

## EPAct Alternative Fuel Transportation Program



# State and Alternative Fuel Provider Fleet Compliance Annual Report

## Fleet Compliance Results for MY 2014/FY 2015

The U.S. Department of Energy (DOE) regulates covered state government and alternative fuel provider (SFP) fleets under the Alternative Fuel Transportation Program, pursuant to the Energy Policy Act of 1992 (EPAct), as amended. For model year (MY) 2014, the compliance rate with this program for the more than 295<sup>1</sup> reporting SFP fleets was 100%. Fleets used either Standard Compliance or Alternative Compliance. The more than 287 fleets that used Standard Compliance exceeded their aggregate MY 2014 acquisition requirements by 5% through acquisitions alone. The eight covered fleets that complied using Alternative Compliance exceeded their aggregate MY 2014 petroleum use reduction requirements by 67%. Overall, DOE saw a decrease from MY 2013 in total biodiesel fuel use reported of nearly 800,000 gallons of B100, but only a slight decrease in the number of biodiesel fuel use credits earned; about 6.9 million gallons of B100 were

reported in MY 2014. There was only a small drop in the number of reported light-duty (LD) alternative fuel vehicles (AFVs) acquired,<sup>2</sup> a value that is negligible when the number of other creditable vehicles reported is taken into account. MY 2014 marked the first year fleets complying via Standard Compliance could earn credits for the acquisition of certain non-AFV electric drive vehicles as well as investments in alternative fuel non-road equipment and alternative fuel infrastructure and emerging technologies. Compared to recent model years, the data for MY2014 suggest a continued presence of EPAct-covered state and alternative fuel provider fleets in the AFV, alternative fuel, and advanced technology vehicle markets.

### Standard Compliance

Covered SFP fleets operating under Standard Compliance (10 CFR Part 490, Subpart C or D) achieve compliance by acquiring AFVs and certain

non-AFVs; purchasing biodiesel for use in medium- or heavy-duty (MD/HD) vehicles; investing in alternative fuel infrastructure, non-road equipment, and emerging technology; and/or applying banked credits earned previously or acquired from other covered fleets. In MY 2014, the more than 288 fleets that used Standard Compliance:

- Acquired 17,119 LD AFVs
- Earned 452.25 credits for the acquisition of 966 creditable non-AFVs (i.e., hybrid electrics, certain plug-in hybrid electric vehicles [PHEVs], MD/HD electric vehicles, neighborhood electric vehicles [NEVs])
- Earned 2,157 biodiesel fuel use credits through the purchase of about 6.9 million gallons of pure biodiesel (B100)<sup>3</sup>
- Earned 155 credits for investments of just under \$14 million in alternative fuel infrastructure and non-road equipment
- Applied 2,016 banked credits.

In addition, these SFP fleets earned a total of 9,800 bankable AFV credits.

<sup>1</sup> Some reporting entities represent one agency or business; others represent the fleet operations of multiple entities (e.g., a state or company that reports on behalf of all covered state agencies or subsidiaries).

