

CONGRESSIONAL TESTIMONY

May 3, 2006

Testimony on CAFE Program Reforms

Statement of Philip Sharp,
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Prepared for the United States House of
Representatives Committee on Energy
and Commerce

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Mr. Chairman, thank you for inviting me to testify. My name is Philip Sharp and I am president of Resources for the Future (RFF), a nonpartisan, social science think tank, which has dealt with energy and resource issues for more than 50 years. As an institution, however, RFF does not take positions nor engage in advocacy, so the opinions expressed here are my own.

For the record, I have been involved with fuel economy issues in several ways.

During my service in Congress and on this committee (1975-1995), I participated in the creation of the Corporate Average Fuel Economy (CAFE) policy and in the few legislative changes made since then.

In 1975, the full House was presented with a choice between two dramatically different alternatives for dealing with fuel economy: CAFE from the Commerce Committee and a gas-guzzler tax from the Ways and Means Committee. As Chairman of the Energy and Power Subcommittee at that time, Mr. Dingell was a major force in the outcome.

More recently, I was a member of the CAFE review panel sponsored by the National Research Council, an arm of the National Academy of Sciences. Its 2002 report recommended that the government take further action to improve passenger vehicle fuel economy and suggested possible reforms in the CAFE policy. (See: [Effectiveness and Impact of Corporate Average Fuel Economy \(CAFE\) Standards](http://www.nap.edu) at www.nap.edu)

Currently, I am also a member of the National Commission on Energy Policy, a private bipartisan panel funded by the Hewlett Foundation, which in 2004 recommended a significant increase in CAFE standards along with reforms to the current policy. (See: [Ending the Energy Stalemate: A Bipartisan Strategy to Meet America's Energy Challenges](http://www.energycommission.org) at www.energycommission.org.)

Both the Academy committee and the Commission recommended federal action to improve fuel economy for the purpose of mitigating two major concerns: oil security and growing carbon dioxide (CO₂) emissions.

Our growing consumption of oil, concentrated in the transportation sector, entails major risks associated with our dependence on the global oil market. And this consumption is a major contributor of CO₂ to the atmosphere and hence to global climate change.

Among oil-market concerns is the possibility of a serious supply disruption caused by political turmoil or terrorism with severe economic consequences; the pressure to compromise important U.S. foreign policy goals for the sake of oil supply; the possibility that oil production will peak and dramatically intensify global competition for supplies; and others.

Among the uncertainties we face is where oil prices will go in the years ahead. Just as the dramatic rise in oil and natural gas prices over the last two years was not predicted, it is

now unclear whether oil prices will rise further, or drop back in the \$40-per-barrel range as some have predicted, or take a real nose dive as they did in 1986 and 1999.

The history of price uncertainty has meant a history of on-again, off-again interest by consumers, investors, and government in fuel efficiency and in alternative fuels.

In the face of such uncertainty, many have concluded, including the Bipartisan Commission, that it is prudent for the United States to maintain policies that push markets to improve fuel efficiency, to advance alternative fuels, and to expand public transit options, in order to mitigate against global market risks and to reduce CO₂ emissions growth.

Action now by Congress on fuel economy standards obviously will have no immediate impact on gasoline prices. Indeed, it will take some years for changes in the policy to have an impact at all.

But action now on fuel economy standards can help the United States address important concerns over the longer term.

I trust we all recognize that there is no fast or cheap way to escape the risks of oil dependence. Undoubtedly, one of the expedient ways to reduce dependence would be to welcome higher oil and gasoline prices rather than decry them—an unlikely prospect for today's consumers or leaders.

The Academy Report

Let me call your attention to a few of the findings and recommendations of the Academy committee, which may be useful in your consideration today. Attached, as Appendix A, is a portion of that report.

The study notes, in Finding 5, “technologies exist that if applied to passenger cars and light duty trucks, would significantly reduce fuel consumption within 15 years.”

It notes in Finding 6 that much of this could be accomplished with the consumer breaking even – meaning that the savings in gasoline costs would offset the added cost to a new vehicle. And that calculation was made assuming gasoline only costs \$1.50 per gallon. Furthermore, the hybrid car possibility has greatly advanced since the report; given its costs in 2001, the committee did not consider it a realistic near-term option.

