

U.S. Department of Agriculture AFV Program Report for Fiscal Year 2004

This United States Department of Agriculture Alternative Fuel Vehicle (AFV) Program Report for Fiscal Year 2004 presents the Department's data on the number of alternative fuel vehicles (AFVs) acquired in fiscal year (FY) 2004, and planned and projected acquisitions for FY 2005 and FY 2006. The report has been developed in accordance with the Energy Policy Act of 1992 (EPAct) (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 of 1992 (EPAct) requires 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 EPAct 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 EPAct 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

The USDA fleet is comprised of owned, commercially leased, and vehicles leased from the General Services Administration (GSA). These vehicles are used to perform mission requirements in support of USDA programs, including the following:

- ◆ Management of the National Forest System
- ◆ Community Natural Resource Conservation Programs

- ◆ Animal, Plant, and Food Safety
- ◆ 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. For example, USDA could acquire 6,000 vehicles in any given year and decline to 4,000 vehicles the next. This is due primarily to the varying replacement cycles used by USDA agencies. GSA leased vehicle replacement cycles are generally every three to four years, however, USDA owned vehicles are replaced anywhere from six to 10 years.

USDA has achieved and surpassed the EPA Act AFV acquisition goal of 75% for four consecutive years. The FY 2004 AFV acquisition rate was 95%. Planned and projected increases for FY 2005 and FY 2006 are 96% and 101% respectively. USDA has made extraordinary progress since FY 1996 when the Department achieved an EPA Act goal of 4%.

USDA Approach to Compliance with EPA Act and E.O. 13149

To achieve compliance with the legislative mandates of EPA Act and E.O. 13149 in 2005, USDA developed a compliance strategy that was approved by the Office of Management and Budget. 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.

The Department is taking advantage of all General Services Administration (GSA) programs geared to help cover the higher incremental cost of many AFV models (compared to conventional vehicles). This opportunity helps to support USDA with meeting the challenges of EPA Act and E. O. 13149. USDA will continue to use biodiesel and other alternative fuels. Also, USDA will continue to acquire light duty vehicles with higher fuel economy.

Fleet managers continually assess their fleet's efficiency in relation to their missions. Using compact sedans in place of larger sedans, 4x2 vehicles in place of 4x4 vehicles, rescheduling or combining routes to increase vehicle passenger capacities, and decreasing vehicle trips per day are strategies that USDA agencies are currently using to reduce petroleum use. These are fleet efficiency improvements.

The USDA FY 2004 AFV Program Report includes data pertaining to achieving the EPAct and E. O. 13149 goals. The Federal Automotive Statistical Tool (FAST), the basis for the report, does not include fleet efficiency improvements such as described in the previous paragraph. Along with fuel economy vehicles, the FAST System does not convert fleet efficiency improvements into displaced petroleum gasoline gallon equivalents (GGEs). USDA strategies for achieving compliance goals are updated periodically to adjust to any barriers or changing circumstances that impede progress.

USDA Fleet Compliance Chart for FY 2004

| AUTHORITY/ MANDATE | PERFROMANCE MEASURE | GOAL/ REQUIREMENT | USDA PERFORMANCE IN FY 2004 | ASSOCIATED TABLE |
|-------------------------------|--|---|--|-----------------------------|
| EPACT | AFV Acquisitions | 75% of the 1,350 covered light-duty vehicles acquired in FY 2004 (i.e., 1013 vehicles) must be AFVs | Acquired 1277 AFVs, 3 dedicated AFV credits, and 8 biodiesel credits. Achieved a 95% EPAct acquisition rate, surpassing the established goal | TABLE 1 TABLE 2 |
| E.O. 13149 | Petroleum Consumption | By FY 2005, reduce petroleum by 20% compared to FY 1999 baseline of 21,069,108 GGE (Gasoline Equivalent Gallons) | Consumed 19,262,225 GGEs, a reduction of 8.6% from the baseline | TABLE 4 |
| | 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 | TABLE 3 |
| | 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 mpg, increase of 4 miles over baseline | TABLE 5 |

