



**CONGRESSIONAL BUDGET OFFICE
COST ESTIMATE**

August 4, 2011

**S. 734
Advanced Vehicle Technology Act of 2011**

*As ordered reported by the Senate Committee on Energy and Natural Resources
on July 14, 2011*

SUMMARY

S. 734 would direct the Secretary of Energy to expand existing activities aimed at developing alternative vehicles with the potential to significantly reduce or eliminate petroleum use and carbon emissions. Assuming appropriation of the necessary amounts, CBO estimates that implementing S. 734 would have a net discretionary cost of nearly \$1.3 billion over the 2012-2016 period. Enacting S. 734 would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply.

S. 734 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA).

ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of S. 734 is shown in the following table. The costs of this legislation fall within budget function 270 (energy).

	By Fiscal Year, in Millions of Dollars					2012-2016
	2012	2013	2014	2015	2016	
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Spending for Advanced Vehicle Technologies						
Estimated Authorization Level	400	406	412	419	428	2,065
Estimated Outlays	120	240	297	338	373	1,368
Reduced Authorizations						
Authorization Level	-30	-30	-30	-30	-30	-150
Estimated Outlays	-4	-17	-26	-30	-30	-107
Total Proposed Changes						
Estimated Authorization Level	370	376	382	389	398	1,915
Estimated Outlays	116	223	271	308	343	1,261

BASIS OF ESTIMATE

S. 734 would authorize a variety of activities to promote advanced vehicle technology. The bill also would repeal and modify certain provisions of the Energy Policy Act of 2005 (EPAAct) that authorize similar activities. Taken as a whole, CBO estimates that implementing S. 734 would result in a net increase in discretionary spending of \$1.3 billion over the 2012-2016 period.

Spending for Advanced Vehicle Technologies

S. 734 would direct the Secretary of Energy to carry out, in collaboration with vehicle manufacturers and other nonfederal entities, activities to promote the development of vehicles with the potential to significantly reduce petroleum use and carbon emissions. The bill would authorize the Department of Energy (DOE) to expand existing research and development activities related to alternative vehicles. In addition, the bill would require the agency to establish new initiatives, particularly related to medium- and heavy-duty vehicles and mass transit vehicles.

S. 734 would not specify particular targets or goals for DOE to achieve related to advanced vehicle technologies. Research and development activities inherently involve trial and error, and the pace of incremental progress is directly related to the variety of experiments attempted and other factors. For this estimate, CBO assumes that the agency would increase its level of effort by expanding existing programs, launching new initiatives, and increasing the number of technologies tested in order to achieve appreciable progress in research areas addressed by S. 734. Based on information from the agency, CBO estimates

that realizing recognizable gains from such efforts would require appropriations totaling \$400 million in 2012. That amount is roughly double the average level of annual funding provided to DOE for vehicle technology development over the 2000-2010 period and includes:

- \$200 million to expand general research and development efforts related to alternative passenger and light-duty commercial vehicles;
- \$130 million to expand and establish research and development related to alternative medium- and heavy-duty commercial vehicles and mass transit vehicles;
- \$40 million to improve the energy efficiency of manufacturing processes related to alternative vehicles; and
- \$30 million to expand programs to develop vehicle-sensing and communication technologies.

Assuming that future annual appropriations would remain at that estimated 2012 level, adjusted for anticipated inflation, CBO estimates that fully funding S. 734 would require appropriations totaling \$2.1 billion over the 2012-2016 period. Resulting outlays over that period would total about \$1.4 billion, with nearly \$0.7 billion of additional spending occurring in later years. CBO expects DOE would use those amounts to fund a wider variety of research activities aimed at achieving technical milestones. CBO estimates that significantly accelerating the time frame in which new technologies could become market ready would require even larger increases in funding.

Reduced Authorizations

To offset a portion of increased discretionary spending, S. 734 would amend and repeal certain provisions of EPO that authorize a variety of activities related to vehicle technologies. In particular, S. 734 would eliminate an existing authorization to appropriate \$30 million a year through 2018 to support collaborative efforts to develop and demonstrate novel and advanced energy storage systems for use in electric drive vehicles. Assuming future appropriations are reduced accordingly, CBO estimates that implementing that provision would result in \$107 million less in discretionary spending over the 2012-2016 period and additional savings after 2016. CBO also estimates that repealing and modifying other provisions of EPO specified in the bill would not significantly affect discretionary spending.

PAY-AS-YOU-GO CONSIDERATIONS: None.

INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

S. 734 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

ESTIMATE PREPARED BY:

Federal Costs: Megan Carroll

Impact on State, Local, and Tribal Governments: Ryan Miller

Impact on the Private Sector: Amy Petz

ESTIMATE APPROVED BY:

Theresa Gullo

Deputy Assistant Director for Budget Analysis