The committee recommended several possible reforms (Recommendation 2) such as trading fuel economy credits, which has also been a recommendation of RFF researchers (see Fischer, Carolyn and Paul R. Portney, 2004, “Rewarding Automakers for Fuel Economy Improvements,” chapter 6 in [*New Approaches on Energy and the Environment: Policy Advice for the President*](#), RFF Press).

The committee cautioned that a major redesign (Recommendation 3) required more study than the committee had been able to devote to it.

To avoid harmful effects on companies, on employment, and on consumers, the committee suggested allowing plenty of time for industry to meet stiffer requirements.

And finally, the government should continue to fund research on breakthrough technologies.

Delegation to NHTSA

Neither the National Academy committee nor the Commission was willing or able to agree on recommended numerical CAFE targets – in part, because the task is a complex one and, in part, because the targets represent tradeoffs among various societal values and therefore is a political decision, as the Academy committee report states.

The Commission, in fact, recommended delegation of that responsibility: “ Congress should instruct NHTSA to significantly strengthen federal fuel economy standards...to take full advantage of the efficiency opportunities provided by currently available technologies and emerging hybrid and advanced diesel technologies.” (Appendix B is attached)

Given the considerable burden of legislating in this area, it seems appropriate that setting the targets and redesigning the policy could be delegated to the National Highway Safety Transportation Authority with legislative guidance and strong congressional oversight.

Conclusion

CAFE has been a very imperfect, but important, policy in dealing with fuel consumption. The Academy concluded, in 2002, that our oil imports would have been 2.8 million barrels a day higher had the policy not existed. (See Finding 1 in Appendix A).

Many experts believe that a more effective approach to reducing fuel consumption – and a more cost-effective approach for the U.S. economy – would be stronger gasoline tax or oil tax that would not only encourage consumers to purchase more efficient vehicles but also encourage them to be more economical in their driving, a critical component that CAFE does nothing to address. Indeed, such a tax would have a more rapid impact on consumption than is possible through CAFE. These experts, of course, are not subject to popular election.

APPENDIX A

Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards

Committee on the Effectiveness and Impact of Corporate
Average Fuel Economy Standards (CAFE)

Board on Energy and Environmental Systems
Division on Engineering and Physical Sciences

Transportation Research Board

National Research Council

2002

National Academy Press
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Excerpted from the
EXECUTIVE SUMMARY

FINDINGS

Finding 1. The CAFE program has clearly contributed to increased fuel economy of the nation's light-duty vehicle fleet during the past 22 years. During the 1970s, high fuel prices and a desire on the part of automakers to reduce costs by reducing the weight of vehicles contributed to improved fuel economy. CAFE standards reinforced that effect. Moreover, the CAFE program has been particularly effective in keeping fuel economy above the levels to which it might have fallen when real gasoline prices began their long decline in the early 1980s. Improved fuel economy has reduced dependence on imported oil, improved the nation's terms of trade, and reduced emissions of carbon dioxide, a principal greenhouse gas, relative to what they otherwise would have been. If fuel economy had not improved, gasoline consumption (and crude oil imports) would be about 2.8 million barrels per day greater than it is, or about 14 percent of today's consumption.

Finding 2. Past improvements in the overall fuel economy of the nation's light-duty vehicle fleet have entailed very real, albeit indirect, costs. In particular, all but two members of the committee concluded that the downweighting and downsizing that

occurred in the late 1970s and early 1980s, some of which was due to CAFE standards, probably resulted in an additional 1,300 to 2,600 traffic fatalities in 1993.² In addition, the diversion of carmakers' efforts to improve fuel economy deprived new-car buyers of some amenities they clearly value, such as faster acceleration, greater carrying or towing capacity, and reliability.

Finding 3. Certain aspects of the CAFE program have not functioned as intended:

- The distinction between a car for personal use and a truck for work use/cargo transport has broken down, initially with minivans and more recently with sport utility vehicles (SUVs) and cross-over vehicles. The car/truck distinction has been stretched well beyond the original purpose.
- The committee could find no evidence that the two-fleet rule distinguishing between domestic and foreign content has had any perceptible effect on total employment in the U.S. automotive industry.
- The provision creating extra credits for multifuel vehicles has had, if any, a negative effect on fuel economy, petroleum consumption, greenhouse gas emissions, and cost. These vehicles seldom use any fuel other than gasoline yet enable automakers to increase their production of less fuel efficient vehicles.