Table 1. Required Acquisitions vs. Actual Acquisitions

The AFV acquisitions required to achieve the EPAct goal of 75% was 1,013 for FY 2004. This calculation was based on 1,350 covered light duty vehicle acquisitions. USDA acquired 1,288 AFVs which is an EPAct rate of 95%. Table I graphically depicts USDA's FY 2004 accomplishment and displays the planned and projected accomplishments for FY 2005 and FY 2006.

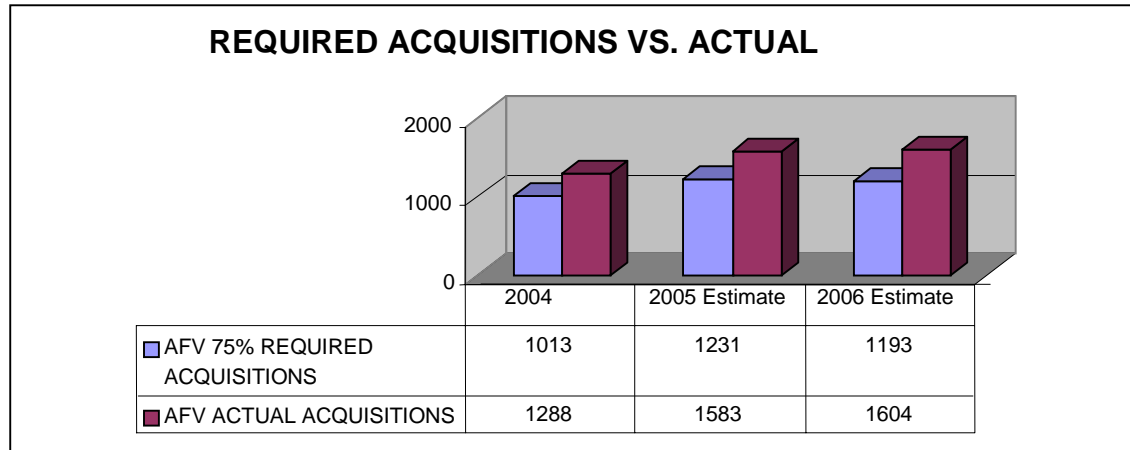


Table 2. AFV Acquisition Breakdown

The 1,288 AFVs acquired by USDA in FY 2004 are displayed in Table 2 to show the various ways that USDA acquired AFV credits. Data is provided for FY 2004 and planned and projected data for FY 2005 and FY 2006.

| FISCAL YEAR | 2004 | 2005 Estimate | 2006 Estimate |
|---------------------------------|-----------------------------|-----------------------------|------------------------------|
| ACTUAL AFV ACQUISITIONS | 1277 | 1423 | 1435 |
| DEDICATED CREDIT | 3 | 0 | 5 |
| BIODIESEL CREDIT | 8 | 160 | 164 |
| AFV TOTALS/ EPAct PERCENTAGE | 1288 (95%) | 1583 (96%) | 1604 (101%) |

Alternative Fuel and Petroleum Consumption

Alternative fuel use in USDA AFVs increased in FY 2004. Ethanol (E85) increased significantly while biodiesel, specifically B20, reduced. B20 has played an integral role in USDA's success in past years. This decrease in B20 was a result of increased prices and USDA agency fleet funding constraints. USDA used 22,406 GGEs of B20 in FY 2004 which equals 4,482 GGEs of B100. USDA received 8 AFV credits as a result of biodiesel usage in FY 2004.

In FY 1999 USDA's baseline petroleum consumption was 21,069,108 GGE and the FY 2004 petroleum consumption was 19,262,225 GGE. This represents a savings of 1,806,883 GGEs in FY 2004 compared to the 1999 baseline (an 8.6 percent reduction in petroleum use). The Department of Energy does not require petroleum consumption data for FYs 2005 and 2006 because the data is estimated and difficult to project. Table 4 details the USDA petroleum consumption information from FY 1999 through FY 2004.

