Order Code IB10128

Alternative Fuels and Advanced Technology Vehicles: Issues in Congress

Updated February 17, 2004

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SUMMARY

Alternative fuels and advanced technology vehicles are seen by proponents as integral to improving urban air quality, decreasing dependence on foreign oil, and reducing emissions of greenhouse gases. However, major barriers — especially economics — currently prevent the widespread use of these fuels and technologies. Because of these barriers, and the potential benefits, there is continued congressional interest in providing incentives and other support for their development and commercialization.

In the 108th Congress, alternative fuels and advanced technology vehicles have received a good deal of attention, especially in the debate over omnibus energy legislation (H.R. 6). Major topics have included tax incentives for alternative fuel production; the future of ethanol and the fuel additive MTBE, including the establishment of a renewable fuels standard (RFS); and research and development of hydrogen fuel and fuel cells. Other topics have included government vehicle purchase requirements; tax credits for vehicle purchases; promotion of biodiesel fuel; and incentives for hybrid electric vehicles.

The omnibus energy bill contains many provisions relevant to alternative fuels and advanced technology vehicles. Among its provisions, the bill would extend and expand existing tax incentives for the purchase of alternative fuel and advanced vehicles; authorize R&D funding for hydrogen fuel and fuel cells; require that gasoline contain ethanol or other renewable fuel; ban the use of the fuel additive MTBE; and expand tax incentives for the production of ethanol and biodiesel.

On November 17, 2003, the conference committee on H.R. 6 issued its report (H.Rept. 108-375). The House approved the report on November 18. However, on November 21, 2003, a cloture motion on the bill failed in the Senate. On February 12, 2004, S. 2095 was introduced in the Senate. A modified version of H.R. 6, this bill will likely see floor action the week of February 23.

If action were to stall on the energy bill, there have been suggestions that some of the alternative fuels provisions from the bill — especially those related to ethanol and MTBE — could be inserted into a highway reauthorization bill. The current authorization for federal highway and transit programs is set to expire at the end of February 2004. Among other provisions, it provides tax incentives for ethanol and other alternative fuels, and it authorizes grant funding for municipalities to purchase alternative fuel and advanced technology buses and other vehicles.

On February 12, 2004, the Senate passed its highway reauthorization bill. Among other provisions, S. 1072 would reauthorize existing programs for alternative fuel buses and other transit projects. Also, it would modify the existing tax incentives for ethanol-blended fuel.

MOST RECENT DEVELOPMENTS

On November 17, 2003, the conference committee on H.R. 6, the omnibus energy package, issued its report (H.Rept. 108-375). The House approved the report on November 18, but on November 21 a cloture vote on the bill failed in the Senate. H.R. 6 contains several key provisions related to alternative fuels and advanced technology vehicles. These include authorizations for hydrogen and fuel cell R&D funding, tax credits for the purchase of vehicles, and a requirement that gasoline contain ethanol or other renewable fuels.

In the second session, Congress is considering legislation to reauthorize federal highway and transit programs. The most recent multi-year authorization for these programs was provided in the Transportation Equity Act for the 21st Century (TEA-21, P.L. 105-178). Funding authorizations under TEA-21 expired at the end of FY2003, but were extended through February 29, 2004 by the Surface Transportation Extension Act of 2003 (P.L. 108-88). The Administration's proposal (H.R. 2088) was introduced at the request of the President. The House is currently considering its version (H.R. 3550). The final bill may address ethanol tax incentives, high occupancy vehicle (HOV) lane exemptions for low-emission and energy efficient vehicles, and funding for alternative fuel bus projects, among other issues.

On February 12, 2004, the Senate passed its highway reauthorization bill, S. 1072. Among other provisions, the bill would reauthorize grant programs for alternative fuel buses and would permit states to exempt low emission and energy efficient vehicles from HOV lane restrictions. In addition, the Volumetric Ethanol Excise Tax Credit (VEETC, originally S. 1548) would eliminate the current excise tax exemption for ethanol-blended gasoline and replace it with a tax credit.