Finding 4. In the period since 1975, manufacturers have made considerable improvements in the basic efficiency of engines, drive trains, and vehicle aerodynamics. These improvements could have been used to improve fuel economy and/or performance. Looking at the entire light-duty fleet, both cars and trucks, between 1975 and 1984, the technology improvements were concentrated on fuel economy: It improved by 62 percent without any loss of performance as measured by 0–60 mph acceleration times. By 1985, light-duty vehicles had improved enough to meet CAFE standards. Thereafter, technology improvements were concentrated principally on performance and other vehicle attributes (including improved occupant protection). Fuel economy remained essentially unchanged while vehicles became 20 percent heavier and 0–60 mph acceleration times became, on average, 25 percent faster.

Finding 5. Technologies exist that, if applied to passenger cars and light-duty trucks, would significantly reduce fuel consumption within 15 years. Auto manufacturers are already offering or introducing many of these technologies in other markets (Europe and Japan, for example), where much higher fuel prices (\$4 to \$5/gal) have justified their development. However, economic, regulatory, safety, and consumer-preference-related issues will influence the extent to which these technologies are applied in the United States.

Several new technologies such as advanced lean exhaust gas aftertreatment systems for high-speed diesels and direct-injection gasoline engines, which are currently under development, are expected to offer even greater potential for reductions in fuel consumption. However, their development cycles as well as future regulatory requirements will influence if and when these technologies penetrate deeply into the U.S. market.

The committee conducted a detailed assessment of the technological potential for improving the fuel efficiency of 10 different classes of vehicles, ranging from subcompact and compact cars to SUVs, pickups, and minivans. In addition, it estimated the range in incremental costs to the consumer that would be attributable to the application of these engine, transmission, and vehicle-related technologies.

Chapter 3 presents the results of these analyses as curves that represent the incremental benefit in fuel consumption versus the incremental cost increase over a defined baseline vehicle technology. Projections of both incremental costs and fuel consumption benefits are very uncertain, and the actual results obtained in practice may be significantly higher or lower than shown here. Three potential development paths are chosen as examples of possible product improvement approaches, which illustrate the trade-offs auto manufacturers may consider in future efforts to improve fuel efficiency.

Assessment of currently offered product technologies suggests that light-duty trucks, including SUVs, pickups, and minivans, offer the greatest potential to reduce fuel consumption on a total-gallons-saved basis.

Finding 6. In an attempt to evaluate the economic trade-offs associated with the introduction of existing and emerging technologies to improve fuel economy, the committee conducted what it called cost-efficient analysis. That is, the committee identified packages of existing and emerging technologies that could be introduced over the next 10 to 15 years that would improve fuel economy up to the point where further increases in fuel economy would not be reimbursed by fuel savings. The size, weight, and performance characteristics of the vehicles were held constant. The technologies, fuel consumption estimates, and cost projections described in Chapter 3 were used as inputs to this cost-efficient analysis.

These cost-efficient calculations depend critically on the assumptions one makes about a variety of parameters. For the purpose of calculation, the committee assumed as follows: (1) gasoline is priced at \$1.50/gal, (2) a car is driven 15,600 miles in its first year, after which miles driven declines at 4.5 percent annually, (3) on-the-road fuel economy is 15 percent less than the Environmental Protection Agency's test rating, and (4) the added weight of equipment required for future safety and emission regulations will exact a 3.5 percent fuel economy penalty.

One other assumption is required to ascertain cost-efficient technology packages—the horizon over which fuel economy gains ought to be counted. Under one view, car purchasers consider fuel economy over the entire life of a new vehicle; even if they intend to sell it after 5 years, say, they care about fuel economy because it will affect the price they will receive for their used car. Alternatively, consumers may take a shorter-term perspective, not looking beyond, say, 3 years. This latter view, of course, will affect the identification of cost-efficient packages because there will be many fewer years of fuel economy savings to offset the initial purchase price.

The full results of this analysis are presented in Chapter 4. To provide one illustration, however, consider a midsize SUV. The current sales-weighted fleet fuel economy average for this class of vehicle is 21 mpg. If consumers consider only a 3-year payback period, fuel economy of 22.7 mpg would represent the cost-efficient level. If, on

the other hand, consumers take the full 14-year average life of a vehicle as their horizon, the cost-efficient level increases to 28 mpg (with fuel savings discounted at 12 percent). The longer the consumer's planning horizon, in other words, the greater are the fuel economy savings against which to balance the higher initial costs of fuel-saving technologies.