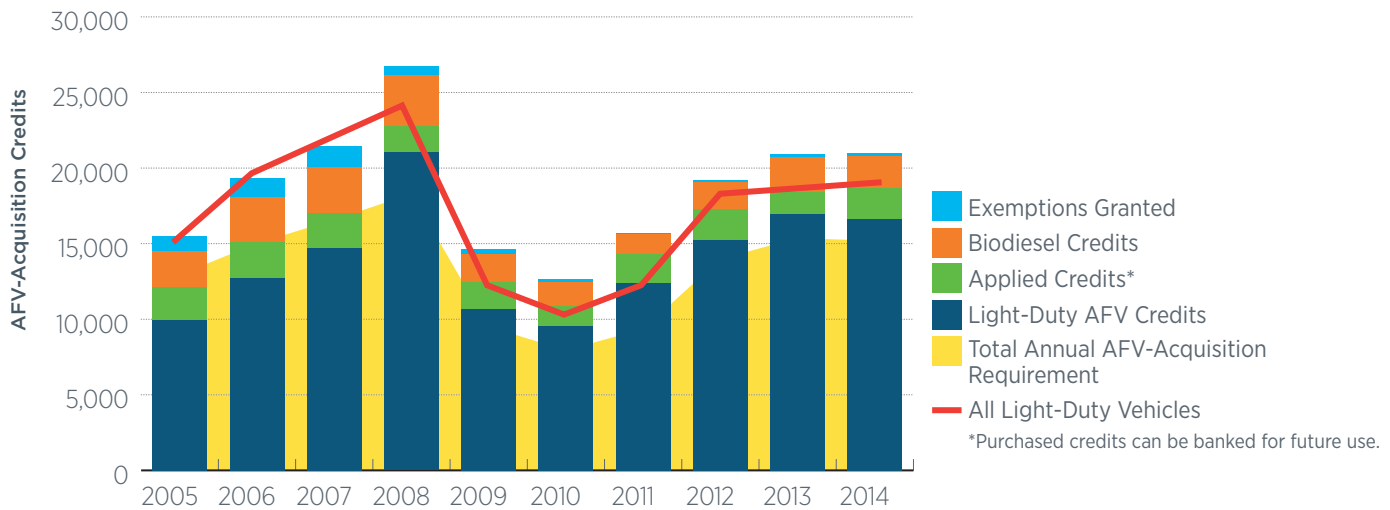
<sup>2</sup> AFVs include any dedicated or dual-fueled vehicle (i.e., any vehicle that operates solely on or is capable of operating on at least one alternative fuel). The following fuels are defined or designated as alternative fuels: methanol, denatured ethanol, and other alcohols; blends of 85% or more of alcohol with gasoline; natural gas and liquid fuels domestically produced from natural gas; liquefied petroleum gas (propane); coal-derived liquid fuels; hydrogen; electricity; fuels (other than alcohol) derived from biological materials (including pure biodiesel (B100)); and three P-series fuels.

<sup>3</sup> The credits awarded for biodiesel purchase and use do not necessarily reflect the total amount of biodiesel purchased because each fleet may apply its biodiesel fuel use credits to meet no more than 50% of its annual AFV-acquisition requirements.

### What Is EPAct?

The Energy Policy Act of 1992 (EPAct) was passed by Congress to reduce the nation's dependence on imported petroleum. Provisions of EPAct require certain fleets to purchase AFVs. DOE administers these requirements through its Alternative Fuel Transportation Program, Federal Fleet Requirements, and Alternative Fuel Designation Authority.

## Standard Compliance Methods



As a whole, the fleets operating under Standard Compliance went beyond compliance, exceeding their AFV-acquisition requirements (15,805) by approximately 34%.

### Vehicle Acquisitions

Acquiring AFVs is typically how covered fleets comply. Under Standard Compliance, 75% of the non-excluded light-duty vehicles (LDVs) that state fleets acquire must be AFVs, while 90% of the non-excluded LDVs that alternative fuel provider fleets acquire must be AFVs. AFV-acquisition requirements are determined by multiplying

a fleet's number of newly acquired, non-excluded LDVs by the applicable percentages. In MY 2014, the number of LD AFV acquisitions by covered fleets was 17,119, a slight increase from the number in MY 2013 (16,983). New for MY 2014 is the implementation of changes to the regulations for the program, by which covered fleets may now earn partial AFV acquisition credits for the acquisition of some vehicles that are not AFVs. Specifically, acquiring hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles that are not AFVs,<sup>4</sup> and MD/HD electric vehicles can earn a covered fleet 0.5 credit per vehicle,

and the acquisition of NEVs can earn a covered fleet 0.25 credit per NEV.