Table 3. Alternative Fuel Consumption

For FY 2004 USDA increased the use of alternative fuel in vehicles capable of using alternative fuel to 104,858 GGEs. The fuel use was approximately 7% of the estimated number of GGEs (1,500,000) that could be used in flex-fuel, bi-fuel, and dedicated AFVs (This alternative fuel use does not include biodiesel because biodiesel can not be used in AFVs). This is a significant increase of alternative fuel use when compared with FY 2002 and FY 2003. USDA is using more alternative fuel which is a result of the implementation of the USDA agencies' strategies to reduce petroleum usage and increase alternative fuel use.

| Alternative Fuel Consumption | | | |
|---|---------------|----------------|----------------|
| ALTERNATIVE FUEL GGEs | FY2002 | FY2003 | FY2004 |
| CNG | 94 | 1,218 | 4,543 |
| LPG | 8,185 | 2,840 | 2,664 |
| E-85 | 475 | 12,189 | 97,651 |
| SUB-TOTAL | 8,754 | 16,247 | 104,858 |
| Biodiesel (B100)* | 30,258 | 105,680 | 4,482 |
| TOTAL | 39,012 | 121,927 | 109,340 |
| Estimated Total Fuel Used in AFVs | 960,000 | 1,268,000 | 1,500,000 |
| % of Alt Fuel Use in AFVs w/o biodiesel* | 0.9119 % | 1.2813 % | 6.9905 % |
| * 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 not burned in <i>Alternatively Fueled Vehicles</i> . | | | |

Table 4. USDA Petroleum Consumption

| PETROLEUM CONSUMPTION | FY 1999 Baseline | FY2004 |
|---|-------------------------|--|
| Gasoline | 19,219,108 | 17,335,164 |
| Diesel | 1,850,000 | 1,915,408 |
| Diesel component of biodiesel | | 11,653 (Computation performed by the FAST system) |
| TOTAL | 21,069,108 | 19,262,225 |
| Reduction* | N/A | 8.6 % |
| * Reduction is the % reduction compared to the FY 1999 Baseline Total | | |

Improved Fuel Economy

Baseline fleet average fuel economy for covered, conventional petroleum light-duty vehicles was 17 mpg in FY 1999. In FY 2004, USDA achieved a fleet average fuel economy of 21 mpg. The FAST System developers, Idaho National Energy Laboratory, state there are no calculations in FAST that convert fuel economy mileage gains in to displaced GGEs. This would have to be approved by DOE before the system can be modified. USDA achieved the 3 mpg improvement goal for FY 2005 in FY 2003. The acquisition of hybrid vehicles and vehicles with better gas mileage allowed USDA to meet this goal 2 years prior to the established goal date. Table 5 displays the fuel economy accomplishments from FY 1999.

Table 5. USDA Fuel Economy Achievements

| Fuel Economy | FY 1999 Baseline | FY2000 | FY2001 | FY2002 | FY2003 | FY2004 |
|------------------------------------|-------------------------|---------------|---------------|---------------|---------------|---------------|
| Change Compared to Baseline | 17.0 | 18.0 | 19.0 | 20.0 | 20.0 | 21.0 |

USDA Special Projects for Decreasing Petroleum Use

Several significant projects are underway to increase the use of alternative fuel and decrease petroleum usage. USDA and the Department of Interior have formed a partnership to increase the use of biodiesel in National Forests and National Parks. This joint venture involves the identification of National forests and parks in close proximity to one another that are appropriate for increasing biodiesel consumption. This effort will include the assistance of biodiesel industry representatives. Another viable initiative that USDA is undertaking is an effort to replace diesel with B20 in nationwide Forest Service diesel tanks that have been identified by industry as serviceable. Also, USDA agency fleet managers have planned to acquire, if possible, the majority of their AFVs in areas where infrastructure currently exists or is the planning stages. USDA will take advantage of all General Services Administration (GSA) initiatives to help cover the higher incremental cost of many AFV models (compared to conventional vehicles). USDA will continue to acquire "mission oriented" light duty vehicles with higher fuel economy to replace vehicles currently receiving lower gas mileage.