BACKGROUND AND ANALYSIS

Congressional Interest

Legislative Background. A combination of concerns — the oil crises of the 1970s, the rise in awareness of environmental issues, energy security, vehicle emissions, and fuel conservation goals — have increased interest in moving the United States away from petroleum fuels for transportation and toward alternative fuels and advanced technologies. Most notably, the 102nd Congress passed the Energy Policy Act of 1992 (EPAct, P.L. 102-486). Among other provisions, this law requires the purchase of alternative fuel vehicles by federal, state, and alternative fuel providers. Under EPAct, a certain percentage — which varies by the type of fleet — of new passenger vehicles purchased for an agency's or company's fleet must be capable of operating on alternative fuels, including ethanol, methanol, natural gas, or propane. In addition, EPAct established a tax credit for the purchase of electric vehicles, as well as tax deductions for the purchase of alternative fuel and hybrid vehicles.

(For background on alternative fuels, including legislative history, see CRS Report RL30758, *Alternative Transportation Fuels and Vehicles*. For background on advanced vehicle technologies, see CRS Report RL30484, *Advanced Vehicle Technologies.*)

Other laws affecting alternative fuel and advanced technology vehicles include the Energy Policy and Conservation Act (P.L. 94-163), which established fuel economy standards for passenger cars and light trucks; the 1990 Amendments to the Clean Air Act (P.L. 101-549), which requires cities with significant air quality problems to promote low emission vehicles; highway authorization bills, including TEA-21, which established and reaffirmed tax incentives for ethanol and other fuels; and numerous laws that authorize federal research and development on alternative fuels, advanced technologies, and enabling infrastructure.

Current Issues. Recent events have renewed interest in alternative fuels and advanced vehicles. For example, high pump prices for gasoline and diesel fuel have raised concerns over oil imports, energy security, and fuel conservation. In light of this, there is growing interest in more efficient vehicles or vehicles that abandon the use of petroleum altogether. This is especially true as the rapid growth in the sales of light trucks — these include sport utility vehicles (SUVs), mini-vans, and pickups — which tend to have lower fuel economy than passenger cars, has lowered the overall fuel economy of the new vehicle fleet.

Furthermore, ongoing developments in hybrid vehicles, fuel cells, and hydrogen fuel have raised key policy questions. These questions include whether more generous tax incentives for hybrid and fuel cell vehicles should be established; the costs associated with production of hydrogen as a major transportation fuel; and whether research and development funds should be focused on such potentially high-risk technologies as fuel cells or on near-term, conventional technologies, such as hybrids.

In light of these and other energy policy concerns, Congress has been working on comprehensive energy legislation since 2001. In the 107th Congress, an energy bill stalled in conference. The 108th Congress has continued the debate over energy legislation (H.R. 6). The conference report (H.Rept. 108-375) includes provisions on vehicle tax credits, amendments to vehicle purchase requirements under EPAct, a requirement that gasoline contain ethanol or other renewable fuels, and a tax credit for ethanol-blended fuels.

Fuel Tax Incentives

There is ongoing interest in tax incentives for the production and purchase of alternative fuels. Supporters of this approach argue that the market favors conventional fuels, and that the widespread infrastructure and nearly ubiquitous use of conventional fuels in automobiles makes it difficult for alternative fuels to compete without economic incentives. Currently, some alternative fuels do receive incentives for their production or sale. Most notably, gasoline blended with ethanol receives a partial exemption from the motor fuels excise tax. This exemption makes ethanol-blended fuel (gasohol) price-competitive with regular gasoline. Because of this, more than 99% of ethanol produced in the United States is blended with gasoline, according to the Energy Information Administration.

However, the excise tax exemption has been criticized because it reduces revenue for the federal Highway Trust Fund (HTF). For every gallon of gasoline sold in the United States, a federal tax of 18.4 cents is imposed, all but 0.1 cents of which goes to the HTF. The remaining 0.1 cents goes to the Leaking Underground Storage Tank (LUST) Trust Fund to mitigate problems from fuel leaks. However, gasohol with 10% ethanol is taxed at 13.2 cents per gallon (an exemption of 5.2 cents per gallon). Of the 13.2 cents, 10.6 cents goes to the HTF (and an additional 0.1 cents goes to the LUST fund). The remaining 2.5 cents is transferred to the general Treasury fund for debt reduction. Therefore, for every gallon of 10% gasohol sold, the HTF "loses" 7.7 cents; the overall foregone revenue is 5.2 cents. (The exemption is prorated for blends with less ethanol.) The Joint Committee on Taxation estimates that the exemption has resulted in about $7.5 billion in cumulative foregone revenue from FY1979 through FY2000, while the U.S. Treasury estimates the figure at about $11 billion. (The discrepancy in estimates arises from differing assumptions made by the Treasury and the Committee.)