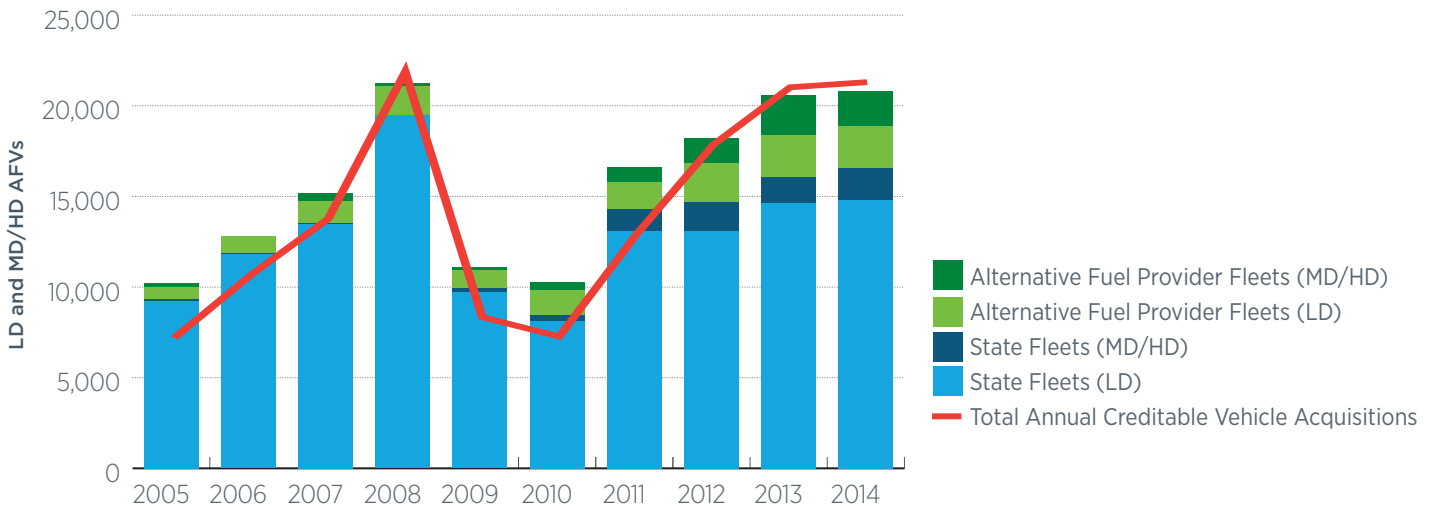
Acquisition of LD vehicles and NEVs that earned less than a full credit each resulted in fleets earning a total of 16,617 credits for acquisition of LD vehicles and NEVs in MY 2014—slightly less than in 2013.

The slight drop from MY 2013 for MY 2014 in the number of AFVs acquired is not necessarily unexpected because, even though the MY 2014 figure includes now creditable non-AFVs, the total number of vehicles acquired by covered fleets would not be expected to change dramatically. In other words, the number of categories of vehicles for which credits may now be earned has expanded; however, the number of vehicles in total that are acquired may or may not grow, depending on fleet needs. In addition, once covered fleets have achieved compliance, they may earn bankable credits for any MD/HD vehicles they acquire. In MY 2014, covered fleets earned 3,688 credits for the acquisition of MD/HD vehicles. In total, fleets acquired 20,807 creditable vehicles of all size categories.

	Credit Allotment	Limitations/Other
<b>AFV</b>	1 credit	MD/HD AFV acquisitions do not count toward meeting the AFV requirement.
<b>HEV</b>	½ credit	
<b>PHEV</b>	1 credit for dual fuel PHEV ½ credit for conventional PHEV	1 credit for an LD PHEV equipped with a conventional fuel engine that meets the National Highway Traffic Safety Administration (NHTSA) criteria for dual-fueled electric automobile. ½ credit for an LD PHEV that does not meet the NHTSA requirement.
<b>FCEV</b>	1 credit for alternative fuel FCEV ½ credit for conventional fuel FCEV	1 credit for an LD or MD/HD fuel cell electric vehicle (FCEV) operating on alternative fuel. Onboard reforming of natural gas qualifies because natural gas is an alternative fuel. ½ credit for a FCEV operating on conventional fuel.
<b>NEV</b>	¼ credit	Not included in covered LDV count.
<b>MD/HD HEV</b>	½ credit	Not included in covered LDV count.