Summary

The following chart summarizes USDA's efforts to comply with EPCA and E. O. 13149.

| Required Elements | Item Addressed (Y/N) | Comments |
|--|----------------------|--|
| Is USDA making efforts to achieve 20% fuel use reduction? | Yes | USDA is making efforts to achieve the 20% petroleum reduction. USDA is using more alternative fuel, acquiring light duty vehicles with better gas mileage, and decreasing miles traveled in the USDA fleet. |
| Is alternative fuel used in USDA AFVs? | Yes | Commitment stated and demonstrated by increase alternative fuel use in FY 2004 compared with previous years. |
| 3.0 mpg FY05? | Yes | Goal was achieved in FY 2003 |
| Has USDA achieved the EPAct requirements for FY 2004(alternative fuel vehicles (AFVs) and credits = 75% of covered light duty vehicle acquisitions)? | Yes | Commitment stated and demonstrated by actual annual 95% EPAct acquisition rate. With biodiesel credits, dedicated AFVs and other AFV acquisitions, USDA has consistently achieved 75% or better over the last four years and will most likely continue to do so. |
| Additional Elements | | Comments |
| Has USDA strategically planned to incorporate other efficiency improvements (e.g., substitution of 4x2 trucks for 4x4 trucks) | Yes | Strategies include the acquisition of more hybrid vehicles, biodiesel in various applications, and flexibility for fleet managers to choose efficiency measures that work for their fleet. |
| Does strategy contain incentives for regional and fleet personnel? | Yes | Awards program will be instituted. |
| Does strategy include procurement of environmentally preferable motor vehicle products such as re-refined lubricating oil? | Yes | USDA Agriculture Acquisition Regulation (AGAR) has been revised to incorporate this. |

As detailed in this report, USDA exceeded the AFV acquisition requirements of EPAct in FY 2004 and projects to repeat this accomplishment in FYs 2005 and 2006. In addition, USDA agency fleets were able to reduce the agency's annual fleet petroleum consumption in FY 2004. Part of this reduction was achieved by increasing fuel economy in USDA vehicles, increased use of alternative fuel, and traveling fewer miles as compared with the FY 1999 miles traveled. USDA will continue to implement its strategy for complying with the requirements of Executive Order 13149 and will make every effort to achieve the 20 percent reduction goal in the fleet's annual petroleum consumption in FY 2005.

As in past years, the availability of fuel data used to measure progress toward the use of alternative fuels and the reduction of petroleum fuels is incomplete and unreliable. For example, USDA and other federal fleets lease AFVs and other vehicles from GSA. The leasing contract folds in the maintenance and fuel costs for these vehicles. This is accomplished by the use of a GSA credit card that the fleets use to purchase alternative 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. USDA fleet managers are taking the initiative to review credit card data for accuracy with respect to alternative fuel purchases. These managers are also manually recording alternative fuel purchases until better methods of fuel tracking become available.