Because of this concern, a Volumetric Ethanol Excise Tax Credit (VEETC) has been proposed (S. 1548). This credit would replace the existing excise tax exemption with a tax credit. While the total value of the incentive to blenders might not change, the incentive would be paid from the general Treasury fund, as opposed to the federal Highway Trust Fund. Therefore, while overall revenue concerns would not be addressed, the effects of the ethanol tax incentive on the HTF would be eliminated.

The VEETC was discussed as part of the debate over H.R. 6, and a version of this credit was inserted into the conference report on the bill. However, while the version in H.R. 6 would establish the VEETC, it would not eliminate the existing deduction, allowing blenders to claim either incentive, but not both. Because the excise tax exemption is taken at the point the fuel is blended, it is likely that most blenders would prefer the current exemption, as opposed to waiting for a refund of the VEETC. However, it is unclear what action will be taken on H.R. 6 in the second session. Because of concerns that action on it may stall, supporters of the VEETC have suggested inserting the credit into the revenue section of a highway reauthorization bill.

The Administration's proposal for highway reauthorization (H.R. 2088) includes a revenue title and an extension of the tax exemption for ethanol (as opposed to the VEETC) through 2014. The House version of the bill (H.R. 3550) does not have a revenue title to date. On February 12, 2004, the Senate passed S. 1072, which includes the VEETC.

In addition to the credit for ethanol-blended gasoline, there is interest in establishing a similar credit for biodiesel blended into conventional diesel fuel. In fact, the VEETC would apply to biodiesel as well. Because the biodiesel market is in its infancy, there is also interest in creating a per-gallon tax credit for the production of biodiesel fuel. The conference report on H.R. 6 provides a tax credit of up to $1.00 per gallon for the production of biodiesel.

(For more information on the ethanol tax exemption, see CRS Report 98-435, *Alcohol Fuels Tax Incentives*. For more information on the tax provisions in H.R. 6, see CRS Report RL32042, *Energy Tax Incentives in H.R. 6: The Conference Agreement as Compared with the House Bill and Senate Amendment*.)

Ethanol and MTBE

Outside of tax incentives, ethanol has been of key interest in recent Congresses, especially in its role as an alternative to MTBE (methyl tertiary butyl ether). MTBE and ethanol are used (among other purposes) to meet Clean Air Act requirements that reformulated gasoline (RFG), sold in the nation's worst ozone nonattainment areas, contain at least 2% oxygen (by weight), to improve combustion. Under the RFG program, areas with "severe" or "extreme" ozone pollution (90 counties with a combined population of 64.8 million) must use reformulated gas; areas with less severe ozone pollution may opt into the program as well, and many have. In all, portions of 17 states and the District of Columbia use RFG, and about 30% of the gasoline sold in the United States is RFG, according to the Environmental Protection Agency (EPA).

The law requires that RFG contain at least 2% oxygen by weight. Refiners can meet this requirement by adding a number of ethers or alcohols, any of which contains oxygen and other elements. By far the most commonly used oxygenate is MTBE. In 1999, 87% of RFG contained MTBE, a number since reduced to about 62%, according to EPA. MTBE has also been used since the late 1970s in non-reformulated gasoline as an octane enhancer, at lower concentrations. As a result, gasoline with MTBE has been used throughout the United States, whether or not an area has been subject to RFG requirements.

MTBE leaks, generally from underground gasoline storage tanks, have been implicated in numerous incidents of ground water contamination. The substance creates taste and odor problems in water at very low concentrations, and some animal studies indicate it may pose a potential cancer risk to humans. For these reasons, 17 states (AZ, CA, CO, CT, IL, IN, IA, KS, KY, MI, MN, MO, NE, NY, OH, SD, WA) have taken steps to ban or regulate its use, according to the Renewable Fuels Association. The most significant of the bans (in California and New York) took effect at the end of 2003, leading many to suggest that Congress revisit the issue to modify the oxygenate requirement and set more uniform national requirements regarding MTBE and its potential replacements, principally ethanol.