<sup>4</sup> To be considered an AFV, the vehicle must be a dedicated vehicle or a dual-fueled vehicle. Some plug-in hybrid electric vehicles are considered AFVs and others are not, depending on whether the vehicle in question meets the "dual-fueled vehicle" definition. For additional information, please review program guidance ([www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/plug-in\\_hybrid\\_electric\\_vehicles.pdf](http://www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/plug-in_hybrid_electric_vehicles.pdf)).

Creditable Vehicle Acquisitions



Flexible-fuel vehicles accounted for nearly 92% of these acquired AFVs.

Credit Use and Acquisition

Covered fleets earn bankable credits by acquiring more AFVs than are required in a given MY. Fleets may then use these credits to address future AFV acquisition requirements or they may sell the credits to fleets that have acquired an insufficient number of AFVs in a particular MY. In MY 2014, fleets exceeded their AFV acquisition requirements and earned 9,800 credits for future use. Fleets also used 2,016 banked credits to comply with

EPAAct—an increase over the number of credits applied in MY 2013, when fleets used 1,427 banked credits. There were 13 transactions between covered fleets involving the transfer of 383 banked credits. The number of credits exchanged in MY 2013 was 1,154, more than in MY 2014, and the number of transactions decreased by half in MY 2014 (13) compared to MY 2013 (26).

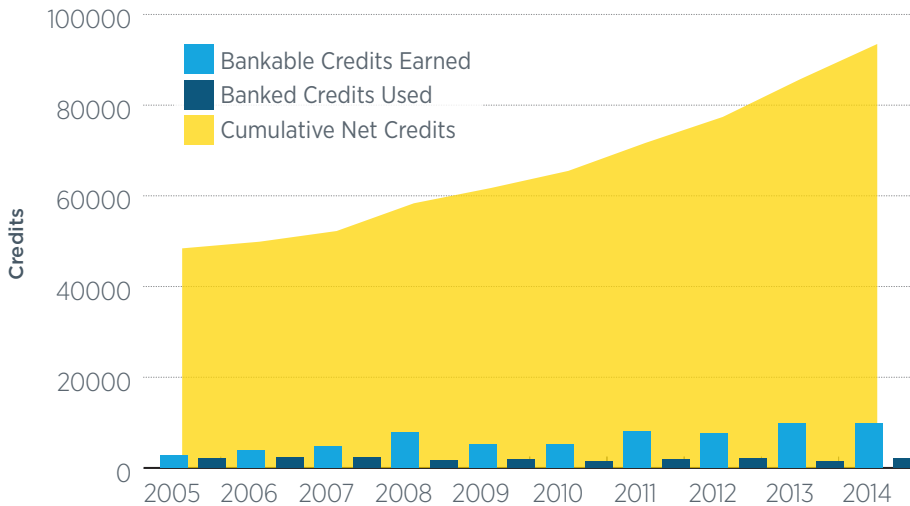
Biodiesel Fuel Use

Covered SFP fleets may earn one biodiesel fuel use credit for every 450 gallons of pure biodiesel (B100) or one biodiesel fuel-use credit for every 2,250

