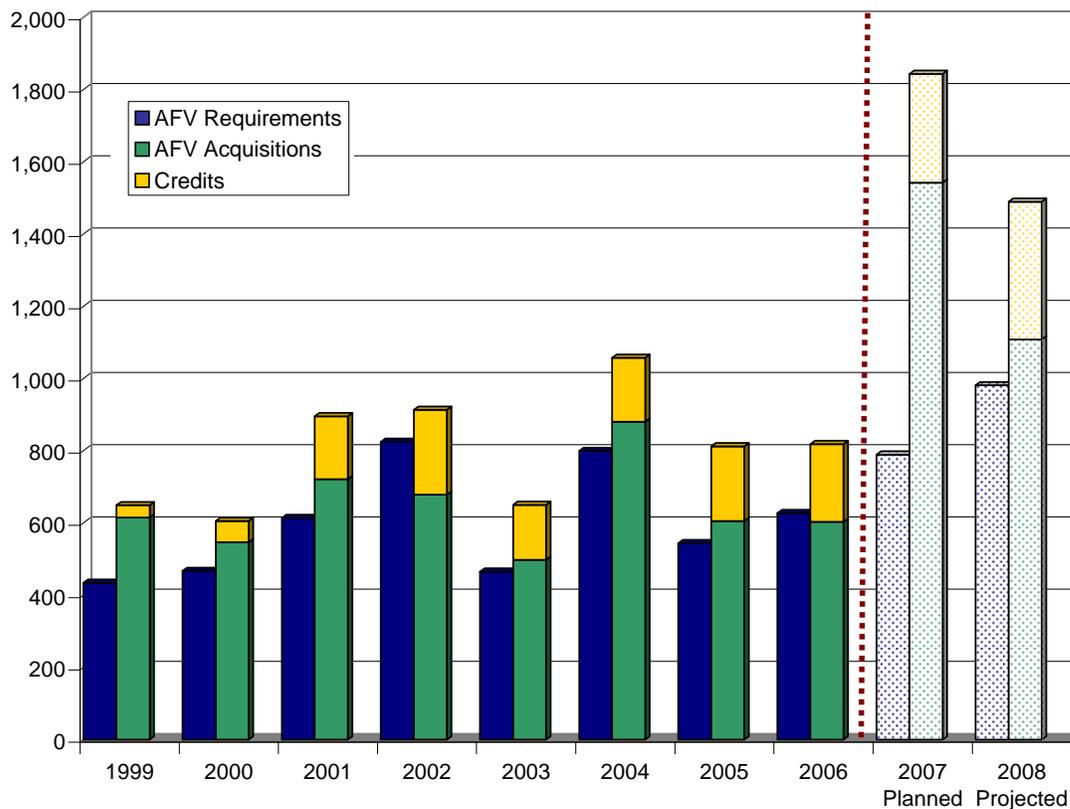
Of the 916 total LDVs acquired by DOE in FY 2006, 289 vehicles (32 percent) were considered exempt from compliance with EPACT. Exemptions are granted based on fleet size, geographic location or use outside a Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area (MSA/CMSA), and use for law enforcement. In FY 2006, exemptions were granted as follows:

- Fleet Size (23)
- Geographic (73)
- Law Enforcement (48)
- Non-MSA/CMSA Operation/Fleet Location(101)
- Non-MSA/CMSA Operation/Vehicle Use (44)

FY 2006/2007 Projected Acquisitions

The attachments to this report offer a detailed look at DOE's FY 2006 acquisitions and its projected acquisitions for FY 2007 and FY 2008. As illustrated in Exhibit 3, DOE has exceeded its annual EPACT requirements since FY 1999 and plans to exceed these requirements in the next two years (Appendices B and C).

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



E.O. 13149 Compliance

E.O. 13149 directed each agency to reduce vehicular petroleum consumption by 20 percent as compared to its 1999 baseline and specified three approaches agencies should take to achieve this goal:

- Compliance with EPACT's annual AFV acquisition requirements (as previously discussed);
- Use alternative fuels in fleet AFVs the majority of the time; and
- Increase the fuel economy of new LDV acquisitions (excluding AFVs) by 3 mpg as compared to baseline FY 1999 acquisitions.