Support for eliminating the oxygenate requirement on a nationwide basis is widespread among environmental groups, the petroleum industry, and states. In general, these stakeholders have concluded that gasoline can meet the same low emission performance standards as RFG without the use of oxygenates. But agricultural interests present a potential obstacle to enacting legislation to remove the oxygen requirement. According to the U.S. Department of Agriculture, 10% of the nation's corn crop is used to produce the competing oxygenate, ethanol. If MTBE use is reduced or phased out, but the oxygen requirement remains in effect, ethanol use would soar, increasing demand for corn. (In fact, according to EPA, ethanol use is already growing as MTBE begins to be phased out.) Conversely, if the oxygen requirement is waived by EPA or legislation, not only would MTBE use decline, but so, likely, would demand for ethanol. Thus, some Members of Congress and governors from corn-growing states have taken a keen interest in MTBE legislation and related oxygenate requirements.

To help promote the market for ethanol if the oxygen standard were eliminated, a renewable fuels standard (RFS) has been suggested. This would require that all gasoline contain ethanol or other renewable fuel. This concept has been supported by agricultural

interests, the oil industry, and some environmental groups. Opponents have included states that do not produce ethanol, due to fears that the mandate could raise gasoline prices.

As approved by the conferees, H.R. 6 contains numerous MTBE and ethanol provisions in Title XV. It would ban the use of MTBE as a fuel additive, except in states that specifically authorize its use, after December 31, 2014, unless the President determines not to ban it. The Clean Air Act requirement to use MTBE or other oxygenates in RFG would be repealed, 270 days after enactment. In place of this requirement, the bill would establish a renewable fuels standard (RFS). Under the RFS, annual production of gasoline would be required to contain at least 5 billion gallons of ethanol or other renewable fuel (more than double the current production of ethanol) by 2012. To prevent "backsliding" on air quality, the bill requires that reductions in emissions of toxic substances achieved by RFG be maintained; it authorizes $2 billion in grants to assist merchant MTBE production facilities in converting to the production of other fuel additives; and, perhaps most controversially, it would provide a "safe harbor" from product liability lawsuits for producers of MTBE, ethanol, and other renewable fuels (product liability lawsuits have been used to force petroleum and chemical companies to pay for cleanup of ground and surface water contaminated by releases of fuels containing MTBE). The bill also authorizes funds for MTBE cleanup.

(For a detailed comparison of the House and Senate provisions, see CRS Report RL31912, *Renewable Fuels and MTBE: Side-by-Side Comparison of House and Senate Energy Bills*. For additional background on the MTBE issue, see CRS Report 98-290, *MTBE in Gasoline: Clean Air and Drinking Water Issues*. For information on ethanol, see CRS Report RL30369, *Fuel Ethanol: Background and Public Policy Issues*.)

Vehicle Purchase Requirements

The Energy Policy Act of 1992 (EPAct, P.L. 102-486) established mandatory alternative fuel vehicle purchase requirements for various vehicle fleets. Under the law, 75% of the passenger vehicles purchased by federal and state vehicle fleets must be capable of operating on alternative fuels; 90% of the vehicles purchased by alternative fuel providers must be alternative fuel vehicles.

The alternative fuel vehicle provisions of EPAct have been criticized as ineffective because, while EPAct requires the purchase of vehicles, it does not mandate the use of alternative fuels. In most cases, the vehicles purchased to meet the requirement are dual-fuel vehicles (i.e., they can operate on either a conventional fuel or an alternative fuel). Further, those vehicles are primarily fueled using gasoline, because gasoline tends to be less expensive and more widely available than alternative fuels. In addition, despite the vehicle purchase mandate, many agencies have failed to meet their statutory obligation. As a result, in 2002 the Center for Biological Diversity filed a lawsuit with the U.S. District Court for the Northern District of California. In July 2002, the court ruled that several federal agencies failed to meet their quotas and ordered those agencies to prepare reports on their compliance with EPAct (*Center for Biological Diversity v. Abraham, N.D. Cal., No. CV-00027*).