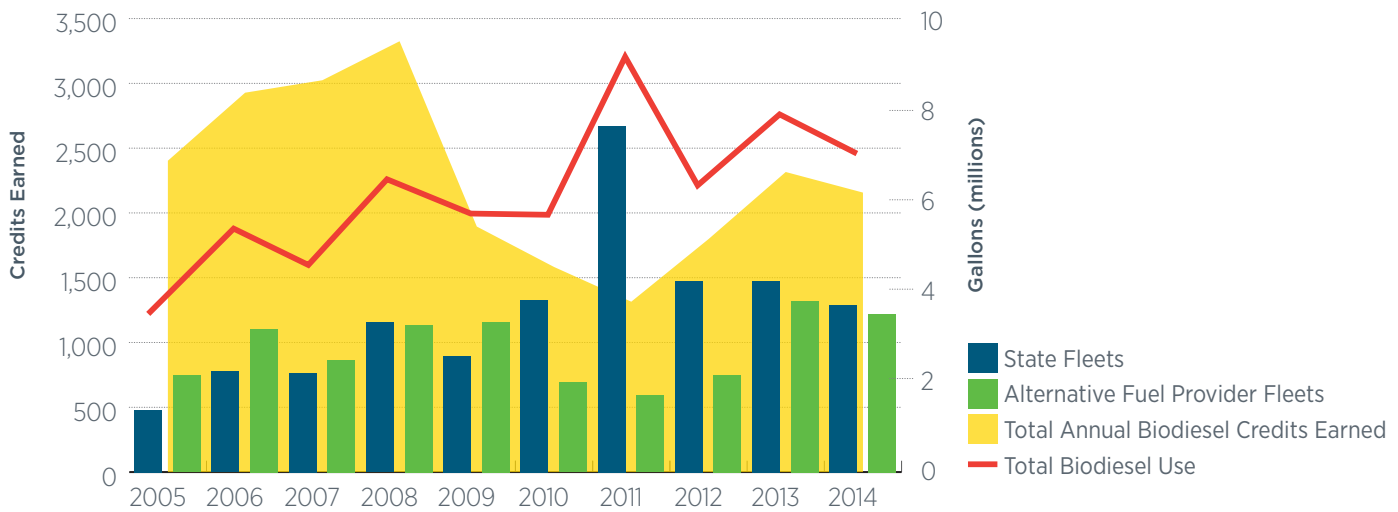


Photos (top to bottom): by Pat Corkery, NREL 18119; MotorWeek/Maryland Public TV, NREL 17180; by Warren Gretz, NREL 02490

Annual Credits Earned and Used



## Annual Biodiesel (B100) Use and Biodiesel Credits Earned



gallons of 20% biodiesel blends (B20)<sup>5</sup> they purchase for use in MD/HD vehicles (10 CFR sections 490.701-702). In MY 2014, covered fleets reported using just over 6.9 million gallons of B100 in B20 or higher blends, thus allowing these fleets to earn a total of 2,157 biodiesel fuel-use credits. The credits awarded likely do not reflect the total amount of biodiesel purchased because each fleet may apply biodiesel fuel use credits to meet no more than 50% of its annual AFV-acquisition requirements. It is likely some fleets are reporting only that amount of biodiesel that will earn them those credits rather than reporting all of their biodiesel use.

### Investments

New for MY 2014, covered fleets may earn credits for investments in non-road equipment, alternative fuel infrastructure, and emerging technologies related to electric drive vehicles.<sup>6</sup> Generally, fleets will earn one credit for every \$25,000 invested.

For the alternative fuel infrastructure category—that is, investments in MY 2014 for which covered fleets reported amounts and sought credits—funds were spent for E85, CNG, and electric infrastructure.

	Credit Allotment	Limitations/Other
<b>Alternative Fuel Infrastructure</b>	1 credit per \$25,000 invested*	Maximum of 5 credits if private infrastructure, 10 credits if publicly accessible infrastructure; credit allocated in model year placed into operation
<b>Alternative Fuel Non-Road Equipment</b>	1 credit per \$25,000 invested*	Maximum of 5 credits per fleet per model year
<b>Emerging Technology</b>	2 credits for initial \$50,000 invested and 1 credit per \$25,000 thereafter, or 1 credit per pre-production vehicle*	Maximum of 5 credits if counting based on amount invested, per fleet per model year

