American Council for an Energy-Efficient Economy
529 14th Street, N. W., Suite 600 Washington, D.C. 20045 202.507.4000 202.429.2248 www.aceee.org

Light- and Heavy-Duty Vehicle Efficiency

For 29 years, ACEEE's energy efficiency experts have helped to shape our nation's energy efficiency research and policy agenda. We achieve our success through…

- conducting in-depth technical & policy analyses
- advising policymakers, energy professionals & utilities
- working collaboratively with businesses & other organizations
- organizing conferences
- publishing conference proceedings and reports
- educating consumers & businesses

Collaboration is key to ACEEE's success. We work with organizations around the globe including federal, state, and local government agencies, utilities, research institutions, businesses, and public interest groups. Our focus is on 6 primary program areas:

- Energy Policy
- Economic Analysis
- Buildings, Appliances, & Equipment
- Utilities
- Industry & Agriculture
- Transportation

ACEEE is leading the development of technology and policy solutions that ensure the security of our energy systems. As energy leaders, we promote the vibrancy of the American economy and the sustainability of the environment world-wide.

ACEEE PRIORITIES

Congress should…

- Extend and improve incentives for the purchase of high efficiency heavy-duty trucks in preparation for new efficiency and greenhouse gas emissions standards
- Adopt a feebate program to promote the purchase of fuel-efficient light-duty vehicles
- Consider a price floor for transportation fuels to provide a consistent signal for efficiency investments by manufacturers and consumers
- Set targets for U.S. transportation sector greenhouse gas emissions in climate legislation

In addition, DOT and EPA should establish heavy-duty vehicle fuel efficiency and greenhouse gas standards and regularly upgrade light-duty vehicle standards.

THE ISSUE

The transportation sector consumes one-third of energy used in the United States, 90 percent of this for highway vehicles. The Energy Independence and Security Act of 2007 (EISA) raised car and light truck fuel economy (CAFE) standards and ordered the setting of standards for medium- and heavy-duty trucks as well. The Obama Administration subsequently accelerated the light-duty vehicle efficiency improvements, calling for a standard of 35.5 miles per gallon by 2016. Meeting oil security and climate goals will require continued improvements beyond 2016, however. More broadly, a successful transition to highly efficient, low-emissions vehicles will depend upon strong consumer and freight carrier demand for these vehicles.

SUMMARY

Continuing increases in fuel economy standards to reduce U.S. oil dependence and greenhouse gas emissions while providing net economic benefits are essential. For light-duty vehicles, an average of more than 40 miles per gallon by 2020 is technologically feasible and cost-effective for consumers, and can be achieved without compromising vehicle safety. For heavy-duty vehicles, average fuel economy can be increased by over 50 percent over the next ten to fifteen years.[1]

To facilitate compliance with higher standards, complementary policies should be considered, including tax credits for the purchase of highly efficient vehicles; fees on gas-guzzling vehicles; labeling and consumer education efforts; and vigorous R&D on fuel-efficient, low-emissions vehicles. In general, a technology-neutral incentive for the purchase of efficient vehicles is the best way to ensure strong, consistent demand.

A feebate program would provide a rebate to buyers of efficient vehicles and charge a fee to those buying inefficient vehicles. The simplest feebate structure sets the fee or rebate on a sliding scale in proportion to the amount of fuel consumed by the vehicle per mile driven. A feebate promotes efficiency by providing an incentive for manufacturers to adopt cost-effective efficiency technologies and by mitigating the market failure arising from consumer undervaluation of the fuel savings associated with efficient vehicles. Feebates can be designed as revenue-neutral programs and could be adopted as an extension of the federal "Gas Guzzler Tax," which is currently applicable only to passenger cars.

In some cases, targeted tax credits are warranted to help jump-start advanced vehicle technologies and increase the penetration of these products in the market. Promising technologies may need resources to transition from prototype to commercial production, and then to reach economies of scale before they are practical alternatives to today's conventional internal combustion engine vehicles. Incentives should be based primarily on performance, and should require both fuel savings and emissions reductions.

Tax credits for hybrid, fuel cell, and advanced diesel vehicles, established in the Energy Policy Act (EPAct) of 2005, will expire at the end of 2010, but a new plug-in hybrid credit of up to $7,500 for light-duty vehicles and $15,000 for heavy-duty vehicles was introduced in fall of 2008. Heavy-duty truck hybrid credits provided by EPAct 2005 expire at the end of 2009, just as hybrid options are arriving in substantial numbers. In addition, cash flow and tax liability issues have created obstacles to many fleets' use of the credits. Hence it is important to adopt new incentives for heavy-duty hybrids at this time, but a transition from tax credits to cash rebates would be preferable in this market.

Another way to strengthen the market for efficient vehicles is to dampen the effects of fuel price volatility. This could be done by setting a transportation fuel price floor through an automatic increase in gasoline and diesel taxes whenever the pump price falls below a certain fixed level. Finally, climate legislation should include targets for transportation sector emissions to ensure sufficiently rapid progress in vehicle efficiency, as well as in system efficiency and low-carbon fuels.

ADDITIONAL RESOURCES:

- *Vehicle Efficiency Incentives: An Update on Feebates for States* (2005): http://www.aceee.org/research-report/t051
- ACEEE Information on Heavy-Duty Hybrid Tax Credits: http://www.aceee.org/blog/2009/01/tax-credits-heavy-duty-hybrids
- *Technical Options for Improving the Fuel Economy of U.S. Cars and Light Trucks by 2010-2015* (2001): http://www.aceee.org/research-report/t012

ACEEE CONTACTS

Shruti Vaidyanathan
svaidyanathan@aceee.org

Therese Langer
tlanger@aceee.org

Siddiq Khan
skhan@aceee.org

[1] http://www.bipartisanpolicy.org/files/news/finalReport/III.4.a%20-%20Heavy-Duty%20Trucks.pdf