The committee cannot emphasize strongly enough that the cost-efficient fuel economy levels identified in Tables 4-2 and 4-3 in Chapter 4 are *not* recommended fuel economy goals. Rather, they are reflections of technological possibilities, economic realities, and assumptions about parameter values and consumer behavior. Given the choice, consumers might well spend their money on other vehicle amenities, such as greater acceleration or towing capacity, rather than on the fuel economy cost-efficient technology packages.

Finding 7. There is a marked inconsistency between pressing automotive manufacturers for improved fuel economy from new vehicles on the one hand and insisting on low real gasoline prices on the other. Higher real prices for gasoline—for instance, through increased gasoline taxes—would create both a demand for fuel-efficient new vehicles and an incentive for owners of existing vehicles to drive them less.

Finding 8. The committee identified externalities of about \$0.30/gal of gasoline associated with the combined impacts of fuel consumption on greenhouse gas emissions and on world oil market conditions. These externalities are not necessarily taken into account when consumers purchase new vehicles. Other analysts might produce lower or higher estimates of externalities.

Finding 9. There are significant uncertainties surrounding the societal costs and benefits of raising fuel economy standards for the light-duty fleet. These uncertainties include the cost of implementing existing technologies or developing new ones; the future price of gasoline; the nature of consumer preferences for vehicle type, performance, and other features; and the potential safety consequences of altered standards. The higher the target for average fuel economy, the greater the uncertainty about the cost of reaching that target.

Finding 10. Raising CAFE standards would reduce future fuel consumption below what it otherwise would be; however, other policies could accomplish the same end at lower cost, provide more flexibility to manufacturers, or address inequities arising from the present system. Possible alternatives that appear to the committee to be superior to the current CAFE structure include tradable credits for fuel economy improvements, feebates,³ higher fuel taxes, standards based on vehicle attributes (for example, vehicle weight, size, or payload), or some combination of these.

Finding 11. Changing the current CAFE system to one featuring tradable fuel economy credits and a cap on the price of these credits appears to be particularly attractive. It would provide incentives for all manufacturers, including those that exceed the fuel economy targets, to continually increase fuel economy, while allowing manufacturers flexibility to meet consumer preferences. Such a system would also limit costs imposed on manufacturers and consumers if standards turn out to be more difficult to meet than

expected. It would also reveal information about the costs of fuel economy improvements and thus promote better-informed policy decisions.

Finding 12. The CAFE program might be improved significantly by converting it to a system in which fuel economy targets depend on vehicle attributes. One such system would make the fuel economy target dependent on vehicle weight, with lower fuel consumption targets set for lighter vehicles and higher targets for heavier vehicles, up to some maximum weight, above which the target would be weight-independent. Such a system would create incentives to reduce the variance in vehicle weights between large and small vehicles, thus providing for overall vehicle safety. It has the potential to increase fuel economy with fewer negative effects on both safety and consumer choice. Above the maximum weight, vehicles would need additional advanced fuel economy technology to meet the targets. The committee believes that although such a change is promising, it requires more investigation than was possible in this study.

Finding 13. If an increase in fuel economy is effected by a system that encourages either downweighting or the production and sale of more small cars, some additional traffic fatalities would be expected. However, the actual effects would be uncertain, and any adverse safety impact could be minimized, or even reversed, if weight and size reductions were limited to heavier vehicles (particularly those over 4,000 lb). Larger vehicles would then be less damaging (aggressive) in crashes with all other vehicles and thus pose less risk to other drivers on the road.

Finding 14. Advanced technologies—including direct-injection, lean-burn gasoline engines; direct-injection compression-ignition (diesel) engines; and hybrid electric vehicles—have the potential to improve vehicle fuel economy by 20 to 40 percent or more, although at a significantly higher cost. However, lean-burn gasoline engines and diesel engines, the latter of which are already producing large fuel economy gains in Europe, face significant technical challenges to meet the Tier 2 emission standards established by the Environmental Protection Agency under the 1990 amendments to the Clean Air Act and California's low-emission-vehicle (LEV II) standards. The major problems are the Tier 2 emissions standards for nitrogen oxides and particulates and the requirement that emission control systems be certified for a 120,000-mile lifetime. If direct-injection gasoline and diesel engines are to be used extensively to improve light-duty vehicle fuel economy, significant technical developments concerning emissions control will have to occur or some adjustments to the Tier 2 emissions standards will have to be made. Hybrid electric vehicles face significant cost hurdles, and fuel-cell vehicles face significant technological, economic, and fueling infrastructure barriers.