In addition to the requirements for federal, state, and fuel provider fleets, EPAct grants the Department of Energy (DOE) the authority to extend the requirements to local government and private fleets. However, as of 2002, DOE had not made a determination on

requirements for local and private fleets. As part of the above lawsuit, the Center for Biological Diversity also asked the court to force DOE to promulgate new rules. In ruling on the above case, the U.S. District Court for the Northern District of California ordered DOE to establish a timeline for a new rulemaking. DOE compiled a timeline, and on March 4, 2003, DOE issued a proposed rulemaking determining that such a program would not promote the goals of EPAct, neither reducing dependence on foreign oil nor leading to greater use of alternative fuel vehicles (*68 Federal Register 10319*).

The conference report on H.R. 6 would significantly modify the existing requirements for EPAct compliance. First, all dual-fuel vehicles purchased to meet the EPAct quotas would be required to operate on alternative fuels, unless an agency is granted a waiver by the Secretary of Energy. Second, fleets would be permitted to purchase hybrid gasoline/electric (or diesel/electric) vehicles to meet their quotas. Third, an agency would be permitted to waive the purchase requirement if the agency certified an alternative measure that reduced petroleum consumption as much as the use of alternative fuel vehicles. Finally, the Secretary of Energy would be required to conduct a study of the effectiveness of the EPAct requirements.

(For more information on vehicle purchase requirements, see CRS Report RL30758, *Alternative Transportation Fuels and Vehicles: Energy, Environment, and Development Issues*.)

Vehicle Purchase Tax Incentives

Some supporters of alternative fuel and advanced technology vehicles argue that tax incentives for the purchase of vehicles and fuels are more effective than any purchase mandate. In addition to the mandatory purchase requirements, EPAct established a tax credit for the purchase of electric vehicles and a tax deduction for "clean-fuel vehicles," including alternative fuel vehicles and hybrid vehicles. Taxpayers may claim a credit of 10% of the vehicle purchase cost, up to $4,000, for the purchase of a new electric vehicle. The clean fuel vehicle deduction is a maximum of $2,000 for passenger vehicles, $5,000 for heavy-duty vehicles up to 26,000 pounds, and $50,000 for the heaviest vehicles. Both the tax credit and the deduction are being phased down starting in 2004, reaching zero after 2006. Opponents of the purchase incentives see them as supporting an already profitable industry — automakers — without significantly decreasing petroleum use.

However, because supporters see tax incentives as a key tool in promoting vehicle purchases, there is interest in extending the existing incentives or establishing new incentives. The CLEAR ACT (Clean Efficient Automobiles Resulting from Advanced Car Technologies Act, H.R. 1054 and S. 505) and the energy bill (H.R. 6) would significantly expand the vehicle purchase incentives. The conference report on H.R. 6 would replace the existing deductions for alternative fuel and hybrid vehicles with tax credits. The maximum credit for alternative fuel passenger vehicles would be $5,000 ($3,400 for hybrids); the maximum credit for the heaviest alternative fuel vehicles would be $40,000 ($30,000 for hybrids). Further, the H.R. 6 conference report would establish a tax credit for the purchase of a fuel cell vehicle (up to $8,000 for a passenger vehicle, $40,000 for the heaviest vehicles).

(For more information on these tax incentives, see CRS Report RS21277, *Alternative Fuel Vehicle Tax Incentives and the CLEAR ACT*.)

Biodiesel

Biodiesel (mono-alkyl esters) is a synthetic diesel fuel produced from oils, including soybean and canola oils, animal fats, and recycled cooking grease. It can be blended with conventional diesel fuel and used in diesel engines with few or no modifications. Further, with some engine modifications, it can be used in nearly pure form. Because biodiesel can displace conventional diesel without the use of new (and in many cases costly) vehicles, there is growing interest in its use. Further, because it can be produced from agricultural products, there is keen interest in its development by farmers (especially soybean and canola farmers), and some environmentalists as a way to promote rural economies, reduce agricultural wastes, and limit greenhouse gas emissions. However, biodiesel production is currently expensive: wholesale biodiesel from virgin oils costs roughly two to three times conventional No. 2 diesel; biodiesel from recycled grease is less expensive but still costs considerably more than conventional diesel.