E.O. 13149 was replaced with E.O. 13423 on January 24, 2007. As of the end of FY 2005, none of the covered agencies met the 20 percent petroleum reduction goal of E.O. 13149. Therefore, a challenging, yet achievable annual petroleum reduction goal for each of the covered agencies was introduced. Beginning in FY 2007, E.O. 13423 shall require each agency to reduce its petroleum consumption by 2 percent annually, compared to FY 2005 levels. DOE will also continue its efforts and strive to reduce its petroleum consumption levels, through increased alternative fuel usage and fleet efficiency measures, beyond the minimum requirement.

Use Alternative Fuels in AFVs

In FY 2006, DOE used almost 3.1 million gasoline gallon equivalent (GGE) of alternative fuel, accounting for 20.1 percent of the total fuel used in DOE's AFVs. Of this, 525,168 GGE (17 percent) were of E85. In keeping with DOE's growing interest in ethanol, two fleets (Richland-Hanford and Bonneville Power Administration) added onsite E85 stations in FY 2006. By building onsite infrastructure, these fleets are increasing the amount of alternative fuel used in the bi- and flexible-fuel vehicles that dominate the DOE AFV fleet, and are demonstrating DOE's leadership in alternative fuel use.

Exhibit 4 compares DOE's covered fuel use in FY 2006 with FY 1999. Alternative fuels comprise a growing portion of DOE's covered fuel use, representing 9 percent in FY 2006, up from less than 1 percent in FY 1999. During this period, DOE reduced covered petroleum consumption by 14.2 percent, largely by replacing petroleum fuel with alternative fuel.

Improve Fuel Economy

Toward the petroleum reduction goal set forth in E.O. 13149, the E.O. directs each agency to increase the fuel economy of its LDV acquisitions (excluding AFVs). In FY 2006, DOE's average fuel economy of new vehicle acquisitions improved by 2.5 mpg when measured against the FY 1999 baseline, but 1 mpg lower than the prior year. This marks the first time improvements to DOE's fuel economy has decreased rather than increased since reporting began in FY 2000. Of the 320 light-duty, non-AFVs acquired by DOE in FY 2006, 33 percent (105) were large pick-ups, 26 percent (83) were sports utility vehicles, 23 percent (73) were passenger vans, and 6 percent (20) were minivans. Only 12 percent (39) of these vehicles were fuel-efficient sedans. DOE is preparing to issue an internal policy specific to this topic to ensure that this situation is addressed.