Finding 15. Technology changes require very long lead times to be introduced into the manufacturers' product lines. Any policy that is implemented too aggressively (that is, in too short a period of time) has the potential to adversely affect manufacturers, their suppliers, their employees, and consumers. Little can be done to improve the fuel economy of the new vehicle fleet for several years because production plans already are in place. The widespread penetration of even existing technologies will probably require 4 to 8 years. For emerging technologies that require additional research and development, this time lag can be considerably longer. In addition, considerably more time is required to replace the existing vehicle fleet (on the order of 200 million vehicles) with new, more

efficient vehicles. Thus, while there would be incremental gains each year as improved vehicles enter the fleet, major changes in the transportation sector's fuel consumption will require decades.

RECOMMENDATIONS

Recommendation 1. Because of concerns about greenhouse gas emissions and the level of oil imports, it is appropriate for the federal government to ensure fuel economy levels beyond those expected to result from market forces alone. Selection of fuel economy targets will require uncertain and difficult trade-offs among environmental benefits, vehicle safety, cost, oil import dependence, and consumer preferences. The committee believes that these trade-offs rightfully reside with elected officials.

Recommendation 2. The CAFE system, or any alternative regulatory system, should include broad trading of fuel economy credits. The committee believes a trading system would be less costly than the current CAFE system; provide more flexibility and options to the automotive companies; give better information on the cost of fuel economy changes to the private sector, public interest groups, and regulators; and provide incentives to all manufacturers to improve fuel economy. Importantly, trading of fuel economy credits would allow for more ambitious fuel economy goals than exist under the current CAFE system, while simultaneously reducing the economic cost of the program.

Recommendation 3. Consideration should be given to designing and evaluating an approach with fuel economy targets that are dependent on vehicle attributes, such as vehicle weight, that inherently influence fuel use. Any such system should be designed to have minimal adverse safety consequences.

Recommendation 4. Under any system of fuel economy targets, the two-fleet rule for domestic and foreign content should be eliminated.

Recommendation 5. CAFE credits for dual-fuel vehicles should be eliminated, with a long enough lead time to limit adverse financial impacts on the automotive industry.

Recommendation 6. To promote the development of longer-range, breakthrough technologies, the government should continue to fund, in cooperation with the automotive industry, precompetitive research aimed at technologies to improve vehicle fuel economy, safety, and emissions. It is only through such breakthrough technologies that dramatic increases in fuel economy will become possible.

Recommendation 7. Because of its importance to the fuel economy debate, the relationship between fuel economy and safety should be clarified. The committee urges the National Highway Traffic Safety Administration to undertake additional research on this subject, including (but not limited to) a replication, using current field data, of its 1997 analysis of the relationship between vehicle size and fatality risk.

NOTES

¹Conference Report on H.R. 4475, Department of Transportation and Related Agencies Appropriations Act, 2001. Report 106-940, as published in the *Congressional Record*, October 5, 2000, pp. H8892-H9004.

²A dissent by committee members David Greene and Maryann Keller on the impact of downweighting and downsizing is contained in Appendix A. They believe that the level of uncertainty is much higher than stated and that the change in the fatality rate due to efforts to improve fuel economy may have been zero. Their dissent is limited to the safety issue alone.

³Feebates are taxes on vehicles achieving less than the average fuel economy coupled with rebates to vehicles achieving better than average fuel economy.

APPENDIX B

Ending the Energy Stalemate A Bipartisan Strategy to meet America's Energy Challenges

The National Commission on Energy Policy

2004

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POLICY RECOMMENDATIONS

2. Reduce U.S. Oil Consumption through Increased Vehicle Efficiency and Production of Alternative Fuels

Reducing U.S. oil consumption is a critical complement to the measures described in previous sections for expanding and diversifying global supplies of oil. A key to slowing continued growth in U.S. oil consumption — which is otherwise projected to increase by more than 40 percent over the next two decades — is breaking the current political stalemate on changing Corporate Average Fuel Economy (CAFE) standards for new motor vehicles. Although recommendations in later chapters of this report — notably those aimed at promoting the development of alternative transportation fuels — will also help to reduce oil demand, improving passenger vehicle fuel economy is by far the most significant oil demand reduction measure proposed by the Commission.