The ability to capture alternative fuel use 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 GSA leased vehicles must be resolved. The inability of the FAST system to convert the annual acquisition of fuel economy vehicles in to displaced GGEs or convert miles traveled to displaced GGEs is a serious problem. This could result in underreporting displaced petroleum. USDA will do all it can to provide the most reliable and accurate data possible when reporting to Federal regulatory agencies and Congress. The aforementioned issues, however, must be resolved to provide a full picture of fleet and fuel use in the coming years.

| USDA Actuals FY 2004 Light-Duty Vehicle Acquisitions | | | | | Total Vehicle Inventory |
|---|------------------------------|------------------|--------------|--------------|--------------------------------|
| | Leased | Purchased | Total | | |
| Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions | | 1,241 | 3,428 | 4,669 | 32,066 |
| Exemptions | Fleet Size | 0 | 0 | 0 | 0 |
| | Geographic | 11 | 139 | 150 | 2,121 |
| | Law Enforcement | 0 | 0 | 0 | 107 |
| | Non-MSA Operation (fleet) | 227 | 1,742 | 1,969 | 15,599 |
| | Non-MSA Operation (vehicles) | 348 | 852 | 1,200 | (n/a) |
| EPACT Covered Acquisitions | | 655 | 695 | 1,350 | 14,239 |
| Actuals FY 2004 AFV Acquisitions | | | | | Total Vehicle Inventory |
| Vehicle | Leased | Purchased | Total | | |
| Sedan | CNG Bi-Fuel Subcompact | 0 | 0 | 0 | 7 |
| Sedan | CNG Bi-Fuel Compact | 0 | 0 | 0 | 17 |
| Sedan | E-85 Flex-Fuel Compact | 208 | 32 | 240 | 431 |
| Sedan | E-85 Flex-Fuel Midsize | 64 | 139 | 203 | 826 |
| Sedan | CNG Dedicated Large | 0 | 0 | 0 | 8 |
| Pickup 4x2 | CNG Bi-Fuel | 0 | 1 | 1 | 14 |
| Pickup 4x2 | E-85 Flex-Fuel | 7 | 288 | 295 | 614 |
| Pickup 4x2 | LPG Bi-Fuel | 0 | 1 | 1 | 3 |
| Pickup 4x4 | E-85 Flex-Fuel | 29 | 267 | 296 | 508 |
| Pickup 4x4 | LPG Bi-Fuel | 0 | 3 | 3 | 9 |
| SUV 4x2 | E-85 Flex-Fuel | 3 | 26 | 29 | 82 |
| SUV 4x4 | E-85 Flex-Fuel | 14 | 125 | 139 | 320 |
| Minivan 4x2 (Passenger) | E-85 Flex-Fuel | 10 | 0 | 10 | 129 |
| Minivan 4x2 (Cargo) | E-85 Flex-Fuel | 0 | 0 | 0 | 5 |
| Van 4x2 (Passenger) | E-85 Flex-Fuel | 24 | 33 | 57 | 164 |
| Pickup MD | CNG Bi-Fuel | 0 | 0 | 0 | 2 |
| Van MD (Passenger) | CNG Bi-Fuel | 2 | 0 | 2 | 2 |
| HD 16,001 + GVWR | CNG Dedicated | 0 | 1 | 1 | 0 |
| Total Number of AFV Acquisitions | | 361 | 916 | 1,277 | 3,141 |
| 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 | 3 | 3 | |
| Biodiesel Fuel Usage Credits - Actuals | | | | 8 | |
| Total AFV Acquisitions with Credits | | 361 | 919 | 1,288 | |
| AFV Percentage of Covered Light-Duty Vehicle Acquisition | | | | 95 % | |

