

Credits for Commercially Available Light-Duty Plug-In Hybrid Electric Vehicles

December 2019

(this page intentionally left blank)

Preface

This document explains the U.S. Department of Energy's (DOE) position under the Standard Compliance method of DOE's Alternative Fuel Transportation Program (Program; 10 C.F.R. Part 490) regarding alternative fuel vehicle (AFV) credit for covered fleet acquisitions of light-duty plug-in hybrid electric vehicles (PHEVs).

In summary, a light-duty PHEV that meets either of the following criteria is treated as an AFV when acquired by a covered fleet under the Program:

- It is a dedicated vehicle (because it operates solely on one or more alternative fuels).
- It is a dual-fueled vehicle (because it has an engine that can operate on liquid or gaseous alternative fuel as well as on conventional petroleum fuel and/or it meets the National Highway Traffic Safety Administration's (NHTSA) minimum drive range requirement for dual-fueled electric automobiles).

Consistent with DOE's final rule under section 133 of the Energy Independence and Security Act of 2007 (EISA; Pub. L. No. 110-140),¹ since Model Year (MY) 2014, a light-duty PHEV that does not meet either of the above criteria (and thus does not qualify as an AFV) has been eligible for ½ AFV credit. A detailed explanation of these criteria follows.

¹ See 79 FR 15881 (Mar. 21, 2014) (EISA section 133 final rule).

Background

To be considered an AFV under the Program, a “motor vehicle” must be one of the following:

1. A dedicated vehicle
2. A dual-fueled vehicle.

These terms are defined in 10 C.F.R. section 490.2 while a definition of the term “plug-in electric drive vehicle” can be found in 10 C.F.R. section 590.501.

With respect to the first criterion, a light-duty PHEV that operates solely on one or more alternative fuels, and therefore *not* on conventional petroleum fuel, is a dedicated vehicle. An example of such a vehicle is a PHEV equipped with an engine that operates only on compressed natural gas (CNG). Due to that engine, the PHEV would operate solely on one or more alternative fuels (i.e., CNG and electricity).

With respect to the second criterion, whether a light-duty PHEV equipped with a conventional gasoline or diesel engine (i.e., is not a dedicated vehicle) qualifies as a dual-fueled vehicle depends on a positive response to at least one of the following two questions. First, can the vehicle’s conventional engine operate on liquid or gaseous alternative fuel, whether in flex fuel or bi-fuel mode?² Second, can the vehicle complete a full U.S. Environmental Protection Agency (EPA) urban test cycle and a full EPA highway test cycle on electricity alone?³ EPA, not DOE, makes that minimum driving range determination.

Since MY 2014, a light-duty PHEV that does not meet either of the two criteria above, and therefore is not an AFV has been eligible for ½ AFV credit. To obtain credit, a covered fleet must include the following vehicle-specific information in its credit activity report:

- Vehicle make and model
- Model year of manufacture
- Vehicle identification number
- Acquisition date.

² A flexible fuel vehicle (FFV) is a motor vehicle that can operate on any mixture of two or more different liquid fuels, at least one of which is an alternative fuel. Virtually all of the FFVs on the road today can operate on gasoline, E85, and any mixture of these fuels. A bi-fuel engine is an engine that can operate on two fuels, of which one is an alternative fuel, but not at the same time. For example, a bi-fuel engine might be an engine that can operate on either gasoline or CNG but not on both at the same time. Vehicles equipped with such engines typically have a separate fuel storage system for each fuel.

³ See 49 C.F.R §§ 538.5(b), 538.6. The test cycles consist of 7.5 miles of urban driving and 10.2 miles of highway driving, with charging allowed prior to each test cycle.

Plug-in Hybrid Electric Vehicles

Current Light-Duty PHEVs

Of the light-duty PHEV models on the market as of calendar year 2018 (e.g., Chevrolet Volt, Toyota Prius Prime, Honda Clarity Plug-In Hybrid), none have engines that can operate on a fuel other than gasoline. However, most of these models are dual-fueled vehicles and thus AFVs under the Program because they completed the EPA urban and highway test cycles on electricity alone. To ascertain whether a particular light-duty PHEV model is an AFV, covered fleets should review the EPA/U.S. Department of Transportation fuel economy and environment label (also known as the fuel economy window sticker or the Monroney label) that is posted on all new light-duty vehicles (LDVs).⁶ If the label says, “This is a dual-fueled automobile,” the PHEV is a dual-fueled vehicle and thus an AFV under the Program. Fleet managers may use DOE’s Alternative Fuel and Advanced Vehicles Search (<https://afdc.energy.gov/vehicles/search/>) to verify whether their vehicles are AFVs.

Future Light-Duty PHEVs

In view of the Program’s regulatory framework, set forth above and explained in detail in DOE’s final rule under EISA section 133, for any future (i.e., not yet commercially available) light-duty PHEV model, it must be clear to DOE that the vehicle qualifies as an AFV before DOE will treat it as an AFV acquisition (rather than accord it ½ AFV credit).⁴ Publicly available information provided by automobile manufacturers typically indicates whether a vehicle has either an engine that operates solely on a liquid or gaseous alternative fuel (thus making it a dedicated vehicle) or one that can operate on petroleum as well as on a liquid or gaseous alternative fuel (thus making it a dual-fueled vehicle), and DOE will have access to that information. For a future light-duty PHEV model lacking a liquid/gaseous alternative fuel- capable engine, DOE encourages covered fleets to review the vehicle’s fuel economy and environment label. As indicated above, if the label says, “This is a dual-fueled automobile,” the PHEV is a dual-fueled vehicle and thus an AFV under the Program.

Besides being eligible for ½ AFV credit under the Program’s Standard Compliance method, light-duty PHEVs that are not AFVs constitute one of multiple strategies that a fleet may employ under the Alternative Compliance option for complying with the light-duty AFV-acquisition requirements of the Energy Policy Act of 1992, as amended. DOE also encourages the voluntary use of non-AFV PHEVs for the portion of a covered fleet’s LDV acquisitions that do not need to be AFVs because such PHEVs typically are more energy efficient than the conventional LDVs they replace.

⁴ Where it is clear that the vehicle qualifies as an AFV, DOE will apply it toward the fleet’s AFV-acquisition requirements, and when those requirements have already been met by the fleet, DOE will treat the vehicle as an excess light-duty AFV acquisition and allocate one AFV credit.

U.S. DEPARTMENT OF
ENERGY

Office of
**ENERGY EFFICIENCY &
RENEWABLE ENERGY**

For more information, visit:
epect.energy.gov

DOE/GO-102019-5242 • December 2019