The Commission's approach to vehicle efficiency builds on three decades of experience with fuel economy regulation and a record of impressive technological advances by the automobile manufacturing industry. As a result of CAFE standards introduced in the 1970s and high gasoline prices in the late 1970s and early 1980s, the average fuel economy of new lightduty vehicles improved from 15 miles per gallon (mpg) in 1975 to a peak of 26 mpg in 1987, a 73 percent increase over a time period that also saw substantial progress in improved vehicle performance and safety. The trend toward greater fuel economy, however, did not continue. Passenger car CAFE standards peaked in 1985 at 27.5 mpg and have not changed since. Light-duty truck standards were recently raised by 1.5 mpg to a new standard of 22.2 mpg which will go into effect in 2005 — prior to this increase they had remained essentially unchanged since 1987. Thus, for most of the last two decades overall fleet fuel economy has stagnated and continued technology gains — such as port fuel injection, front-wheel drive, valve technology, and transmission improvements — have been applied to increase vehicle size and power, rather than fuel economy. In fact, at 24 mpg on average, new vehicle fuel economy is

now no higher than it was in 1981, but vehicle weight has increased by 24 percent and horsepower has increased by 93 percent.

The Commission believes that three factors are largely responsible for the current CAFE stalemate: (1) uncertainty over the future costs of fuel-saving technologies; (2) fear that more stringent standards will lead to smaller, lighter vehicles and increased traffic fatalities; and (3) concerns that higher fuel-economy standards will put the U.S. auto industry and auto workers at a competitive disadvantage.

With respect to the first of these factors — cost and technology potential — numerous recent analyses by the National Academy of Sciences and others have concluded that significant improvements in the fuel economy of conventional gasoline vehicles are achievable and cost-effective, in the sense that fuel savings over the life of the vehicle would more than offset incremental technology costs. Estimates of cost-effectiveness do not, however, account for — and thus cannot by themselves resolve — potential trade-offs in terms of vehicle performance, safety, and impacts on jobs and competitiveness.

Given these complexities, the Commission was unable to agree on a numerical fuel-economy standard.

The recommendations that follow nevertheless reflect the Commission's conclusion that a combination of improved conventional gasoline technologies and advanced hybrid-electric and diesel technologies presents an opportunity to significantly increase fuel economy without sacrificing size, power, safety, and other attributes that consumers value. Note that the Commission defines "advanced diesel" in this context as a diesel passenger vehicle that meets stringent new federal air pollution control requirements — or so-called "Tier 2" standards — that are being phased in from 2004 to 2008 (no currently available passenger diesel vehicles meet these standards). Ultimately, the Commission believes that a combination of higher standards, CAFE reforms, and complementary incentive programs will allow the nation to capitalize on potentially "gamechanging" technologies such as hybrids and advanced diesels in a manner that greatly enhances its ability to achieve oil security and environmental goals, as well as its ability to sustain the future competitiveness of the U.S. automobile industry.

Specifically, the Commission recommends:

- ***Raising Passenger Vehicle Fuel Economy Standards***²⁶— Congress should instruct the National Highway Traffic Safety Administration (NHTSA) to significantly strengthen federal fuel economy standards for passenger vehicles to take full advantage of the efficiency opportunities provided by currently available technologies and emerging hybrid and advanced diesel technologies. Consistent with existing statutory requirements, NHTSA should — in developing new standards — give due consideration to vehicle performance, safety, job impacts, and competitiveness concerns. To allow manufacturers sufficient time to adjust, new standards should be phased-in over a five-year period beginning no later than 2010.

- ***Reforming CAFE*** — To facilitate compliance with higher standards, Congress should modify CAFE to increase program flexibility by allowing manufacturers to trade fuel economy credits with each other and across the light truck and passenger vehicle fleets. In addition, Congress should authorize NHTSA to consider additional mechanisms that could further simplify the program, increase flexibility, and reduce

compliance costs. One such mechanism is a compliance “safety valve” that would permit manufacturers to purchase CAFE credits from the government at a pre-determined price. Such a mechanism would effectively cap costs to consumers and manufacturers should fuel-saving technologies not mature as expected or prove more expensive than anticipated.

- ***Providing Economic Incentives for Hybrids and Advanced Diesels*** — Congress should establish a five- to ten-year, \$3 billion tax incentive program for manufacturers and consumers to encourage the domestic production and purchase of hybrid-electric and advanced diesel vehicles that achieve superior fuel economy.