| USDA Planned FY 2005 Light-Duty Vehicle Acquisitions | | | | |
|---|------------------------------|---------------|------------------|--------------|
| | | Leased | Purchased | Total |
| Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions | | 1,220 | 3,333 | 4,553 |
| Exemptions | Fleet Size | 0 | 0 | 0 |
| | Geographic | 12 | 60 | 72 |
| | Law Enforcement | 0 | 0 | 0 |
| | Non-MSA Operation (fleet) | 242 | 1,779 | 2,021 |
| | Non-MSA Operation (vehicles) | 400 | 419 | 819 |
| EPACT Covered Acquisitions | | 566 | 1,075 | 1,641 |
| Planned FY 2005 AFV Acquisitions | | | | |
| Vehicle | | Leased | Purchased | Total |
| Sedan | E-85 Flex-Fuel Compact | 141 | 10 | 151 |
| Sedan | E-85 Flex-Fuel Midsize | 87 | 179 | 266 |
| Pickup 4x2 | CNG Bi-Fuel | 0 | 2 | 2 |
| Pickup 4x2 | E-85 Flex-Fuel | 14 | 346 | 360 |
| Pickup 4x2 | LPG Bi-Fuel | 0 | 2 | 2 |
| Pickup 4x4 | E-85 Flex-Fuel | 23 | 326 | 349 |
| Pickup 4x4 | LPG Bi-Fuel | 1 | 5 | 6 |
| SUV 4x2 | E-85 Flex-Fuel | 1 | 36 | 37 |
| SUV 4x4 | E-85 Flex-Fuel | 27 | 145 | 172 |
| Minivan 4x2 (Passenger) | E-85 Flex-Fuel | 12 | 0 | 12 |
| Van 4x2 (Passenger) | E-85 Flex-Fuel | 33 | 33 | 66 |
| Total Number of AFV Acquisitions | | 339 | 1,084 | 1,423 |
| 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 | | | | 160 |
| Total AFV Acquisitions with Credits | | 339 | 1,084 | 1,583 |
| AFV Percentage of Covered Light-Duty Vehicle Acquisition | | | | 96 % |

| USDA Projected FY 2006 AFV Acquisitions | | | | |
|---|------------------------------|---------------|------------------|--------------|
| | | Leased | Purchased | Total |
| Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions | | 883 | 3,356 | 4,239 |
| Exemptions | Fleet Size | 0 | 0 | 0 |
| | Geographic | 0 | 60 | 60 |
| | Law Enforcement | 0 | 0 | 0 |
| | Non-MSA Operation (fleet) | 220 | 1,784 | 2,004 |
| | Non-MSA Operation (vehicles) | 164 | 420 | 584 |
| EPACT Covered Acquisitions | | 499 | 1,092 | 1,591 |
| Projected FY 2006 AFV Acquisitions | | | | |
| Vehicle | | Leased | Purchased | Total |
| Sedan | CNG Dedicated Subcompact | 0 | 5 | 5 |
| Sedan | E-85 Flex-Fuel Compact | 148 | 10 | 158 |
| Sedan | E-85 Flex-Fuel Midsize | 100 | 189 | 289 |
| Pickup 4x2 | CNG Bi-Fuel | 0 | 2 | 2 |
| Pickup 4x2 | E-85 Flex-Fuel | 3 | 354 | 357 |
| Pickup 4x2 | LPG Bi-Fuel | 0 | 2 | 2 |
| Pickup 4x4 | E-85 Flex-Fuel | 24 | 332 | 356 |
| Pickup 4x4 | LPG Bi-Fuel | 0 | 5 | 5 |
| SUV 4x2 | E-85 Flex-Fuel | 1 | 36 | 37 |
| SUV 4x4 | E-85 Flex-Fuel | 11 | 146 | 157 |
| Minivan 4x2 (Passenger) | E-85 Flex-Fuel | 2 | 0 | 2 |
| Van 4x2 (Passenger) | E-85 Flex-Fuel | 31 | 34 | 65 |
| Total Number of AFV Acquisitions | | 320 | 1,115 | 1,435 |
| Zero Emission Vehicle Credits | | 0 | 0 | 0 |
| Dedicated Light-Duty AFV Credits | | 0 | 5 | 5 |
| Dedicated Medium-Duty AFV Credits | | 0 | 0 | 0 |
| Dedicated Heavy-Duty AFV Credits | | 0 | 0 | 0 |
| Biodiesel Fuel Usage Credits - Projected | | | | 164 |
| Total AFV Acquisitions with Credits | | 320 | 1,120 | 1,604 |
| AFV Percentage of Covered Light-Duty Vehicle Acquisition | | | | 101 % |