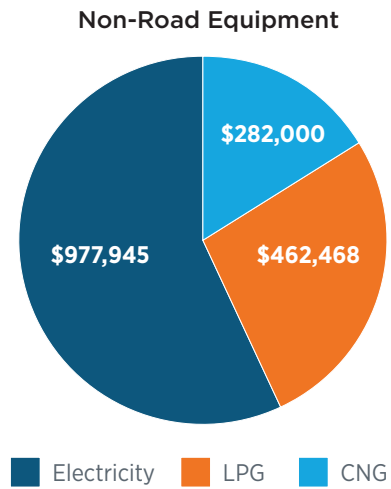
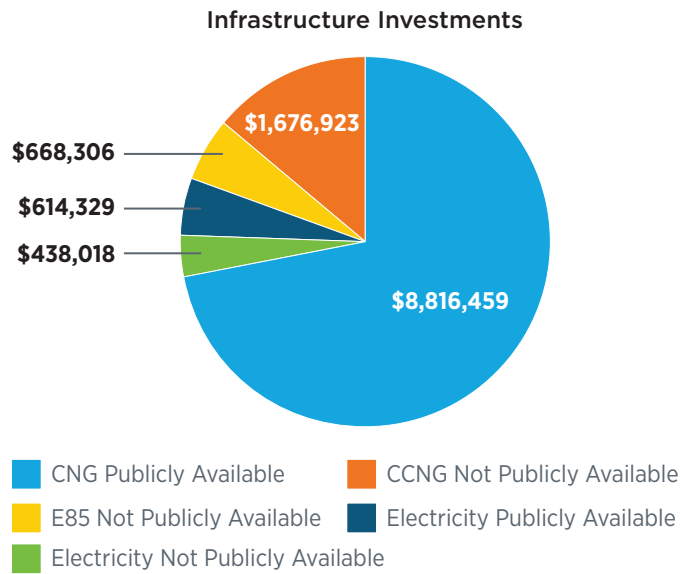
\* Aggregation of dollar amounts allowed



The City and County of Denver fuels its trash and recycling trucks, as well as other heavy-duty vehicles, with B20 biodiesel. Photo by Pat Corkery, NREL 18120

<sup>5</sup> Learn more about calculating biodiesel fuel use credits at [www.eere.energy.gov/vehiclesandfuels/epact/biodiesel.html](http://www.eere.energy.gov/vehiclesandfuels/epact/biodiesel.html).

<sup>6</sup> For additional information, please see [www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/investments.pdf](http://www1.eere.energy.gov/vehiclesandfuels/epact/pdfs/investments.pdf).



The total spent on public and non-public infrastructure totaled more than \$12 million. Fleets earned 113 credits for these investments.

In MY 2014, covered fleets earned 42 credits for investments in alternative fueled non-road equipment.