Exhibit 4. DOE's Total Covered Fuel Use

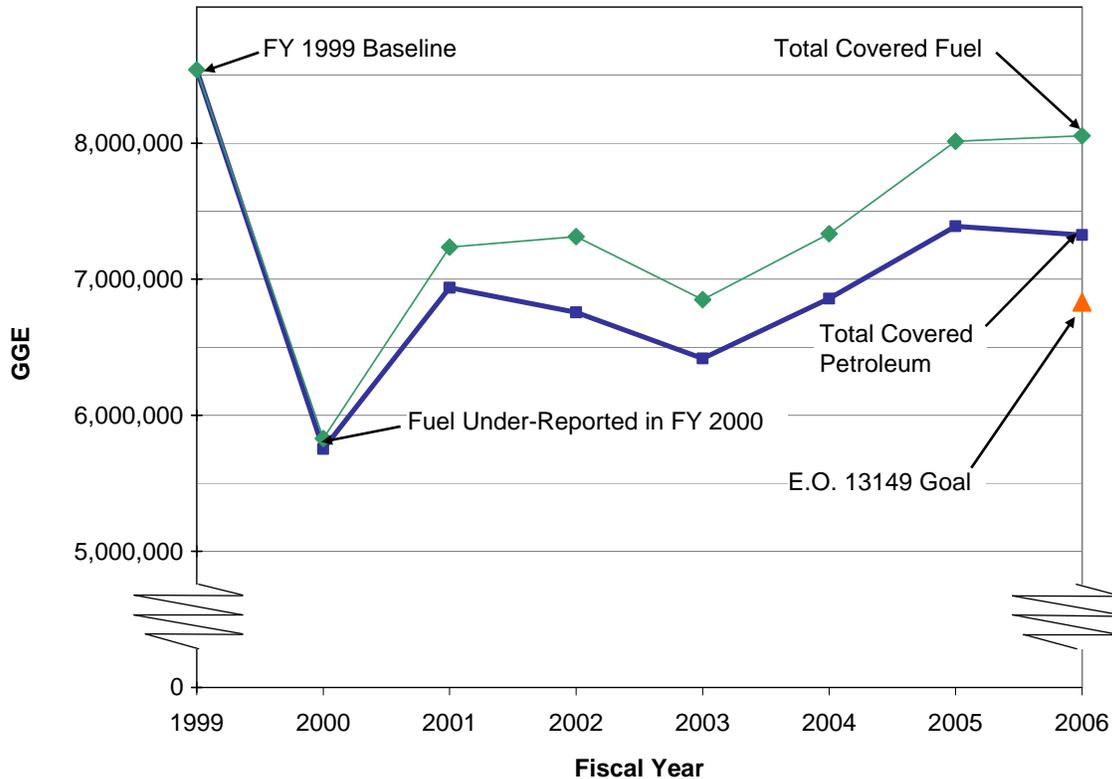
Fuel Use	FY 1999 (GGE)	FY 2006 (GGE)
Alternative Fuel		
B100	116	107,814
CNG	3,876	58,096
LNG	996	37,195
LPG	0	321
E85	167	525,168
Electric	25,010	0
Total Alternative Fuel Use	30,165	728,594
Petroleum		
Diesel	2,230,613	2,359,522
Gasoline	6,308,668	4,964,996
Total Covered Petroleum Use	8,539,281	7,324,518
<i>Total Covered Fuel Use</i>	<i>8,569,446</i>	<i>8,053,112</i>
<i>Alternative Fuel Use as a Percentage of Total Fuel Use</i>	<i>0.35</i>	<i>9.05</i>

Petroleum Consumption Progress Report

Exhibit 5 shows that although DOE has not approached the 20 percent reduction goal it has been successful in displacing petroleum. In FY 2006, DOE consumed 728,594 GGE of alternative fuels,

thereby reducing gasoline and diesel fuel consumption in its fleet vehicles – a 14 percent drop from the FY 1999 baseline of 8.5 million GGE.

Exhibit 5. DOE's Vehicular Petroleum Consumption



DOE Fleet Successes

In FY 2006, six DOE fleets (Pantex, Sandia National Laboratory, Oak Ridge Operations, Nevada Test Site, Savannah River, and Idaho National Laboratory) each consumed more than 40,000 GGE of alternative fuel. These six fleets are responsible for almost 80 percent of the total alternative fuel used by DOE. Because of their impressive track record, four of these fleets were recognized with a White House Closing the Circle award for their achievements in displacement of petroleum through alternative fuel usage, in June 2005.

Summary and Conclusions

In FY 2006, DOE exceeded its EPACT FY 2006 AFV acquisition requirements and expects to exceed them in FY 2007 and FY 2008. Toward compliance with E.O. 13149, DOE used alternative fuels in its AFVs 20.1 percent of the time, purchased vehicles with an average of 2.5 mpg higher fuel economy than in FY 1999, and reduced its petroleum consumption by 14.2 percent compared to FY 1999. DOE is continuing its efforts to reduce petroleum consumption through increased alternative fuel usage, accelerating the replacement of conventional vehicles with AFVs, and acquiring hybrid and fuel efficient vehicles for those sites not covered by these requirements. Exhibit 6 summarizes DOE's performance.

Exhibit 6. DOE's Performance in Meeting its Requirements

	FY 1999 Baseline	FY 2006	Change FY 1999 vs. FY 2006
Acquisition of AFVs	N/A	130 percent	N/A
Alternative Fuel Use in AFVs	N/A	20.1 percent	N/A
Fuel Economy of LDV Acquisitions	17 mpg	19.5 mpg	+2.5 mpg
Petroleum Consumption	8,539,281 GGE	7,324,518 GGE	-14.2 percent

