

Advanced Vehicle Incentives

Description:

One of the most important barriers to increased adoption of alternative-fueled vehicles (AFVs) is their typically-higher upfront cost as compared to a similar traditionally-fueled vehicle. Also, because they are relatively new to the market, many consumers are hesitant to spend the upfront money required to purchase an AFV when they can stay with something they are used to.

Consumer hesitancy can be ameliorated through a range of state policies that provide financial incentives for the purchase of AFVs. Incentives can also support the conversion of existing vehicles to alternative fuels. AFV adoption can also be spurred by ensuring that the use of an AFV is as or more convenient than the use of a conventional vehicle. State programs that provide these other types of incentives aim to make AFV ownership attractive. Typically, states adopt at least a few of the incentives discussed below.

Discussion of the Policy:

1. **Tax Credits** - Sales and income tax credits are some of the simplest methods for addressing higher up-front costs. While sales tax credits are typically applied at the time of purchase, income tax credits do less to address the upfront cost barrier, as the credit is typically received after the time of purchase. This can be addressed by making the tax credit “transferable.” Allowing the vehicle buyer to transfer the tax credit to the dealer allows the dealer to monetize the credit and decrease the upfront cost for the consumer.

A [study](#) by the Congressional Budget Office suggests that tax credits are important tools for ensuring increased adoption of AFVs. States can also choose to reduce licensing or registration taxes or fees for AFVs.

The federal government also provides [incentives for AFVs](#). For [electric vehicles](#), the federal tax credit is between \$2,500 and \$7,500 (depending on battery size). Because the credit is transferable, dealers will often monetize this tax credit in the form of a reduced purchase or lease price for the consumer.

2. **Loans** - Low-interest loans for the purchase of AFVs or conversion to alternative fuels are typically aimed at local governments and school districts. In some states, loans are available to support private fleets and individual consumers. Dealerships might also offer low-interest financing for individuals.
3. **Grants, Rebates, and Vouchers** - Grants, rebates, and vouchers are the most direct method for addressing the up-front cost barrier. While grants and vouchers are typically provided for local government fleets, rebates are typically targeted to all consumers. In evaluating whether to use rebates or tax credits, policymakers can weigh the various advantages and disadvantages of each. With rebates, customers do not have to wait to receive the incentive, and rebates are available to entities and individuals with little to no tax burden. However, offering rebates or grants has a much higher cost of administration, requires an established budget, and is usually limited by available funds. Finally, funding received through grants may be taxable to the recipient, reducing the full benefit of the grant.
4. **Weight Limit Exemptions** - Because they are equipped with natural gas tanks, natural gas-fueled heavy-duty vehicles carry additional weight. Weight limits on intrastate roads may reduce the amount of freight these vehicles can carry, as compared to traditionally fueled vehicles. One method to avoid this disincentive and level the playing field for natural gas is to allow natural gas-fueled vehicles to exceed weight limits.
5. **HOV, HOT, and Parking Incentives** - Allowing AFVs to use high-occupancy vehicle (HOV) or high-occupancy toll (HOT) lanes regardless of number of passengers and without paying the toll might

make AFV ownership more attractive. Most states require that AFVs using these lanes display a decal or particular license plate; others limit eligibility to certain types of vehicles or to a certain number of vehicles. States can also implement programs to provide parking incentives for owners of AFVs. Typically, these programs provide access to carpool parking, preferential spaces, reduced fees, and/or access to charging or fueling stations.

6. **California's Zero Emission Vehicle (ZEV) Program** - California's [ZEV Program](#) requires that automakers sell an increasing percentage of ZEVs within the state. Managed by the California Air Resources Board (CARB), the program's target is 5 million ZEV sales in the state by 2030. Ten states¹ have adopted California's program, and have set their own ZEV acquisition targets. The program makes it easier for manufacturers by allowing tradeable credits among regional markets (western and eastern) and providing for a variety of classifications of vehicles that count toward the standard in varying degrees.

Example State Programs:

All states and the District of Columbia offer at least one incentive for AFVs.

- California: State Incentives for AFVs:
https://afdc.energy.gov/laws/state_summary?state=ca
- Colorado: State Incentives for AFVs:
https://afdc.energy.gov/laws/state_summary?state=CO
- Pennsylvania: State Incentives for AFVs:
https://afdc.energy.gov/laws/state_summary?state=PA
- Washington: State Incentives for AFVs:
https://afdc.energy.gov/laws/state_summary?state=WA

Established in response to the Energy Policy Act of 1992, the U.S. Department of Energy's (DOE) [Clean Cities](#) program supports efforts to reduce the transportation sector's reliance on petroleum. Among other activities, the program provides technical support, information resources, and infrastructure and vehicle acquisition support.

Key Components:

- Programs can be targeted to one, some, or all of the following: individuals, businesses, or units of government.
- Programs can be directed toward incentivizing the use of one, some, or all of the following alternative fuels: electricity, hydrogen, natural gas, biofuels, or propane.
- Loan, grant, rebate, and voucher programs must have a dedicated funding source.
- Tax credits and rebates can be issued one-time to support initial AFV purchases or can provide discounts for the lifetime of the vehicle (e.g. rebates for replacement batteries).
- Tax credit, loan, and rebate policies can include sunset provisions that coincide with a state goal for a certain number or percentage of AFVs in the state's overall fleet.

More Information:

- Alternative Fuels Data Center (AFDC):
<http://www.afdc.energy.gov/>

¹ Colorado, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Vermont.

- GridWise Alliance: EVs - Driving Adoption, Capturing Benefits:
<http://gridwise.org/evs-driving-adoption-capturing-benefits/>
- NGV America:
<https://www.ngvamerica.org/policy/>
- The Rocky Mountain Institute (RMI): Electric Vehicles as Distributed Energy Resources:
<https://rmi.org/insight/electric-vehicles-distributed-energy-resources/>