#### Exemptions

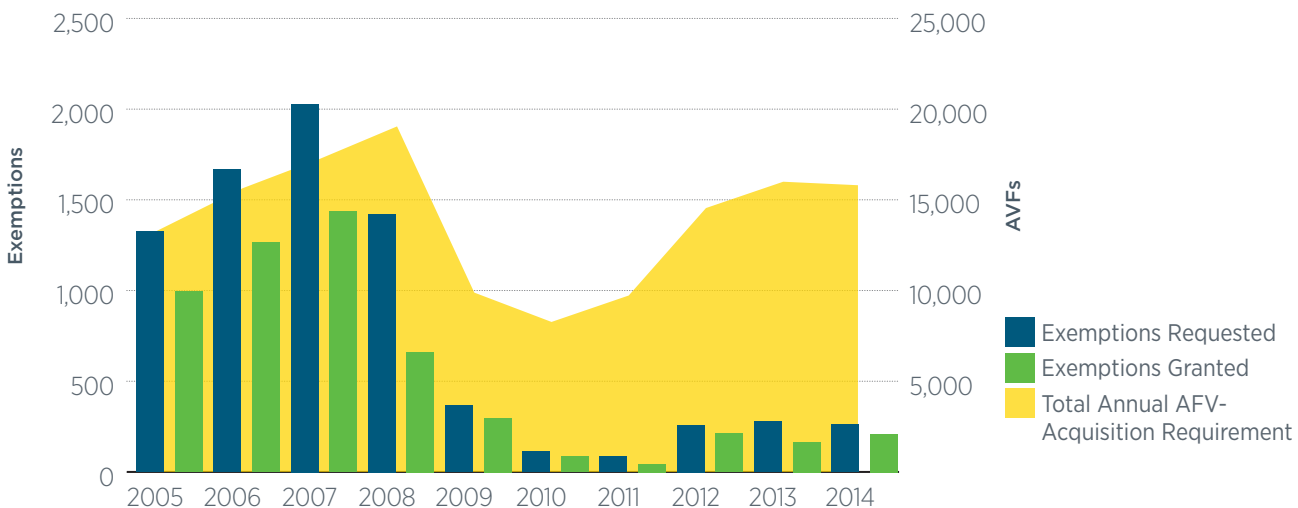
Overall, granted exemptions<sup>7</sup> in MY 2014 represented less than 1.4% (total number of exemptions granted/total AFV-acquisition requirements) of covered fleets' compliance credit activity. SFP fleets received 212 vehicle exemptions—the second-highest number over the prior 5 years but the fourth-lowest total recorded for the

program. In MY 2014, only three fleets sought exemptions, the second-lowest total over the course of the program, and so the trend that began in MY 2008 continues (a reduced number of fleets seeking exemptions annually). MY 2008 was the peak year for fleets seeking exemptions, when 44 fleets filed for exemptions. While MY 2014 had the second-highest total of exemption requests (263 vehicles) of any MY since 2009, this total number of requested vehicle exemptions is still significantly lower than in other program MYs. The general trend for exemptions remains downward. In MY 2011, the number of vehicle exemptions requested/granted (87/46)

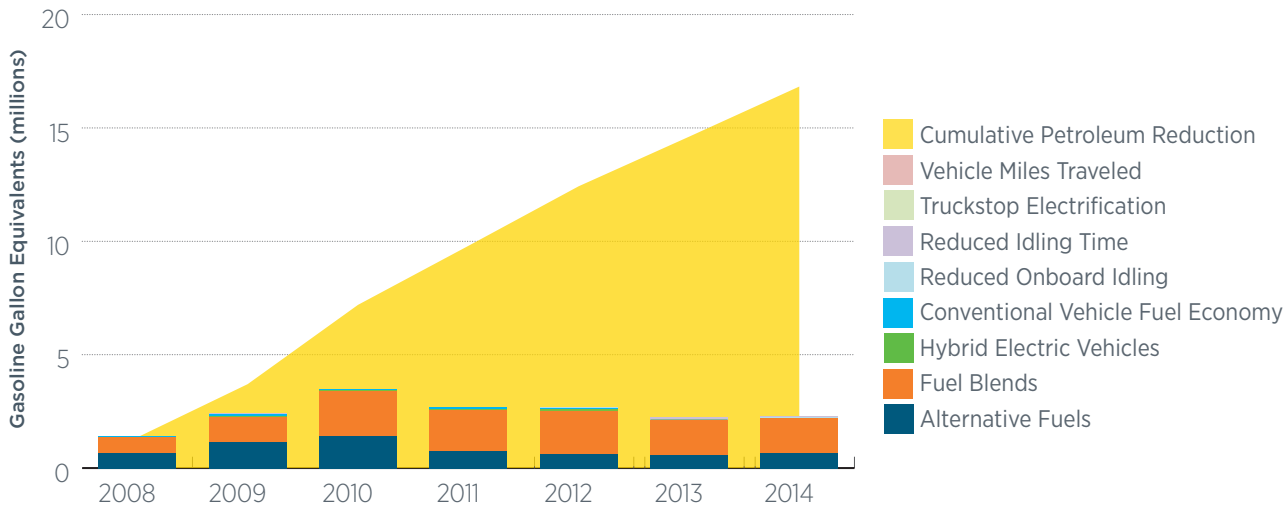
declined from the number requested in MY 2010 (114/88), MY 2009 (368/300), and MY 2008 (1,424/665). For MY 2013, the number of vehicle exemptions requested/granted (280/166) was the program's fifth-lowest since 2000. With the MY 2014 figures for requested/granted exemptions holding steady (263/212), it is possible that with the increased availability of AFV models and opportunities to earn AFV acquisition credits under the program, and increased availability of alternative fueling infrastructure across the nation, the number of exemption requests and granted requests is leveling off.