The cost barriers for biodiesel production have generated interest in providing tax incentives for biodiesel, either in the form of production tax credits or an excise tax exemption, or both. Further there is interest in developing new technologies to help reduce production costs. However, the organic oils used as raw materials are one of the largest costs in production. Therefore, to significantly reduce biodiesel production costs, the costs of soybean oil and other oils would need to decrease substantially.

The conference report on H.R. 6 would provide a tax credit of up to $1.00 per gallon for the production of biodiesel. Further, H.R. 6 would provide an excise tax credit for biodiesel blends (i.e. biodiesel and conventional diesel). Producers would be eligible for one credit or the other, but not both. The excise tax credit is included in the Senate Finance Committee's Volumetric Ethanol Excise Tax Credit (VEETC) amendment to S. 1072, the highway reauthorization bill (see "fuel tax incentives" above).

(For more information on biodiesel, see CRS Report RS21563, *Biodiesel Fuel and U.S. Agriculture*.)

Hydrogen and Fuel Cells

Over the past few years, interest has grown substantially in hydrogen fuel and fuel cells. Hydrogen fuel can be produced using any energy source, and has thus been touted as a way to limit dependence on energy imports. Further, when hydrogen is used in a fuel cell (a device that produces electricity by converting hydrogen to water), only heat and water are produced, drastically reducing vehicle emissions. However, hydrogen fuel production is currently very expensive, as are fuel cells. In addition, depending on the original fuel source, overall fuel-cycle emissions can be a key concern.

Because of the potential benefits from hydrogen and fuel cells, and because of the existing barriers to their commercialization, the Bush Administration has strongly supported research and development (R&D). In January 2002, the Administration announced the FreedomCAR initiative, which promotes cooperative R&D between the "Big Three" American auto manufacturers (DaimlerChrysler, Ford, and General Motors) and the federal government. While the partnership is conducting research on many technologies, hydrogen and fuel cell vehicles are a key focus. Further, in his January 2003 State of the Union

address, President Bush announced the President's Hydrogen Fuel Initiative, which would increase federal spending on hydrogen fuel and stationary fuel cell R&D. Overall, the President requested $1.8 billion over five years for both initiatives, including $720 million in new funding.

Opponents of the initiatives argue that hydrogen fuel and fuel cells may never be commercialized and that the initiatives draw funding away from near-term technologies such as hybrid vehicles. Further, some argue that research and development alone will not reduce petroleum dependence and that Congress should instead consider tightening fuel economy standards for all vehicles.

For FY2004, Congress agreed to increase funding for this research to $235 million from $185 million in FY2003 (P.L. 108-108 and P.L. 108-137). However, this increase was still less than requested by the Administration ($257 million). In addition to the appropriations bills, the conference report on the energy bill (H.R. 6) would reauthorize hydrogen and fuel cell R&D at a level slightly higher than that requested by the President — $2.15 billion over five years, as opposed to the requested $1.8 billion. With or without this authorization, it is likely that increased federal hydrogen and fuel cell R&D funding will continue, as demonstrated by the congressional support for the Administration's requested funding increase in FY2004.

(For more information on hydrogen and fuel cells, see CRS Report RL31296, *A Hydrogen Economy and Fuel Cells: An Overview*. For more information on the Administration's initiatives, see CRS Report RS21442, *Hydrogen and Fuel Cell Vehicle R&D: FreedomCAR and the President's Hydrogen Fuel Initiative*.)

Hybrid Vehicles

Hybrid gasoline/electric (and diesel/electric) vehicles are becoming increasingly popular in the United States. Hybrids combine a gasoline (or diesel) engine with an electrical motor system to improve efficiency. If their use becomes more widespread, they could help improve the overall efficiency of the vehicle fleet and could help limit oil consumption. Further, they could do so without significant changes to existing infrastructure, which has been a key barrier to the expanded use of alternative fuel vehicles. Honda and Toyota offer vehicles with hybrid powertrains, and American manufacturers, including Ford and General Motors, plan to introduce vehicles with a hybrid option within the next few years. At the present time, only passenger cars are available in the United States, but hybrid sport utility vehicles (SUVs), trucks, and vans are expected in the near future.