Appendix A

Actual FY 2006 Vehicle Acquisitions					
Actual FY 2006 LDV Acquisitions					Total Vehicle Inventory
	Leased	Purchased	Total		
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		882	34	916	8,044
Exemptions	Fleet Size	23	0	23	57
	Geographic	55	18	73	1,181
	Law Enforcement	48	0	48	246
	Non-MSA Operation (fleet)	101	0	101	786
	Non-MSA Operation (vehicles)	44	0	44	(n/a)
EPACT Covered Acquisitions		611	16	627	5,774
Actual FY 2006 AFV Acquisitions					Total Vehicle Inventory
Vehicle	Leased	Purchased	Total		
Sedan	CNG Bi-Fuel Subcompact	0	0	0	12
Sedan	CNG Bi-Fuel Compact	0	0	0	26
Sedan	E-85 Flex-Fuel Compact	38	0	38	385
Sedan	CNG Bi-Fuel Midsize	0	0	0	7
Sedan	E-85 Flex-Fuel Midsize	46	0	46	208
Sedan	CNG Dedicated Large	0	0	0	1
Sedan	E-85 Flex-Fuel Large	5	0	5	24
Pickup 4x2	CNG Bi-Fuel	2	0	2	229
Pickup 4x2	CNG Dedicated	3	0	3	39
Pickup 4x2	E-85 Flex-Fuel	91	8	99	928
Pickup 4x2	LNG Bi-Fuel	0	0	0	33
Pickup 4x2	LPG Bi-Fuel	0	0	0	6
Pickup 4x4	CNG Bi-Fuel	0	0	0	114
Pickup 4x4	E-85 Flex-Fuel	72	1	73	309
Pickup 4x4	LNG Bi-Fuel	0	0	0	1
Pickup 4x4	LPG Bi-Fuel	0	0	0	8
SUV 4x2	CNG Bi-Fuel	0	0	0	1
SUV 4x2	E-85 Flex-Fuel	12	0	12	23
SUV 4x4	CNG Bi-Fuel	0	0	0	6
SUV 4x4	E-85 Flex-Fuel	186	9	195	744
SUV 4x4	LNG Bi-Fuel	0	0	0	3
Minivan 4x2 (Passenger)	CNG Dedicated	0	0	0	1
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	97	0	97	686
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	9	5	14	11
Minivan 4x2 (Cargo)	LPG Dedicated	0	0	0	1
Van 4x2 (Passenger)	CNG Bi-Fuel	0	0	0	4
Van 4x2 (Passenger)	E-85 Flex-Fuel	12	0	12	265

Van 4x2 (Cargo)	CNG Bi-Fuel	0	0	0	15
Van 4x2 (Cargo)	E-85 Flex-Fuel	0	0	0	5
Bus	LNG Bi-Fuel	0	0	0	7
Pickup MD	CNG Bi-Fuel	0	0	0	22
Pickup MD	E-85 Flex-Fuel	3	0	3	2
SUV MD	E-85 Flex-Fuel	4	0	4	11
Van MD (Passenger)	CNG Bi-Fuel	0	0	0	15
Van MD (Passenger)	CNG Dedicated	0	0	0	4
Van MD (Cargo)	CNG Bi-Fuel	0	0	0	44
Van MD (Cargo)	CNG Dedicated	0	0	0	27
HD 16,001 + GVWR	LPG Bi-Fuel	0	0	0	1
Total Number of AFV Acquisitions		580	23	603	4,228
Zero Emission Vehicle Credits		0	0	0	
Dedicated Light-Duty AFV Credits		3	0	3	
Dedicated Medium-Duty AFV Credits		0	0	0	
Dedicated Heavy-Duty AFV Credits		0	0	0	
Biodiesel Fuel Usage Credits - Actual				212	
Total AFV Acquisitions with Credits		583	23	818	
AFV Percentage of Covered Light-Duty Vehicle Acquisition				130%	