<sup>7</sup> Exemptions are detailed on the EPA website at [www.eere.energy.gov/vehiclesandfuels/epact/exemptions.html](http://www.eere.energy.gov/vehiclesandfuels/epact/exemptions.html).

Annual Exemptions Requested and Granted Compared to Total AFV-Acquisition Requirement



Petroleum Reductions Achieved by Alternative Compliance Strategy



## Alternative Compliance

MY 2014 marked the seventh year that covered SFP fleets could choose DOE's Alternative Compliance option in lieu of complying with EPCAct via Standard Compliance. EPCAct 2005 established Alternative Compliance, and the option was put in place by DOE's final rulemaking in March 2007 for initial application in MY 2008. Under Alternative Compliance, fleets employ petroleum reduction measures in lieu of acquiring AFVs under Standard Compliance. Examples of these petroleum reduction measures are included in the chart above. Fleets must obtain a waiver from DOE for the upcoming MY. To receive a waiver, fleets first must submit to DOE an intent to apply for a waiver, and then they must follow up that intent by filing a complete waiver application that includes a plan showing how they intend to reduce their fleets' petroleum consumption.

### Plans and Achievements in MY 2014

DOE approved waiver applications for eight fleets to participate in Alternative

Compliance for MY 2014. All these fleets were able to meet their required petroleum fuel use reductions for MY 2014. The eight fleets' total required petroleum use reduction for MY 2014 was 1,493,468 gasoline gallon equivalents (GGE). Their total planned petroleum consumption reduction was 1,869,236 GGE, and in the aggregate, the eight fleets exceeded the requirement, reducing their petroleum consumption as a group by 2,213,664 GGE. The eight fleets achieved this amount of reduction and met their petroleum consumption reduction goals by:

- Using alternative fuels (30% petroleum reduction achieved)
- Using biodiesel blends (67% petroleum reduction achieved)
- Limiting engine idling time (3% petroleum reduction achieved).

The petroleum reduction the eight fleets in Alternative Compliance achieved in MY 2014 edged the petroleum reduction the ten fleets in the same program achieved in MY 2013.

## Notices of Intent

During MY 2014, DOE received 11 notices of intent to apply for a waiver from Standard Compliance for MY 2015. This is 5 fewer notices of intent than were received in MY 2013 for MY 2014 compliance.

## Conclusion

In MY 2014, covered fleets successfully met their Standard Compliance requirements. Their efforts included acquiring 17,119 LD creditable vehicles (20,807 when MD/HD AFV acquisitions are included) and consuming just over 6.9 million gallons of pure biodiesel (B100). The eight fleets that operated under Alternative Compliance reduced their petroleum consumption by more than 2 million GGE. All covered SFP fleets filed annual reports for MY 2014, and all fleets were in compliance for that MY.

For more information, visit [www.eere.energy.gov/vehiclesandfuels/epact](http://www.eere.energy.gov/vehiclesandfuels/epact) or contact the Regulatory Information Line at 202-586-9171 or [regulatory.info@nrel.gov](mailto:regulatory.info@nrel.gov).