Because of their energy and environmental benefits, some states have provided drivers of hybrid vehicles an exemption from high occupancy vehicle (HOV) lane requirements. Under TEA-21 (which expired on September 30, 2003), states had the authority to grant HOV exemptions for so-called "Inherently Low Emission Vehicles" (ILEVs). The ILEV standard requires that a vehicle have no evaporative emissions, a standard that is not met by any current hybrid. However, because of the reduced emissions and improved fuel economy of hybrid vehicles, there is congressional interest in explicitly granting states the right to exempt them from HOV lane requirements. The conference report on H.R. 6 would grant the exemption. Further, the Administration's proposal on highway and transit reauthorization (introduced as H.R. 2088), as well as the Senate-passed bill (S. 1072) , would

reauthorize the HOV lane exemption and expand it to certain "low-emission and energy efficient vehicles," including hybrids.

Further, as was stated above, there is interest in expanding the incentives for the purchase of hybrid vehicles (see "Vehicle Purchase Tax Incentives" above).

(For more information on hybrid vehicles, see CRS Report RL30484, *Advanced Vehicle Technologies: Energy, Environment, and Development Issues*.)

LEGISLATION

H.R. 6 (Tauzin)

Energy Policy Act of 2003. Title VII establishes an excise tax credit for ethanol and biodiesel fuels, establishes a tax credit for biodiesel production, and establishes tax credits for the purchase of alternative fuel, fuel cell, and hybrid vehicles. Title VIII authorizes $2.15 billion over five years for hydrogen and fuel cell R&D. Title XV requires renewable fuels in gasoline (3.1 billion gallons in 2005, increasing to 5.0 billion gallons in 2012), bans MTBE after 2014 unless the President determines otherwise (states can choose to authorize its use); eliminates RFG oxygen requirement, and authorizes funding for MTBE cleanup. Introduced April 7, 2003; referred to several committees; passed House April 11; passed Senate July 31; conference Report (H.Rept. 108-375) adopted by House November 18, 2003. Motion to invoke cloture failed in Senate November 21, 2003.

H.R. 1054 (Camp)

Clean Efficient Automobiles Resulting From Advanced Car Technologies Act (CLEAR ACT). Extends existing tax credit for electric vehicles. Establishes purchase tax credits for alternative fuel and hybrid vehicles. Establishes tax credit for retail sale of alternative fuels. Introduced March 4, 2003; referred to Committee on Ways and Means. Some provisions inserted into H.R. 6 conference report.

H.R. 2088 (Young)

Safe, Accountable, Flexible, and Efficient Transportation Equity Act (SAFETEA) of 2003. Extends tax exemption for ethanol blended fuels. Authorizes grant funding for municipalities to purchase alternative fuel buses and other vehicles. Reauthorizes HOV lane exemptions and expands exemptions to include hybrids and other vehicles. Introduced at request of President May 14, 2003; referred to Committee on Transportation and Infrastructure November 20, 2003.

H.R. 3550 (Young)

Transportation Equity Act: A Legacy for Users. Authorizes grant funding for municipalities to purchase alternative fuel buses and other vehicles. Introduced November 20, 2003; referred to Committee on Transportation and Infrastructure.

S. 505 (Hatch)

CLEAR ACT (see H.R. 1054). Introduced March 4, 2003; referred to Committee on Finance.

S. 1072 (Inhofe)

Safe, Accountable, Flexible, and Efficient Transportation Equity Act (SAFETEA) of 2003. Authorizes grant funding for municipalities to purchase alternative fuel buses and other vehicles. Reauthorizes HOV lane exemptions and expands exemptions to include hybrids and other vehicles. Introduced May 15, 2003; referred to Environment and Public Works Committee. Senate cloture motion passed February 2, 2004. Passed Senate February 12, 2004.

S. 1548 (Grassley)

Volumetric Ethanol Excise Tax Credit (VEETC) Act of 2003. Eliminates the existing partial tax exemption for ethanol-blended gasoline. Establishes an excise tax credit for ethanol- and biodiesel-blended fuels. Establishes a tax credit (coordinated with the excise tax credit) for the use of biodiesel and biodiesel blends. Introduced July 31, 2003; referred to Committee on Finance ; ordered reported by Finance Committee September 17, 2003; language inserted into S. 1072 February 12, 2004.

S. 2095 (Domenici)

Energy Policy Act of 2003. Similar provisions to H.R. 6 conference report. Introduced February 12, 2004.

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