Appendix B

Planned FY 2007 Vehicle Acquisitions				
Planned FY 2007 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		1,809	131	1,940
Exemptions	Fleet Size	2	10	12
	Geographic	851	51	902
	Law Enforcement	48	3	51
	Non-MSA Operation (fleet)	153	0	153
	Non-MSA Operation (vehicles)	33	0	33
EPACT Covered Acquisitions		722	67	789
Planned FY 2007 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	CNG Bi-Fuel Subcompact	1	0	1
Sedan	E-85 Flex-Fuel Compact	94	5	99
Sedan	E-85 Flex-Fuel Midsize	37	3	40
Sedan	E-85 Flex-Fuel Large	5	0	5
Pickup 4x2	CNG Bi-Fuel	37	0	37
Pickup 4x2	CNG Dedicated	1	0	1
Pickup 4x2	E-85 Flex-Fuel	207	27	234
Pickup 4x2	LPG Bi-Fuel	1	0	1
Pickup 4x4	CNG Bi-Fuel	5	0	5
Pickup 4x4	E-85 Flex-Fuel	323	16	339
SUV 4x2	E-85 Flex-Fuel	14	0	14
SUV 4x4	E-85 Flex-Fuel	191	17	208
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	100	10	110
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	6	10	16
Van 4x2 (Passenger)	E-85 Flex-Fuel	360	6	366
Van 4x2 (Cargo)	E-85 Flex-Fuel	17	2	19
Pickup MD	CNG Bi-Fuel	11	0	11
Pickup MD	E-85 Flex-Fuel	16	4	20
SUV MD	E-85 Flex-Fuel	10	1	11
Van MD (Passenger)	CNG Bi-Fuel	1	2	3
Van MD (Passenger)	CNG Dedicated	2	0	2
Total Number of AFV Acquisitions		1,439	103	1,542
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		1	0	1
Dedicated Medium-Duty AFV Credits		4	0	4
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits – Planned				296
Total AFV Acquisitions with Credits		1,444	103	1,843
FV Percentage of Covered Light-Duty Vehicle Acquisition				234%

Appendix C

Projected FY 2008 Vehicle Acquisitions				
Projected FY 2008 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		1,246	112	1,358
Exemptions	Fleet Size	2	10	12
	Geographic	166	25	191
	Law Enforcement	33	1	34
	Non-MSA Operation (fleet)	101	0	101
	Non-MSA Operation (vehicles)	39	0	39
EPACT Covered Acquisitions		905	76	981
Projected FY 2008 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	CNG Bi-Fuel Subcompact	1	0	1
Sedan	E-85 Flex-Fuel Compact	121	5	126
Sedan	E-85 Flex-Fuel Midsize	83	5	88
Sedan	E-85 Flex-Fuel Large	10	0	10
Pickup 4x2	CNG Bi-Fuel	26	0	26
Pickup 4x2	CNG Dedicated	0	2	2
Pickup 4x2	E-85 Flex-Fuel	239	25	264
Pickup 4x4	CNG Bi-Fuel	5	0	5
Pickup 4x4	E-85 Flex-Fuel	153	12	165
Pickup 4x4	LPG Bi-Fuel	2	0	2
SUV 4x2	E-85 Flex-Fuel	11	0	11
SUV 4x4	E-85 Flex-Fuel	140	14	154
Minivan 4x2 (Passenger)	E-85 Flex-Fuel	138	25	163
Minivan 4x2 (Cargo)	E-85 Flex-Fuel	4	0	4
Van 4x2 (Passenger)	E-85 Flex-Fuel	14	6	20
Van 4x2 (Cargo)	E-85 Flex-Fuel	5	6	11
Other 4x2	CNG Dedicated	1	0	1
Pickup MD	E-85 Flex-Fuel	11	8	19
SUV MD	E-85 Flex-Fuel	27	0	27
Van MD (Passenger)	CNG Bi-Fuel	2	0	2
Van MD (Cargo)	CNG Bi-Fuel	2	0	2
Van MD (Cargo)	CNG Dedicated	0	5	5
Total Number of AFV Acquisitions		995	113	1,108
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		1	2	3
Dedicated Medium-Duty AFV Credits		0	10	10
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Projected				368
Total AFV Acquisitions with Credits		996	125	1,489
AFV Percentage of Covered Light-Duty Vehicle Acquisition				152%

Appendix D

List of Acronyms	
Acronym	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 of 1992
FFV	Flexible Fuel Vehicle
FR	Federal Register
FY	Fiscal Year
GGE	Gasoline Gallon Equivalent
GVWR	Gross Vehicle Weight Rating
HD	Heavy-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